THE CHHATTISGARH FACTORIES RULES, 1962

Contents

1 (1) These rules may be cited as Chhattisgarh Factories Rules, 1962[1].

1 (2) They shall extend to the whole of Chhattisgarh.

1 (3) These rules save such rules which contain provisions for their enforcement, shall come into force from the date of publication in the Official Gazette.

(1) In these rules, unless there is anything repugnant in the subject or context: (a) "Act" means the Factories Act, 1948;

(b) "Appendix" means an appendix appended to these rules;

(c) "Artificial humidification" means the introduction of moisture into the air of a room by any artificial means whatsoever except the unavoidable escape of steam or water vapour into the atmosphere directly due to a manufacturing process:

(d) "Belt" includes any driving strap or rope;

(e) [2]["Degrees" (of temperature) means degrees on the coloius scale;]

(f) "District Magistrate" includes such other official as may be appointed by the State Government in that behalf;

(g) [3]["Form" means a form prescribed and appended to these rules;]

(h) "Fume" includes gas or vapour;
(i) "Health Officer" means the Municipal Health Officer or District Health Officer or a Health Officer appointed as such under any other enactment for the time being

THE CHHATTISGARH FACTORIES RULES, 1962 CHAPTER I
PRELIMINARY
1. Short title extent and commencement
2. Definitions
Provided that the introduction of air directly from outside through moistened mats or screens placed in opening at times when the temperature of the room is 80 degrees or more, shall not be deemed to be artificial humidification:

(j) "Hygrometer" means an accurate wet and dry bulb hygrometer conforming the prescribed conditions as regards constructions and maintenance;
(k) "Inspector" means an officer appointed under Section 8 of the Act and includes "Chief Inspector";
(l) "Maintained" means maintained in an efficient state in efficient working order and in good repair;
(m) "Manager" means the person responsible to the occupier for the working of the factory for the purposes of the Act;
(n) "State Government" means the Government of Chhattisgarh;
(o) [4]["Hazardous substance" means any substance or preparation which by reason of its chemical or physico-chemical properties or handling is liable to cause harm to human beings, other living creatures, plants, micro- organism, property or the environment.]

(2) All other words and expressions used herein but not defined and defined in the Factories Act, 1948 (LXIII of 1948) shall have the meaning respectively assigned to them in that Act.
(1) No site for locating a factory involving hazardous process or for expending of any such factory shall be taken into use unless previous approval in writing is obtained from the State Government.
(2) Application for such approval shall be made in Form 1 to the State Government or to the site appraisal committee appointed under Section 41-A and in pursuance of the Rule 125 by them with all relevant information's required in the form:

in force or such other official as may be appointed by the State Government in that behalf;
3. [5][Approval of site for hazardous process factory
Provided that any further information regarding establishment or expansion of the factory involving hazardous process, if called, by the State Government or any authority appointed by them, shall also be made by the applicant:
Provided further that no place shall be disapproved unless the applicant is given an opportunity to be heard and the State Government have recorded its reasons in that behalf].

6[3-A.

(1) No building or structure for a factory be constructed, reconstructed, extended or taken in to use as factory or part of a factory unless previous permission in writing is obtained from the Chief Inspector. Application for such permission shall be made in Form 1-A and shall be accompanied by the following documents: (a) a flow-chart of the manufacturing process to be carried on there, with a brief description of the process in its various stages.

(b) details of materials, intermediates and finished products to be processed with the particulars of their harmful effects to be the health of workers and the remedial measures their quantities and the storage details of each;

(c) details of pressure plants and re-actors to be installed thereat;

1 (d) plans in triplicate, drawn to scale, showing: (i) the site of the factory and immediate surrounding including adjacent buildings and other structures, roads, drains, etc. drawn to a scale not less than 1 cm equal to 500 comes,

1 (ii) The plan, elevation and necessary cross sectional elevations of the various buildings and structures including all relevant details relating to natural lighting, ventilation and means of escape in case of emergency. The plans shall also clearly indicate the lay-out of the plant and machinery, position of airless and passage-ways, the latrines and urinals and other sanitary provisions and shall be drawn to a scale not less than 1 cm equal to 100 cms;

1 (iii) materials to be used for construction of building and rooting;

(e) particulars of orders and no-objection certificates, if any, issued by other authorities, in respect of the proposed factory therewith;(0 particular in connection with the maximum number of workers to be employed in each work room, together with the area of ventilating openings and cubic space available per worker to be employed in each room;)

(f) particulars in connection with other requirements of the Act and the rules and the Schedule thereunder applicable to the proposed factory;

(g) such other particulars as the Chief Inspector may require so as to visualise situation of the safety of the lives and the environment likely to be effected by the factory, such as safety reports about the design and the operation of the plant from any competent person having working experience of not less than 5 years in that line, mode of disposal of effluents, neutralisation of the toxic substance any, and so forth.

(h) an envelope duly stamped and addressed to the applicant himself, with the address on which he desires to receive one copy of the plans returned from the office of the Chief Inspector along with the decision of the Chief Inspector as mentioned in sub-rule (2).

1 (2) If the Chief Inspector is satisfied that the plans are in consonance with the requirements he may order for approving the plans subject to such conditions, if any, as he may specify for fulfilment of the requirements, and for returning one copy of each plan to the applicant at the address given by him as above in clause (i) of the sub- rule (i) and to the Inspector of the area respectively seeking compliance of the terms of approval before the premises so approved is taken into use as a factory or part of a factory :

Provided that subject to the provisions of sub-section (3) of Section 6 of the Act, the Chief Inspector may reject the plans of the factory and refuse the permission.
Where Chief Inspector refuses to grant the permission the applicant may within 30 days of the date of such refusal appeal to the State Government.
1 (3) No manufacturing process shall be carried on in any building constructed, re-constructed, extended or occupied for using as a factory or part of a factory whose plans were approved as referred to in sub-rule (2), until certificate of stability in Form 2, appended to these rules, in respect of those buildings has been delivered to the Chief Inspector and accepted by him.
(4) The certificate of stability referred to in sub-rule (3) shall be signed by a competent person.
(1) Not less than 15 days before the occupier begins to use any premises as a factory he shall make to the Chief Inspector an application for Registration and Grant of licence along with notice of occupation in Form No. 4, in duplicate. The application shall be accompanied by a Treasury challan as proof of the payment of the amount of fee as specified in the Schedule below:
(2) [11][The Chief Inspector of factories may, on application being made to him under sub- rule (1) and on payment of the fees prescribed in the said sub-rule and on being satisfied that there is no objection to the grant of licence applied for, register the

Note: Competent person in relation to this sub-rule (4) means a person who has been recognized competent by the Chief Inspector under the Rule 123.]

4. [7][Prohibition of use of premises as factory without licence

An occupier shall not use any premises as a factory or carry on any manufacturing process in a factory or part of a factory unless he has or deemed to have a valid licence in respect of such factory in accordance with these rules.]

5. [8][Authority to grant licence and its tenure

The authority to grant, renew, amend or transfer a licence and to issue a duplicate copy thereof shall be the Chief Inspector and License of the Factories under the said Act, may be issued/renewed for the term of one year or more, on the submission of application of Factory occupant alongwith yearly fees as may be prescribed but said term shall not exceed [9][10 year] at a time:

[10][Provided that the Chief Inspector or the State Government may suspend the licence during its tenure and on any of the ground specified in the proviso to sub-rule (2) of the Rule 7 after giving the licence an opportunity to show-cause as why his licence should not be suspended and recording the reasons in writing, and communicating the same to the said licence.]

6. Registration and grant of licence

Provided that the State Government may, by general or special order exempt any class or description of factory from the operation of this rule:

factory and grant a licence in Form 3, to the applicant to use as factory such premises as are specified in the application and subject to compliance with such conditions as are specified in the licence:

Provided that subject to the provisions of sub-section (3) of Section 6 of the Act the Chief Inspector may refuse to register the factory and grant a licence if he is satisfied:

i (i) that the plans of the factory have not been approved as required under Rule 3 by the Chief Inspector;

ii (ii) that the factory has not been constructed in accordance with the plans approved by the Chief Inspector or in compliance with the conditions subject to which the plans are approved, or certificate of stability in respect of any building or structure of the factory has not been submitted or has not been accepted by him;

iii (iii) that material requirements of the relevant provisions specified in Schedules to Rule 107 in relation to the factory concerned have not been complied with; or

iv (iv) that there is imminent danger to life in the factory due to the plant, Reactors, Pressure plants machinery or the factory building or the manufacturing process to be carried therein, or due to the presence of Toxic or explosive or inflammable materials, dusts, gases or fumes and effective measures in his opinion, have not been taken to remove the danger.]

SCHEDULE 'A' to 'C' as applicable to the State of Chhattisgarh only

[12][Schedule "A"

Scale of fees payable for registration or renewal of the licence for Factories as may be defined in Section 2 m (i) as notified under Section 85 of the Factories Act, 1948 except the Factories specified in the Schedule 'B' and 'C'.

Quantity of Maximum H.P. installed on any day	Registered under Section 85 up to 9 workers					Maximum numbers of workers to be employed on any day during the year					
From 10 to 20	From 21 to 50	From 51 to 100	From 101 to 250	From 251 to 500	From 501 to 750	From 751 to 1000	From 1001 to 1500	From 1501 to 2000	From 2001 to 5000	Above 5000	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. More than 0 but not more than 10 HP	500	800	1200	1700	2000	4000	6000	6800	10000	13500	15000	20000
2. More than 10 but not more than 20 HP	700	1200	1700	2500	3400	5000	6800	8500	13500	15000	20000	25000
3. More than 20 but not more than 50 HP	800	1700	2500	3400	5000	6800	8500	12000	15000	20000	25000	30000
4. More than 50 but not more than 100 HP	1400	3400	5000	6800	8500	10000	12000	16000	20000	25000	30000	34000

5. More than 100 but not more than 250 HP	1700	5000	6800	8500	10000	12000	16000	20000	25000	30000	34000	37000
6. More than 250 but not more than 500 HP	2500	6800	8500	10000	12000	15000	20000	25000	30000	34000	37000	42000
7. More than 500 but not more than 750 HP	3400	8500	10000	12000	15000	20000	25000	27000	34000	37000	42000	44000
8. More than 75 0 but not more than 1000 HP	4000	10000	13500	15000	20000	22000	27000	30000	37000	40000	44000	47000
9. More than 1000 but not more than 2000 HP	8500	12000	15000	20000	24000	27000	30000	34000	40000	44000	47000	50000
10. More than 2000 but not more than 3000 HP	12000	14000	20000	24000	30000	37000	44000	50000	57000	64000	71000	78000
11. More than 3000 but not more than 4000 HP	15000	20000	22000	27000	34000	40000	47000	54000	61000	68000	75000	81000
12. More than 4000 but not more than 5000 HP	20000	22000	27000	34000	40000	47000	54000	61000	68000	75000	81000	88000
13. More than 5000 HP	22000	27000	34000	40000	47000	54000	61000	68000	75000	81000	88000	95000

13[SCHEDULE 'B'

Scale of fees payable for registration or renewal of licence for Factories as may be defined by Section 2 (m) (ii) of the Factories Act, 1948 except the Factories specified in the Schedule "A" and "C".

Maximum number of workers to be employed on any day during the year	Fees payable in Rupees
Upton 20	500
From 21 to 50	800
From 51 to 100	1400
From 101 to 250	1700
From 251 to 500	3400

From 501 to 1000	8500
From 1001 to 1500	11800
From 1501 to 2000	13500
More than 2000	17000

14[SCHEDULE 'C'

Scale of fees payable for registration for renewal of Licence by all electricity generating (Including transforming Stations) Factories.

Sl. No.	**Total Installed Capacity (including Transformation) in M.W.**				**Maximum number of workers to be employed on any day during the year**	
Upton 100 workers	**From 101 workers to 250 workers**	**From 251 workers to 500 workers**	**From 501 workers to 1000 workers**	**More than 1000 workers**		
1.	Upton 20 M.W.	17000	20000	24000	27000	3000
2.	More than 20 M.W. less than 50 M.W.	but	20000	24000	27000	30000	34000
3.	More than 50 M.W. less than 100 M.W.	but	24000	27000	30000	34000	37000
4.	More than 100 M.W. less than 250 M.W.	but	27000	30000	34000	37000	41000
5.	More than 250 M.W. less than 500 M.W.	but	30000	34000	37000	41000	44000
6.	More than 500 M.W. less than 1000 M.W.	but	34000	37000	41000	44000	47000
7.	More than 1000 M.W.	41000	44000	47000	51000	54000	

(2) The fees prescribed in Schedules A, B, C, for different categories of Factories shall come into force from 1st January, 2002 and after every three years there will be an increase in payable fee by 30%].

7. Renewal of licence

(1)

(a) An application for the renewal of a licence shall be made to the Chief Inspector

(2)

8.

in Form No. 4, in duplicate, not less than 30 days before the date on which the licence expires. The application shall be accompanied by the treasury challan as the proof of the payment of the amount of fees as specified in the Schedule given under Rule 6:
Provided that the State Government may by general or special order, extend the period for application for renewal of a licence.
(b) No application for the renewal of licence made after the expiry of the period specified in sub-rule (a), or if the period is extended, after the expiry of such extended period, be entertained and the licence renewed unless it is accompanied by a treasury challan as the proof of payment of the amount of fees specified in the Schedule referred to sub-rule (a) and an additional fee equal to 25 per cent fees payable for the licence which is to be renewed.

(a) [15][On receipt of the application under sub-rule (1), the Chief Inspector may if he is satisfied that there is no objection to the renewal of the licence, renew the same for a period not exceeding one year or may after recording the reasons, refuse the renewal thereof on any of the grounds specified in the proviso to sub- rule ((2) of the Rule 6.
(b) The Chief Inspector may also refuse the renewal of the licence on the ground that the applicant has been guilty of repeated contraventions of the provisions of the Act or these rules or both, or the applicant has obtained the licence by fraud or by misrepresentation: (1) If at any time, during the terms of a licence, the occupier finds it necessary to exceed

Provided that, in any case falling under clause (a) and (b) before refusing any licence, the applicant shall be given an opportunity to show cause as why licence should not be refused:
Provided further that, where the Chief Inspector refused to grant or renew a licence, he shall record in writing the reason for such refusal and communicate the same to the applicant.]
Upon submission of an application in accordance with Rule 6, 7, 9 or 10 the premises in respect of which such application is made shall be deemed to be duly licensed, until the Chief Inspector has passed an order either granting or refusing to grant or renewal or amendment or transfer of the licence.
[16][Explanation**:** For the purpose of this rule, an application for the grant or renewal of a licence shall be deemed to have been duly made only if it is in the prescribed form and is filled in with all relevant particulars and is accompanied by a treasury challan as proof of payment of the fees in accordance with the Schedule annexed to Rule 6.]

9. Amendment of licence

(2) [17][An application for amendment shall be made in Form 4 in duplicate along with a treasury challan as a proof of payment of the fees for amendment of a licence, which shall be Rest. 10 plus the amount of fees payable under sub-rule (1) of Rule 6 on the basis of total maximum B.H.R. installed on any one day as intended to increase or maximum number of workers intended to be employed on any one day during the calendar year or both, as the case may be, less the amount already remitted for the original licence:
(1) The holder of licence may at any time before the expiry of the term of his licence apply for permission to transfer his licence to another person.

(2) [18][Such application shall be made to the Chief Inspector in Form 4 in duplicate along with the original licence and the grounds on which transfer is desired and the treasury challan as a proof of payment of the fee for the transfer of licence. The Chief Inspector may, on being satisfied that there is no objection to the transfer of licence applied for, transfer the licence by entering upon the original licence under his signature, an endorsement to the effect that the licence has been transferred to the person named.
(3) A fee of Rs. 5 shall be charged on each such application.]
(4) The person to whom licence is transferred under sub-rule (2) shall enjoy thereunder the same powers and be subject to the same obligations as the original holder.
(1) Where a licence is lost, destroyed, torned, defaced or otherwise becomes illegible, the licensee shall immediately obtain a duplicate licence from the Chief Inspector on application in Form 4 with payment of fee of Rs. 10 through treasury challan.
(2) On application as referred to in sub-rule (1) Chief Inspector may issue duplicate licence which shall bear a stamped 'duplicate' mark with date of issue and particulars that of the original copied from the records of the office and date of issue of the duplicate licence.]

the limits of the aggregate maximum B.H.P. installed on any day or maximum number of workers to be employed on any day or effects any change in the name of the factory he shall make an application for amendment of a licence to the Chief Inspector within seven days of such change and the Chief Inspector may amend the licence accordingly.
Provided that amendment fee of Rest. 10 shall not be payable when the amendments are proposed simultaneously with the application for the renewal of the licence.]

10. Transfer of licence

11. Procedure on death or disability to a licensee

If a licensee dies or becomes insolvent or otherwise suffers from any disability, rendering him unable to carry on his business the person carrying on the business of such licensee shall not be liable to any penalty under the Act for exercising the powers granted to the licensee by the licence during such time as may reasonably be required to allow him to make an application for the transfer of the licence in his own name under Rule 10.

12. [19][Duplication Licence

(1) [21][The notice of [22][occupation required to be submitted under sub-section (1) of Section 7 of the Act] shall be in Form No. 4.]
(2) [23][The notice of change of manager required to be submitted under sub-section
(3) of Section 7 of the Act, shall be in Form 4-A.]

13. [20][Credit of fees

All fees payable under these rules shall be credited into the Government treasury under the State head of the account "0230-Labour and Employment" (104) Fees realised under the Factories Act, 1948.]

14. Refund of fees

If an application under these rules is rejected or refused, the fees shall be refunded to the applicant.

15. Exhibition of licence

Every licence shall be framed, put into a frame and exhibited at a prominent place in the factory and shall be produced before the Inspector whenever required by him to do so.

16. Form Prescribed for Notice of occupation

17. Saving for pending Cases

Nothing contained in Rules 4 to 6 shall affect the grant, renewal, transfer or amendment of licence pending at the time when these rules come into force. Such cases of grant, renewal, transfer or amendment shall be dealt with in accordance with rules in force at the time of the commencement of these rules.

18. Powers of Inspectors

CHAPTER II

THE INSPECTING STAFF

An Inspector shall, for the purposes of the execution of the Act, have power to do all or any of the following things, that is to say:

(a) [24][to photograph any worker, to inspect, examine measure, photograph, sketch or test as the case may be, any building or room, any plant, machinery, appliance or apparatus; any register or document or anything provided for the purpose of securing the health, safety or welfare of the workers employed in a factory or to seize or take copy of such registers, records or other documents or portions thereof as may be considered relevant by the Inspector in respect of an offence under the Act, which he has reason to believe has been committed by the occupier or the Manager. The provisions of the Code of Criminal Procedure, 1898 shall, so far as may be, apply to any seizure under this rule as they apply to any seizure made under the authority of a warrant issued under Section 98 of the said Code;]

(b) in the case of an Inspector who is a duly qualified medical practitioner, to carry out such medical examination as may be necessary for the purposes of his duties under

18-A.

the Act;

(c) to prosecute, conduct or defend before a Court any complaint or other proceeding arising under the Act or in discharge of his duties as an Inspector; and secure such evidence as may be necessary for this purpose: (a) he must not be less than 23 years or more than 35 years of age.

a (b) he must have: (i) had a good general education up to the Intermediate Standard of recognised University;

a (ii) secured a degree, or diploma equivalent to a degree of a recognised University, in any branch of Engineering Technology or Medicine and preferably with practical experience of at least two years in a workshop or a manufacturing concern of a good standing and in the case of Medical Inspector an experience of at least 2 years in a public hospital or factory medical department or alternatively a diploma in Industrial Medicine.

(c) where for a particular post special knowledge to deal with special problems is required, the Government may, in addition to the basic qualifications, prescribe appropriate qualifications for such post]

(1) For purposes of the examination and certification of young persons who wish to obtain certificates of fitness, the certifying surgeon shall arrange a suitable time and place for the attendance of such persons, and shall give previous notice in writing of such arrangements to the managers of factories situated within the local limits assigned to him.

[25][Provided that the powers of such other public officers as are appointed to be Additional Inspectors shall be limited to the inspection of factories in respect of the following matters, namely:
Cleanliness (Section 11); overcrowding (Section 16); lighting (Section 17); drinking water (Section 19); spittoons (Section20); precautions in the case of fire (Section 88). Welfare (Chapter V); working hours of Adults (Chapter VI), except the power of exemption under the proviso to Section 62; Employment of young persons (Chapter VII); leave with wages (Chapter VIII); and Display of notices (Section 108):
Provided further that all Additional Inspectors of factories shall have the powers to secure evidence for the purposes specified in clause (c) and to require reasonable facilities in the discharge of his duties from factory management).

(1) Qualifications of an Inspector

No person be appointed as an Inspector for the purpose of the Act unless he possesses the qualifications hereunder:

19. Duties of Certifying Surgeon

(2) The certifying surgeon shall issue his certificates in Form No. 5 to be supplied by the Chief Inspector. The foil and counter-foil shall be filled in, and the left thumb mark of the person in whose name the certificate is granted shall be taken on them. On being satisfied as to the correctness of the entries made therein and of the fitness of the person examined, he shall sign the foil and initial the counterfoil, and shall deliver the foil to the person in whose name the certificate is granted. The foil so delivered shall be the certificate of fitness granted under Section 69. All counter-foils shall be kept by the certifying surgeon for a period of at least two years after the issue of the certificate.
(3) When a person to whom a certificate of fitness under Section 69 has been granted loses such certificate, he may apply to the certifying surgeon for a copy of the same. The certifying surgeon after making enquiries from such person's employer (or if unemployed from such person’s last employer) or from such other sources as he may deem fit, may grant him a duplicate thereof. The word "Duplicate" shall be clearly written in red ink across such certificate and initialled by the certifying surgeon. The counter-foil in the bound book of forms shall be similarly marked "duplicate" and initialled.
(4) Every registered medical practitioner authorised under sub-section (2) of Section 10 to exercise the powers of a certifying surgeon shall grant a certificate, in the manner provided in the rules, the word "Provisional" being printed or stamped in red ink at the top of each foil and counter-foil of the certificate.
(5) A certifying surgeon revoking a certificate under Section 69 (4) shall cause the word "Revoked" to be stamped in red ink on the foil and counterfoil thereof.

(6) (a) [26][A fee, as may be specified by State Government by order from time to time, shall be payable to the certifying surgeon for issue of every certificate of fitness under the rules.
(b) The certifying surgeon shall credit all or the part of, as may be specified by State Government by order from time to time, the collection of fees made under this rule in the Government treasury at the end of each quarter under the revenue head:

(7) The certifying surgeon shall, upon request by the Chief Inspector carry out such examination and furnish him with such reports as he may indicate, for any factory or class or description of factories where: (a) cases of illness have occurred which it is reasonable to believe are due to the nature of the manufacturing process-carried on, or other conditions of work prevailing therein, or
(b) by reason of any change in a manufacturing process carried on, or in the

"0230-Labour and Employment;
(104)-Fees realised under the Factories Act, 1948]

(c) Young persons are, or are about to be, employed in any work which is likely to cause injury to their health.

(8) For the purposes of the examination of persons employed in processes covered by the rules relating to Dangerous Operations, the certifying surgeon shall visit the factories within the local limits assigned to him at such intervals as are prescribed by the rules relating to such Dangerous Operations.
(9) [27][At such visits certifying surgeon after examining a worker shall record the result of his examinations in a register known as the health register, in Form 21 appended to these rules including the nature and the results of the tests carried thereat. This health register shall be kept in the custody of the factory manager and produced to the Certifying Surgeon at such visit or to the Inspector whenever required.]
(10) If the certifying surgeon finds as a result of his examination that any person employed in such process is no longer fit for medical reasons to work in that process he shall suspend such person from working in that process for such time as he may think fit, and no person after suspension shall be employed in that process without written sanction of the certifying surgeon in the Health Register.
(11) The manager of a factory shall afford to certifying surgeon facilities to inspect any process in which any person is employed or is likely to be employed.
(12) The manager of a factory shall provide for the purpose of any medical examination which the certifying surgeon wishes to conduct at the factory (for his exclusive use on the occasion of an examination) a room which shall be properly cleaned and adequately ventilated and lighted and furnished with a screen, a table (with writing material) and chairs.
(1) Clause (d) of sub-section (1) of Section 11 of the Act shall not apply to the class or description of factories or part of factories specified in the Schedule hereto:

substances used therein, or by reason of the adaptation of any new manufacturing process or of any new substance for use in a manufacturing process there is likelihood of injury to the health of workers employed in that manufacturing process, or

20. Cleanliness of walls and ceilings

CHAPTER III HEALTH

Provided that they are kept in a clean state by washing, sweeping, brushing, dusting, vacuum-cleaning or other effective means:

Provided further that the said clause (d) shall continue to apply:

i (i) as respects factories or parts of factories specified in Part A of the said Schedule, to work-rooms in which the amount of cubic space allowed for every person employed in the room is less than 500 cubic feet;

i (ii) as respects factories or parts of factories specified in Part B of the said Schedule, to work-rooms in which the amount of cubic space allowed for every person employed in the room is less than2,500 cubic feet;

ii (iii) to engine houses, fitting shops, lunch-rooms, canteens, shelters creches, clock-rooms, rest rooms and washing places; and

(iv) to such parts of walls, sides and tops of passages and staircase as are less than 20 feet above the floor or stair. (2) If it appears to the Chief Inspector that any part of a factory to which by virtue of sub- rule (1) any of the provisions of the said clause (d) do not apply, or apply as varied by sub-rule (1), is not being kept in a clean state, he may, by written notice, require that occupier to while wash or colour-wash, wash paint or varnish the same, and in the event of the occupier failing to comply with such requisition within two months from the date of the notice, sub-rule (1) shall cease to apply to such part of a factory, unless the Chief Inspector otherwise determines.

SCHEDULE PART A

Blast furnaces.
Brick and tile works and pipe works in which unglazed bricks or tiles or stoneware pipes are made.
Cement works.
Chemical works.
Copper mills.
Gas works.
Iron and steel mills.
Stone, slate and marble works.
The following parts of factories:

Rooms used only for the storage of articles.
Rooms in which the walls or ceilings consist of galvanised iron, glazed bricks, glass, slate, asbestos, bamboo, thatch.
Parts in which dense steam in continuously evolved in the process.
Parts in which pitch, tar or like material is manufactured or is used to a substantial extent, except in brush works. The parts of a glass factory known as the glass house. Rooms in which, graphite is manufactured or is used to a substantial extent in any process.
Parts in which coal, coke, oxide of iron, ochre, lime, clay or stone is crushed or ground.

1 (1) Limits of temperature and air movement: In any factory the maximum wet-bulb temperature of air in a work room at a height of 1.5 meters above the floor level shall not exceed 30 degrees Celsius and adequate air movement of at least 30 meters per minute shall be provided and in relation to dry-bulb temperature, the wet-bulb temperature in the work-room at the said height shall not exceed that shown in the schedule annexed hereto, or as regards a dry-bulb reading intermediate between the two dry-bulb readings that specified in relation to the higher of these two dry-bulb readings :

Parts of wall, partitions, ceiling or tops of rooms which are at least 20 feet above the floor.
Ceilings or tops of rooms in print works, bleach works or dye works with the exception of finishing rooms or warehouses.
Inside walls of oil mills below a height of 5 feet from the ground floor level.
Inside walls in tanneries below a height of 5 feet from the ground floor where a wet process is carried on.

PART B

Coach and motor body works.
Electric generating or transforming stations. Engineering works.
Factories in which sugar is refined or manufactured.
Factories other than foundries in which brass casting is carried on. Gun factories.
Ship-building works.
Those parts of factories where unpainted or unvarnished wood is manufactured.

21. Record of white-washing, etc.

The record of dates on which white-washing colour washing varnishing, etc. are carried out shall be entered in a register maintained in Form No. 7.

22. [28][Disposal of Trade Wastes, Effluents and emissions

The arrangements in every factory for the treatment of wastes, effluents and emissions due to the manufacturing processes carried on therein shall be in accordance with those as stipulations as approved by the relevant water and Air Pollution Boards appointed under the Water (Preventions and Control of Pollution) Act, 1974 (6 of 1974) and the Air (Prevention and Control of Pollution) Act, 1981 (No. 14 of 1981) and such other authorities as may be specified by the State Government from time to time.]

23. [29][Ventilation and temperature

SCHEDULE

Dry bulb temperature	**Wet-bulb temperature**
300 C to 340 C	290 C
350 C to 390 C	28.50 C
400 C to 440 C	280 C
450 C to 470 C	27.50 C

Provided that if the temperature measured with a thermometer inserted in a hollow globe of 15 centimetre coated met black outside and kept in the environment for not less than 20 minutes exceeds the dry-bulb temperature of air, the temperature so recorded by the globe thermometer shall be taken in place of the dry-bulb temperature:

Provided further that when the reading of the wet-bulb temperature outside in the shade exceeds 27 degrees Celsius, the value of the wet-bulb temperature allowed in the schedule for a given dry-bulb temperature may be correspondingly exceeded to the same extent:

Provided further that this requirement shall not apply in respect of factories covered by Section 15 and in respect of factories where the nature of work carried-on involves production of excessively high temperatures referred to in clause (ii) of sub-section

1 (1) to which workers are exposed for short periods of time not exceeding one hour followed by an interval of sufficient duration in thermal environments not exceeding those otherwise laid down in this rule:

Provided further that the Chief Inspector, having due regard to the health of the workers, may in special and exceptional circumstances, by an order in writing exempt any factory or part of a factory from the foregoing requirement, in so far as restricting the thermal conditions within the limits laid down in the schedule are concerned, to the extent that he may consider necessary subject to such conditions as he may specify.

(2) Provision of thermometers (a) If it appears to the Inspector that in any factory, the temperature of air in a work room is sufficiently high and is likely to exceed the limits prescribed is sub-rule (1), he may serve on the manager of the factory an order requiring him to

provide sufficient number of whirling hygrometers or any other type of hygrometers and direct that the dry-bulb and wet-bulb reading in each such workroom shall be recorded at such positions as approved by the Inspector twice during each working shift by a person especially nominated for the purpose by the manager and approved by the Inspector.

1 (b) If the Inspector has reason to believe that a substantial amount of heat is added inside environment of a workroom by radiation from walls, roof or other solid surroundings, he may serve on the manager of the factory an order requiring him to place the globe thermometers referred to in the first proviso in sub-rule (1) at place specified by him and keep a record of the temperature in a suitable

register.

(3) Ventilation (a) In every factory the amount of ventilating openings in a workroom below the caves shall, except where mechanical means of ventilation as required by clause
(b) below are provided, be of an aggregate area of not less than 15% of the floor area and so located as to afford a continued supply of fresh air:

Provided that the Chief Inspector may relax the requirements regarding the number of ventilating openings if he is satisfied that having regard to the location of the factory orientation of the workroom, prevailing winds, roof height and the nature of manufacturing process carried on, sufficient supply of fresh air into the workroom is afforded during most part of the working time:

Provided further that this requirement shall not apply in respect of workrooms of factories:

i (i) covered by Section 15; or

ii (ii) in which temperature and humidity are controlled by refrigeration, and air conditioning.

iii (b) Where in any factory owing to special circumstances such situation with respect to adjacent buildings and height of the building with respect to floor space, the requirements of ventilation openings under clause (a) of this sub-rule he may serve on the manager of the factory an order requiring him to provide additional ventilation either by means of roof ventilators or by mechanical means.

iv (c) The amount of fresh air supplied by mechanical means of ventilation in an hour shall be equivalent to at least six times the cubic capacity of the workroom and shall be distributed evenly throughout the workroom without dead air pockets or undue draughts caused by high inlet velocities.

v (d) In regions where in summer (15th March, 15th July) dry-bulb temperature of outside air in the shade during most part of the day exceed 35 degrees Celsius and simultaneous wet-bulb temperatures are 25 degrees Celsius or below and in the opinion of the Inspector the manufacturing process carried on the workroom of a factory permits thermal environments with relative humidity of 50% or more, the Inspector may serve on the manager of the factory an order to have sufficient supply of outside air for ventilation cooled by passing it through water sprays either by means of unit type of evaporative air coolers (desert coolers) or, where

supply of outside air is provided by mechanical means through ducts in a plenum system, by means of central air washing plants.]

24. [30]**[When artificial humidification not allowed**

There shall be no artificial humidification in any room of a cotton spinning or weaving factory:
(a) by the use of steam during any period when the dry-bulb temperature of that room

exceeds 29.5 degrees Celsius; and
(b) at any time when the wet-bulb reading of the hygrometer is higher than that specified in the following Schedule in relation to the dry-bulb reading of the hygrometer at that time; or as regards a dry-bulb reading intermediate between any two dry-bulb readings indicated consecutively in the schedule when the dry-bulb reading does not exceed the wet-bulb reading to the extent indicated in relation to the lower of these two dry- bulb readings:

SCHEDULE

Reading in degrees Celsius

Dry bulb	Wet bulb	Dry bulb	Wet bulb	Dry bulb	Wet bulb
(1)	(2)	(3)	(4)	(5)	(6)
15.5	14.5	25.0	24.0	34.5	30.0
16.0	15.0	24.50	24.5	35.0	30.5
16.5	15.5	26.0	25.0	35.5	31.0
17.0	16.0	26.5	25.5	36.0	31.0
17.5	16.0	27.0	26.0	36.5	31.5
18.0	16.5	27.5	26.0	37.0	31.5
18.5	17.0	28.0	26.5	37.5	31.5
19.0	18.0	28.5	27.0	38.0	32.0
19.5	18.5	29.0	27.0	38.5	32.0
20.0	19.0	29.5	28.0	39.0	32.0
20.5	19.5	30.0	28.0	39.5	32.5
21.0	20.0	30.5	28.5	40.0	32.5
21.5	20.5	31.0	28.5	40.5	33.0
22.0	21.0	31.5	29.0	41.0	33.0
22.5	21.0	32.0	29.0	41.5	33.0
23.0	21.5	32.5	29.0	42.0	33.0
23.5	22.0	33.0	29.5	42.5	33.0

24.0	23.0	33.5	29.5	43.0	33.5
24.5	23.5	34.0	30.0	43.5	33.5

Provided, however, that clause (b) shall not apply when the difference between the wet-bulb temperature as indicated by the hygrometer in the department concerned

and the wet-bulb temperature taken with a hygrometer outside in the shade is less than 2 degrees.]

25. Provision of hygrometer

In all departments of cotton spinning and weaving mills wherein artificient humidification is adopted hygrometers shall be provided and maintained in such positions as are approved by the Inspector. The number of hygrometers shall be regulated according to the following scale:
(a) Weaving department: One hygrometer for departments with less than 500 looms, and one additional hygrometer for every 500 or part of 500 looms in excess of 500.
(b) Other department: One hygrometer for each room of less than 300.000 cubic feet capacity and one extra hygrometer for each 200.000 cubic feet or part thereof, in excess of this. One additional hygrometer shall be provided and maintained outside each cotton spinning and weaving factory wherein artificial humidification is adopted, and in a position approved by the Inspector, for taking hygrometer shade readings. (1) Each hygrometer shall comprise two mercurial thermometers of wet-bulb and dry- bulb of similar construction, and equal in dimensions, scale and division of scale. They shall be mounted on a frame with a suitable reservoir containing water.
(2) The wet-bulb shall be closely covered with a single layer of muslin, kept wet by means of wick attached to it and dropping into the water in the reservoir. The muslin covering and the wick shall be suitable for the purpose, clean and free from (size of) grease.

26. Exemption for maintenance of hygrometers

When the Inspector is satisfied that the limits of humidity allowed by schedule to Rule 24 are never exceeded he may for any department other than the weaving department, grant exemption from the maintenance of the hygrometer. The Inspector shall record such exemption in writing.

27. Copy of schedule to Rule 24 to be affixed near every hygrometer

A legible copy of the schedule to Rule 24 shall be affixed near each hygrometer.

28. Temperature to be recorded at each hygrometer

At each hygrometer maintained in accordance with Rule 26 correct wet and dry- bulb temperatures shall be recorded thrice daily during each working day by competent person nominated by the Manager and approved by the Inspector. The temperature shall be taken between 7 a.m. and 9 a.m. between 11 a.m. and 2 p.m. (but not in the rest interval) and between 4 p.m. and 5.30 p.m. In exception circumstances such additional readings and between such hours, as the Inspector any specify, shall be taken. The temperatures shall be entered in a Humidity Register in Form No. 8, maintained in the factory. At the end of each

month, the persons, who have taken the readings, shall sing the register and certify the correctness of the entries. The register shall always be available for inspection by the Inspector.

29. [31][Specification of hygrometer

(3) No part of the wet-bulb shall be within 76 millimetres from the dry-bulb or less than 28 millimetres from the surface of the water in the reservoir, and the water reservoir shall be below it, on the side of it away from the dry-bulb.
(4) The bulb shall be spherical and of suitable dimensions, and shall be freely exposed on all sides to the air of the room.
(5) The bores of the stems shall be such that the position of the top of the mercury column shall be readily distinguishable at a distance of 60 centimetres.
(6) Each thermometer shall be graduated so that accurate readings may be taken between 10 and 50 degrees Celsius.
(7) Every degree from 10 degrees up to 50 degrees shall be clearly marked by horizontal lines on the stem, each fifth degree shall be marked by longer marks than the intermediate degrees and the temperature marked opposite each fifth degree, i.e. 10, 15, 20, 25, 30, 35, 40, 45, 50.
(8) The markings as above shall be accurate, that is to say, at no temperature between 10 and 50 degrees shall be indicated readings, be in error by more than one ninth of a degree.
(9) A distinctive number shall be indelibly marked upon the thermometer.
(10) The accuracy of each thermometer shall be certified by the National Physical Laboratory, Delhi or some competent authority appointed by the Chief Inspector and such certificate shall be attached to the Humidity Register.)

30. Thermometers to be maintained in efficient order

Each thermometer shall be maintained, at all times during the period of employment, in efficient working order so as to give accurate indications and in particular:
(a) the wick and the muslin covering of the wet-bulb shall be renewed once a week;
(b) the reservoir shall be filled with water which shall be completely renewed once a day. The Chief Inspector may direct the use of distilled water or pure rain water in any particular mill or mills in certain localities;
(c) no water shall be applied directly to the wick or covering during the period of employment.
(1) No hygrometer shall be affixed to a wall, pillar, or other surface unless protected therefrom by wood or other non-conducting material at least half an inch in thickness

31. An inaccurate thermometer not to be used without fresh certificate

If an Inspector gives notice in writing that a thermometer is not accurate it shall not, after one month from the date of such notice, be deemed to be accurate unless and until it has been re-examined as prescribed and a fresh certificate obtained which certificate shall be kept attached to the Humidity Register.

32. Hygrometer not be affixed to wall etc., unless protected by wood

(2) No hygrometer shall be fixed at a height of more than 5 feet 6 inches from the floor to the top of thermometer stem or in the direct droughts from a fan, window or ventilating opening.

and distant at least one inch from the bulb of each thermometer.

33. No reading to be taken within 15 minutes of renewal of water

No reading shall be taken for record on any hygrometer within 15 minutes of the renewal of water in the reservoir.

34. How to introduce steam for humidification

In any room in which steam pipes are used for the introduction of steam for the purpose of artificial humidification of the air, the following provisions shall apply:

(a) The diameter of such pipes shall not exceed two inches and in the case of pipes installed after 1st day of January, 1950, the diameter shall not exceed one inch.

(b) Such pipes shall be as short as is reasonably practicable.

(c) All hangers supporting such pipes shall be separated from the bare pipes by an efficient insulator not less than half an inch in thickness.

(d) No uncovered jet from such pipe shall project more than 4-1/2 inches beyond the outer surface of any cover.

(e) The steam pressure shall be as low as practicable, and shall not exceed 70 lb. per square inch.

(f) The pipe employed for the introduction of steam into the air in a department shall be effectively covered with such non-conducting material, as may be approved by the Inspector in order to minimise the amount of heat radiated by them into the department. (1) The general illumination over those interior parts of a factory where persons are regularly employed shall be not less than [32][1.80 metre] candles measured in the horizontal plane at a level of [33][1.80 metre] above the floor:

35. Lighting

Rules 36 to 39 shall come into force in respect of any class or description of factories, on such date as the State Government, may by notification in the Official Gazette, appoint in this behalf.

36. Lighting of interior parts

Provided that in any such parts in which the mounting height of the light source for general illumination necessarily exceeds 25 feet measured from the floor of where the structure of the room or the position or construction of the fixed machinery or plant prevents the uniform attainment of this standard, the general illumination at the said level shall be not less than [34][0.60 metre] candle, and where work is actually being done, the illumination shall be not less than 3-foot candles.

(2) The illumination over all other interior parts of the factory over which persons employed pass shall, when and where a person is passing be not less than 0.5 foot candles at floor level.

(3) The standard specified in this rule shall be without prejudice to the provision of any additional illumination required to render the lighting sufficient and suitable for the nature of the work.

(1) Where any source of artificial light in the factory is less than 16 feet above floor level, on part of the light source or of the lighting fitting having a brightness greater than ten candles per square inch shall be visible to persons whilst normally employed within 10 feet of the source, except where the angle of elevation from the eye to the source of part of the filling, as the case may be exceed 20.
(2) Any local light, that is to say, an artificial light designed to illuminate particularly the area or part of the area of work of a single operative or small group of operatives working near each other, shall be provided with a suitable shade of opaque material to prevent glare or with other effective means by which the light source is completely screened from the eyes of every person employed at a normal working place, or shall be so placed that no such person is exposed to glare therefrom.
(1) Nothing in Rule 36 shall apply to the parts of factories specified in Part I of the Schedule annexed hereto.
(2) Nothing in sub-rule (1) of Rule 36 shall apply to the factories or parts of factories respectively specified in Part II of the said Schedule.
(3) Nothing in Rules 36 and 37 shall apply to portable hand lamps used for inspection or maintenance work.

37. Prevention of glare
38. Power of Chief Inspector to exempt
Where the Chief Inspector is satisfied in respect of any particular factory or part thereof or in respect of any description of work room or process that any requirement of Rules 36 to 37 is inappropriate or is not reasonable practicable, he may, by order in writing, exempt the factory or part thereof, or description of work-room or process from such requirement to such extent and subject to such conditions as he may specify.
39. Exemption from Rule 36
SCHEDULE PART I
Parts of factories in which light sensitive photographic materials are made or used in an exposed condition.
PART II
Cement works.

Works for the crushing and grinding of limestone.
Gas works
Coke oven works.
Electrical stations. Flour mills.
Malting and breweries.
Parts of factories in which the following processes are carried on:
Concrete of artificial stone-making.

Conversion of iron into steel. S
Smelting of Iron-ore.
Iron or steel-rolling.
Hot rolling of forging, tempering or annealing of metals.
Glass-blowing and other working in molten glass.
Tar distilling.
Petroleum refining and blending.

1 **40. Quantity of drinking water**

The quantity of drinking water to be provided for the workers in every factory shall be at least as many gallons a day as there are workers employed in the factory, and such drinking water shall be readily available at all times during working hours.

41. Source of supply

The water provided for drinking shall be supplied:

(a) [35][from public water-supply system, or]

(b) from any other source approved in writing by the Health Officer. (1) Drinking-water shall not be supplied from any open well or reservoir, unless it is so constructed, situated, protected, and maintained as to be free from the possibility of pollution by chemical, or bacterial and extraneous impurities.

42. [36][Means of supply

If drinking water is not supplied directly from public water supply approved by Health Officer, it shall be kept in suitable vessels, receptacles or tanks fitted with taps and having dust proof covers placed on raised stands or platform in shade and having suitable arrangement of drainage to carry away the split water. Such vessels, receptacles or tanks shall be kept clean and fresh water shall be stored therein at least once every day. All practicable measures shall be taken to ensure that the water is free from contamination.)

43. Cleanliness of well or reservoir

(2) Where drinking water is supplied from such well or reservoir, the water in it shall be sterilised once a week or more frequently if the Inspector by written order so requires and the date on which sterilising is carried out shall be recorded:

Provided that the requirement shall not apply to any such well or reservoir, if the water therein is filtered and treated to the satisfaction of the Health Officer before it is supplied for consumption.

44. Report from Health Officer

The Inspector may by order in writing direct the Manager to obtain, at such time or at such intervals as he may direct, a report from the Health Officer as to the fitness for human consumption of the water supplied to the workers, and in every case to submit to the Inspector a copy of such report as soon as it is received from the Health Officer.

45. Cooling of water

In every factory wherein more than two hundred and fifty workers are ordinarily employed:
(a) the drinking water supplied to the workers shall, from the 1st March to the 30th June in every year, be cooled by ice or other effective methods to the satisfaction of Inspector of Factories:

Provided that if ice is placed in the drinking water, the ice shall be clean and wholesome, and shall be obtained only from a source approved in writing by the Health Officer.
(b) the cooled drinking-water shall be supplied in every canteen, lunch- room and also at conveniently accessible points throughout the factory which, for the purpose of these rules shall be called "Water Centres."
(c) the water centres shall be sheltered from the weather and adequately drained and shall consist of sufficient number of taps, spouts or counters to the satisfaction of the Inspector;
(d) the number of water centres to be provided shall be one "centre" for every 150 persons employed at any one time in the factory:

Provided that in the case of a factory where the number of persons employed exceeds 500, it shall be sufficient if there is one such "centre" as aforesaid for every 150 persons up to the first 500 and one for every 500 persons thereafter:
[37][Provided further that the distance between the place of work of any worker shall not be more than 50 metres from the nearest 'water-centre' unless otherwise specified by the Inspector for reasons to be recorded in writing.]
(e) every "water centre" shall be maintained in a clean and orderly condition, and shall be in charge of a suitable person who shall distribute the water. Such person shall be provided with clean clothes while on duty.
(f) [38][The means of supply of cooled drinking water shall be either directly through taps connected to water coolers or any other system for cooling of water, or by means of

vessels, receptacles or tanks fitted with taps having dust proof covers and placed on raised stands or platforms in shade, and having suitable arrangement of drainage to carry away the silt water. Such vessels, receptacles or tanks shall be kept clean and the water renewed at least once every day]

46. Latrine accommodation

Latrine accommodation shall be provided in every factory on the following scales:
(a) Where females are employed, there shall be at least one latrine for every female.
(b) When males are employed, there shall be at least one latrine for every 25 males: provided that, where the number of males employed exceeds 100, it shall be sufficient if there is one latrine for every 25 males up to the first 100, and one for every 30 thereafter.

In calculating the number of latrines required under this rule:

(a) the number of workers shall mean the maximum number employed at any one time during the day; and
(b) any odd number of workers less than 25 or 50, as the case may be, shall by reckoned at 25 or 50.

47. Latrines to conform to public health requirements
Latrines, other than those connected with an efficient water-borne sewage system, shall comply with requirements of the public health authorities.
48. Privacy of latrines
Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.
49. Signboards to be displayed
Where workers of both sexes are employed there shall be displayed outside each latrine block a notice in the language understood by the majority of the workers "For Men Only" or "For Women Only", as the case may be. The notice shall also bear the figure of a man or woman, as the case may be.
50. Urinal accommodation
Urinal accommodation shall be provided for the use of male workers, and shall not be less than two feet in length for every 50 males, provided that where the number of males employed exceeds 500, it shall be sufficient if there is one urinal for every 50 males up to the first 500 employed, and one for every 100 thereafter.
In calculating the urinal accommodation required under this rule:
(a) the number of workers shall mean the maximum number employed at any one time during the day; and
(b) any odd number of workers less than 50 or 100, as the case may be, shall be reckoned as 50 or 100.

51. Urinals to conform to public health requirements
Urinals, other than those connected with an efficient water borne sewage system, and urinals in a factory wherein more than two hundred and fifty workers are ordinarily employed shall comply with the requirements of the public health authorities.
52. Certain latrines and urinals to be connected to sewerage system
When any general system of underground sewerage with an assured water supply for any particular locality is provided in a municipality, all latrines and urinals of a factory situated in a such locality shall, if the factory is situated within 100 feet of an existing sewer, by connected with that sewerage system.
53. 156[XXX]
54. Construction and maintenance of drains
All drains carrying waste or sullage water shall be constructed in masonry or other impermeable material and shall be regularly flushed and the effluent disposed of by connecting such drains with a suitable drainage line:
Provided that where there is no such drainage line, the effluent shall be deodorized and rendered innocuous and then disposed of in a suitable manner to the satisfaction of the Health Officer.

55. [39][Water taps in Latrines

Where piped water supply is available a sufficient number of water taps conveniently accessible shall be provided in or near such a latrine accommodation. If piped water supply is not available sufficient quantity of water shall be kept stored in suitable receptacle near the latrines.)

55-A. [40][Number of Sweepers

In every factory, employing number of worker in any shift as shown in column No. 2 of the Schedule appended hereto, there shall be employed at least a number of full time/part time sweepers as shown in column No. (3) of said schedule in the respective shift to clean the latrines, urinals and wash places provided in the factory for the use of workers employed in that shift, in order to maintain the same in clean and sanitary condition at all times.

SCHEDULE

SL. No.	No. of workers in the shift	No. of sweepers in the shift
1.	Up to 100	1 part time
2.	Above 100 but not above 250	1 full time
3.	Above 250 but not above 500	2 full time
4.	Above 500 but not above 1000	3 full time
5.	Above 1000	3 full time plus one full time for every additional 500 or part thereof.]

1 **56. Number and location of spittoons**

The number of location of the spittoons to be provided shall be to the satisfaction of the Inspector. Such spittoons shall be placed on a stand or bracket three feet high as far as possible.

57. Type of spittoons

The spittoons shall be of any of the following types:

(a) a galvanized iron container with a conical funnel-shaped cover. A layer of suitable disinfectant liquid shall always be maintained in the container, or

(b) a container filled with dry, clean sand, and covered with a layer of bleaching powder or

(c) Any other type approved by the Chief Inspector.

58. Cleaning of spittoons

The spittoon mentioned in clause (a) of Rule 57 shall be emptied, cleaned and disinfected at least once every day; and the spittoon mentioned in clause (b) of Rule 57 shall be cleaned by scrapping out the top layer of sand as often as necessary or at least once every day.

CHAPTER IV SAFETY

1 **59. Further safety precautions**

Without prejudice to the provisions of sub-section (1) of Section 21 in regard to the fencing of machines, the further precautions specified in the schedules annexed hereto shall apply to the machines noted in each schedule [41][and the register for adult worker employed for work on or near machinery in motion shall be in Form 34.]

[42][SCHEDULE I]

TEXTILE MACHINERY EXCEPT MACHINERY USED IN JUTE MILLS

1 1. Application: The requirements of this schedule shall apply to machinery in factories engaged in the manufacture or processing of textiles other than jute textiles.

2. Definitions: (a) "Calender" means a set of heavy rollers mounted on vertical side frames and arranged to pass cloth between them. Calenders may have two to ten rollers, or bowls, some of which can be heated;

(b) Embossing calender" means a calender with two or more rolls, one of which is engraved for producing figure effects of various kinds on a fabric;

(c) "Card" means a machine consisting of cylinders of various sizes and in certain cases flats covered with card clothing and set in relation to each other so that fibres in staple form may be separated into individual relationship. The speed of the cylinders and their direction of rotation varies. The finished product is delivered as a sliver. Cards of different types are: the revolving flat card, the roller and clearer card, etc.;

(d) "Card clothing" means the materials with which the surfaces of the cylinder doffer, flats, etc. of a card are covered and consists of a thick foundation material made of, textile fabrics through which are pressed many fine closely paced, specially bent wires, or mounted saw-toothed wire;

(e) "Comber" means a machine for combing fibres of cotton, wool, etc. The essential parts are a device for feeding forward fringe of fibres at regular intervals and arrangements of combs or pins, which, at the right time, pass through the fringe. All tangled fibres, short fibres and nips are removed and the long fibres are laid parallel;

(f) "Combing machinery" means a general classification of machinery including combers, silver lap machines, ribbon lap machines, and gill boxes, but excluding cards;

(g) "Rotary staple Cutter" means a machine consisting of one or more rotary blades used for the purpose of cutting textile fibres into staple length;

(h) "Garnett machine" means any of number of types of machines for opening hard twisted waste of wool, cotton, silk etc. Essentially, such machines consist of a licker-in; one or more cylinders, each having a competent worker and stipper rolls; and a fancy roll and doffer. The action of such machines is somewhat like that a wool card, but it is much severer in that the various rolls are covered with garnet wire instead of card clothing;

(i) "Gill box" means a machine used in the worsted system of manufacturing yarns. Its function is to arrange fibres in parallel order. Essentially, it consists of a pair of feed rolls and a series of followers where the followers move at a faster surface speed and perform a combing action;

(j) "In-running rolls" means any pair of rolls or drums between which there is a "nip";

For the purpose of this schedule:

(k) "Interlocking arrangement" means a device that prevents the setting in motion of a dangerous part of a machine or the machine itself while the guard cover or door provided to safeguard against danger is open or unlocked, and which will also hold the guard, cover or door closed and locked while the machine or the dangerous part is in motion;
(l) "Kier" means a large metal vat, usually a pressure type, in which fabrics may be boiled cut, bleached, etc.;
(m) "Ribbon lapper" means a machine or a part of a machine used to prepare laps for feeding a cotton comb; its purpose is to provide a uniform lap in which the fibres have been straightened as much as possible;
(n) "Sliver tapper" means a machine or a part of a machine in which a number of parallel card slivers are drafted slightly, laid side by side in a compact sheet, and wound into a cylindrical package;
(o) "Zoom" means a machine for effecting the interlocking of two series of years crossing one another at right angles. The wrap yarns are wound on a warp beam and pass through headless and reeds. The filling is shot across in a shuttle or otherwise and settle in place by reeds and slay, and the fabric is wound on a cloth beam;
(p) "Starch mangle" means a mangle that is used specifically for starching cotton goods. It commonly consists of two large rolls and a shallow open vat with several immersion rolls. The vat contains the starch solution;
(q) "Water mangle" means a calendar having two or more rolls used for squeezing water from fabrics before drying. Water mangles also be used in other ways during the finishing of various fabrics;
(r) "Mule" means a type of spinning frame having a head stock and a carriage as its two main sections. The headstock is stationary. The carriage is movable and it carries the spindles which draft and spin the roving into yarn. The carriage extends over the whole width of the machine and moves slowly toward and away from the head stock during the spinning operation;
(s) "Nip" is the danger zone between two rolls or drums which by virtue of their positioning and movement create a nipping hazard;
(t) "Openers and pickers" means a general classification of machinery which includes breaker pickers, intermediate pickers, finisher pickers, single process pickers, multiple process pickers, willow machines, card and picker waste cleaners, thread extractors, shredding machines, roving waste openers, shoddy pickers, bale breakers, feeders, vertical openers, lattice cleaners, horizontal cleaners, and any similar machinery equipped with either cylinders, screen section, calendar section, rolls, or beaters used for the preparation of stock for further processing;
(u) "Paddler" means a trough for a solution and two or more squeeze rolls between

(v) "Plaiting machine" means a machine used to lay cloth into folds of regular length for convenience of subsequent process or use;
(w) "Roller printing machine" means a machine consisting of a large control cylinder, or pressure bowl, around the lower part of the perimeter of which is placed a series of engraved colour rollers (each having a colour trough), a furnisher roller, doctor blades, etc. The machinery is used for printing fabrics;

(x) "Continuous bleaching range" means a machine for bleaching of cloth in rope or open width form with the following arrangement. The cloth, after wetting-out, pass through a squeeze roll into a saturator containing a solution of caustic soda and then to an enclosed J-box. A V-shaped arrangement is attached to the front part of the J-box for uniform and rapid saturation of the cloth with steam before it is packed down in the J- box. The cloth, in a single stand rope form, passes over a guide roll down the first arm of the "V" and up to the second. Steam is injected into the "V" at the upper end of the second arm so, that the cloth is rapidly saturated with steam at this point. The J-box capacity is such that cloth will remain hot for a sufficient time to complete the scouring action. It then passes a series of washers with a squeeze roll in between. The cloth then passes through a second set of saturator, J-box and washer, where it is treated with the peroxide solution. By slight modification of the form of the unit, the same process can be applied to open width cloth;
(y) "Mercerizing range" means a 3-bowl mangle, a tender frame, and a number of bowls for washing and scouring. The whole set-up is in a straight line and all parts operate continuously. The combination is used to saturate the cloth with sodium hydroxide, stretch it while saturated, and washing out of the caustic before releasing tension;
(z) "Sanferizing machine" means a machine consisting of a large steam- heated cylinder, and endless, thick, woollen felt blanket which is in close contact with the cylinder for most of its perimeter, and an electrically heated shoe which presses the cloth against the blanket while the latter is in a stretched condition as it curves around feed-in-roll;

which cloth-passes after being, passed through a mordant or dye bath;
(aa) "Shearing machine" means a machine used for shearing cloth. Cutting action is provided by a number of steel blades spirally mounted on a roller. The roller rotates in close contact with a fixed ledger blade. There may be from one to six such rollers on a machine;
(bb) "Singing machine" means a machine which comprises of a heated roller, plate, or an open gas flame. The cloth or yarn is rapidly passed over the roller or the plate or through the open gas flame to remove fuzz or hairiness by burning.
(cc) "Slasher" means a machine used for applying a size mixture to warp yarns. Essentially, it consists of a stand for holding section beams, a size box, one more cylindrical dryers or an enclosed hot air dryer, and beaming and for winding the

yarn on the loom beams;
(dd) "Tender frame" means a machine for drying cloth under tension. It essentially consists of a pair of endless travelling chains fitted with clips of fine pins and curved tracks. The cloth is firmly held at the salvages by the two chains which diverge as they move forward so that the cloth is brought to the desired width;
(ee) "Warper" means a machine for preparing and arranging the yarns intended for the warp of a fabric, specifically, a beam warper.
1 3. General safety requirements
2 (1) Every textile machine shall be provided with individual mechanical or electrical means for starting and stopping such machines. Belt shifter on machines driven by belts and shafting should be provided with a belt shifter lock or an equivalent positive locking device.

3 (2) Stopping and starting handless or other controls shall be of such design and so positioned as to prevent the operator's hand or fingers from striking against any moving part or any other part of the machine.
4 (3) All belts, pulleys, gears, chains, sprocket-wheels, other dangerous moving parts of machinery which either form part of the machinery or are used in association with it shall be securely guarded.
5 4. Openers and pickers
6 (1) In all opening or picker machines, beaters and other dangerous parts shall be securely fenced by suitable guard so as to prevent contact with them. Such guards and doors or cover or openings giving access to any dangerous part of the machinery shall be provided with inter locking arrangement:

Provided that in the case of doors or covers of opening giving access to any dangerous part, other than beater covers, instead of the interlocking arrangement, such openings may be so fenced by guards which prevent access to any such dangerous part and which is either keep positively locked in position or fixed in such a manner that it cannot be removed without the use of hand tools.
1 (2) The feed reels on all opening and picking machinery shall be covered with a guard designed to prevent the operator from reaching the nip while, the machinery is in operation.
2 (3) The lap forming rollers shall be fitted with a guard or cover which shall prevent access to the nip at the intake of the lap-roller and fluted roller as long as the weighted rack is down. The guard or cover shall be locked that it cannot be raised until the machine is stopped, and the machine cannot be started until the cover or guard is closed:

Provided that the foregoing provision shall not apply to the machines equipped with automatic lap forming devices:

Provided further that any such machine equipped with an automatic lap forming device shall not be used unless the automatic lap forming device is in efficient working order.
1 5. Cotton Cards
(1) All cylinder doors shall be secured by an interlocking arrangement which shall prevent the door being opened until the cylinder has ceased to revolve and shall render it impossible to restart the machine until the door has been closed: (1) of Section 22.
(2) The licker-in shall be guarded so as to prevent access to the dangerous parts.
(3) Every card shall be equipped with an arrangement that would enable the card cylinder to be driven by power during stripping-grinding operations without having to either shift the main belt to the fast pulley of the machine or to dismantle the interlocking mechanism. Such an arrangement shall be used only for stripping or grinding operations.

Provided that the later requirement in respect of the automatic locking device shall not apply while stripping or grinding operations are carried out:

Provided further that stripping or grinding operations shall be carried out only by specially trained adult workers wearing tight fitting clothing whose names have been recorded in the register prescribed in this behalf as required in sub-section

1 6. Garnett machines

2 (1) Garnett licker-in shall be enclosed.

3 (2) Garnett fancy rolls shall be enclosed by guards. These shall be installed in a way that keeps worker rolls reasonably accessible for removal adjustment.

4 (3) The underside of the Garnett shall be guarded by a screen mesh or other form of enclosures to prevent success.

5 7. Gill boxes

6 (1) The feed end shall be guarded so as to prevent fingers being caught in the pins of the intersecting followers.

7 (2) All nips of in running rolls shall be guarded by suitable nip guards conforming to the following specifications.

Any opening which the guard may permit when fitted in position shall be so restricted with respect to the distance of the opening from any nip point through that opening and in any circumstances the maximum width of the opening shall not exceed the following:

Distance of opening from nip point	**Maximum width of opening**
(1)	(2)
0 to 38	6 mm
39 to 63 mm	10 mm
64 to 88 mm	13 mm
89 to 140 mm	15 mm
141 to 165 mm	19 mm
166 to 190 mm	22 mm
191 to 215 mm	32 mm

1 8. Silver and ribbon lappers (cotton): The calendar drums and the lap spool shall be provided with a guard to prevent access to the nip between the in-running rolls.

2 9. Speed frames: Jack box gills at the head stock shall be guarded and the guard shall have interlocking arrangement.

3 10. Spinning mules: Wheels on spinning mule carriage shall be provided with substantial wheel guards, extending to within 6 mm of the rails.

4 11. Warpers: Swivelled double bar gates shall be installed on all warpers operating in excess of 410 per metres + min peripheral speed. These gates shall have interlocking arrangements, except for the purpose of inching or jogging:

Provided that the top and bottom bars of the gate shall be at least 1.05 and 0.53 metres high from the floor or working platform, and the gate shall be located 38 mm from the vertical tangent to the beam head.

1 12. Slashers

(1) Cylinder dryers: (a) All open nips of in-running rolls shall be guarded by nip guard conforming to the requirements in paragraph 7(2).

(b) When slashers are operated by control levers, these levers shall be connected to a horizontal bar or treadle located not more than 170 cm above floor to control the operation from any point.

(c) Slashers operated by push bottom control shall have stop and start buttons located at each end of the machine, and additional buttons located on both sides of the machine at the size box and the delivery end. If calendar rolls are used, additional buttons shall be provided at both sides of the machine at points near the nips, except when slashers are equipped with an enclosed dyer as in paragraph (b).

(2) Enclosed hot air dryer: (a) All open nips of in-running rolls shall be guarded by nip guard conforming to the requirements in paragraph 7(2).

(b) When slashers are operated by control levers, these levers shall be connected to a horizontal bar or treadle located not more than 170 cm above floor to control the operation from any point.

(c) Slashers operated by push-but on control shall have stop and start buttons located at each end of the machine and additional stop and start buttons located on both sides of the machines at intervals spaced not more than

1.83 metres on centres.

1 13. Looms: Each loom shall be equipped with suitable guards designed to minimise the danger from flying shuttles.

2 14. Valves of kiers, tanks and other containers

3 (1) Each value controlling the flow of steam, injurious gases or liquid into a kier or any other tank or container into which a person is likely to enter in connection with a process, operation, maintenance or for any other purpose, shall be provided with a suitable locking arrangement to enable the said person to lock the value securely in the closed position and retain the key with him before entering the kier, tank or container.

4 (2) Wherever boiling tanks, caustic tanks and any other containers from which liquids which are hot, corrosive or toxic may overflow or splash are so located that the operator cannot see the contents from the floor or working area, emergency shut off valves which can be controlled from a point not subject to danger of splash shall be provided to prevent danger.

5 15. Shearing machines: All revolving blades on shearing machines shall be guarded so that the opening between the cloth surface and the bottom of the guard will not exceed 10 mm.

6 16. Continuous bleaching range (cotton and rayon): The nip of all in-running rolls on open width bleaching machine rolls shall be protected with a guard to prevent the worker from being caught at the nip. The guard shall extend across the entire length of the nip.
7 17. Mercerizing range (piece goods)
8 (1) A stopping device shall be provided at each end of the machine.
9 (2) A guard shall be provided at each end of the frame between the in-running chain and the clip opener.
10 (3) A nip guard shall be provided for the in-running rolls of the mangle and washers and the guard shall confirm to the requirements in paragraph 7(2).
11 18. Tender frames
12 (1) A stopping device shall be provided at each end of the machine.
13 (2) 'A' guard shall be provided at each end of the machine frame at the in-running chain and clip opener.

1 19. Paddlers: Suitable nip guards conforming to the requirements in paragraph 7(2) shall be provided to all dangerous in-running rolls.
2 20. Centrifugal extractors
3 (1) Each extractor shall be provided with a guard for the basket, and the guard shall have inter-locking arrangement.
4 (2) Each extractor shall be equipped with a mechanically or electrically operated brake to quickly stop the basket when the power driving the basket is shut-off.
5 21. Squeezer or wringer extractor, water mangle, back washer (worsted yam) crabbing machines, and (diarising machines): All m-running rolls shall be guarded with nip conforming to the requirements in paragraph 7(2).
6 22. Sanforizing and palmer machine
7 (1) Nip guards shall be provided on all accessible in-running rolls and these shall conform to the requirements in paragraph 7(2).
8 (2) Access from the sides to the nips of in-running rolls should be fenced by suitable side guards.
9 (3) A safety trip rod, cable or wire centre cord shall be provided across the front and back of all palmer cylinder extending the length of the face of the cylinder. It shall operate readily whether pushed or pulled. The safety trip shall not be more than 170 cm. above the level at which the operator stands and shall be readily accessible.
10 23. Rope washers
11 (1) Splash guards shall be installed on all rope washers unless the machine is so designed as to prevent the water or liquid from splashing on the operator, the floor, or working surface.
12 (2) A safety trip rod, cable or wire centre cord shall be provided across the form the back of all rope washers extending the length of the face of the washer. It shall operate readily whether pushed or pulled. This safety trip shall be not more than 170 cm. above the level on which the operator stand shall be readily accessible.
13 24. Laundry washer tumbler or shaker
14 (1) Each drying tumbler, each double cylinder shaker or clothes tumbler and each washing machine shall be equipped with an inter-locking arrangement which will prevent the

power operation of the inside cylinder when the outer door on the case or the shell is open, and which will also prevent the outer door on the case or the shell from being opened without shutting off the power and the cylinder coming to stop. This should not prevent the movement of the inner cylinder by means of a hand operated mechanism or an inching device.
15 (2) Each closed barrel shall also be equipped with adequate means for holding open the doors or covers of the inner and outer cylinders or shells while it is being

loaded or unloaded.
1 25. Printing machine (roller type)

(1) All in-running rolls shall be guarded by nip guards conforming to the requirements in paragraph 7(2). (2) The engraved roller gears and the large crown wheel shall be guarded.
1 26. Calendars: The nip at the in-running side of the rolls shall be provided with a guard extending across the entire length of the nip and arranged to prevent the fingers of the workers from being pulled in between the rolls or between the guard and the rolls, and so constructed that the cloth can be fed into the rolls safely.
2 27. Rotary staple cutters: The cutter shall be protected by a guard to prevent hands reaching the cutting zone.
3 28. Plaiting machines: Access to the trap between the knife and card-bar shall be prevented by a guard.
4 29. Hand baling machines: An angle iron handle-stop guard shall be installed at right angle to the frame of the machine. The stop guard shall be so designed and so located that it will prevent the handle from travelling beyond the vertical position should the handle slip from the operator's hand when the pawl has been released from the teeth of the take-up-gear.
5 30. Flat-work-ironer: Each flat work or collar ironer shall be equipped with a safety bar or other guard across the entire from of the feed or first pressure rolls, so arranged that the striking of the bar or guard by the hand of the operator or other person will stop the machine. The guard shall be such that the operator or other person cannot reach into the rolls without removing the guard. This may be either a vertical guard on all sites or a complete cover. If a vertical guard is used, the distance from the floor or working platform to the top of guard shall be not less than 1.83 metres.

SCHEDULE I-A JUTE TEXTILES
1 1. Fencing of machinery: Fencing, guards or safety devices prescribed in respect of each individual machine shall be provided and maintained in good order.
2. Softening machines (a) A safety stopping device comprising a breast plate in front of the feed table to operate the belt striking, gear by releasing an unbalanced weight.
(b) The feed table shall not be less than 6' length measured from the floor and extending at that height not less than-6' from the centre of the first cloth roller

No device departing from the unbalanced weight principle will be deemed to conform to this rule unless it has been approved in writing by the Inspector. In the case of machines provided

with an individual electric drive the device shall be arranged to act on a switch inserted, in the no- volt release circuit.

1 (c) the starting and stopping gear shall be arranged to comply with the following: (i) Provision for stopping the machine at both the feed and delivery ends;
1 (ii) Provision for starting the machine at the feed end only, the design shall be such that an operator at the feed end cannot start the machine without the co-operation of an operator at the delivery end;
1 (iii) When a machine is stopped for clearing a jam or for attention otherwise, the starting gear shall be secured in the "Off" position at least by a lock operated by a removable key in possession of the person attending machine;
1 (iv) The lever operating the unbalanced weight shall be securely fenced;

1 (d) Sheet steel casing completely enclosing the side shafts i.e. the shafts and gears shall not be exposed on the underside. The casings shall be locked or secured by a device which will ensure: (i) that they cannot be opened while the machine is in motion, and
1 (ii) that it will not be possible to start the machine unless they are closed.

(a) The underframe shall be guarded in such a manner that it will not be possible for operatives to obtain access underneath the machine until the cylinder has ceased to revolve. The lowest cross number of the frame shall come down to a point not more than 10" from the floor and all openings above this, large enough to permit of access underneath, shall be filled in with sheet steel or fitted with bars or rods spaced not more than 6" apart, Any part of this protection may be in the form of the door, but all such doors shall be controlled by a device which will ensure that they cannot be opened until the cylinder has come to rest and that the machine cannot be restarted until the doors are close:
(b) A guard with panels and sliding doors of sheet or closely spaced bars or rods enclosing the side gears, there shall be no opening at the underside of this protection for access to the gears, the sliding doors shall be controlled, by a device which will ensure that they cannot be opened until the cylinder has come to rest and that the machine cannot be started until the doors are closed.
(c) A sheet steel guard extending up to the centre line of the cylinder enclosing the stripper belts and pulleys shall be provided on all machines installed after 1st January, 1950.

to the centre of the first pair of cast iron rollers. The table shall be provided with side guards reaching a height of not less than 4'-6" from the centre of the first pair of rollers, the height of the rest of the side guards shall not be less than 4' from the floor:
1 3. Carding Machine

Provided that in the case of machines installed before 1st January, 1950 rigidly secured panels filling the underframe will be deemed to comply with it.

(d) An adequately strong and rigid set of bars or rods over the doffer roller, securely bolted in position. This guard must follow the radius of the roller, the space between the rods not to exceed 2" the distance from the doffer pin points to the underside of the rods to be 4" the space between the drawing pressing roller and the first rod not to exceed 2"; and the width of guard from 1st to the last rod to be not less than 12".
(e) A hand or guard rail extending the full width of the drawing pressing roller, fitted in a convenient position in front of and higher than the roller.
(f) Effective side guards to prevent operative's fingers being caught between the delivery roller and pressing ball.
(g) When a machine is stopped for cleaning a jam or attention otherwise, the starting gear shall be secured in the "Off" position at least by a lock operated by removable key in possession of the person attending the machine.
(a) A sheet steel guard completely closing the space between the bend rail and bottom of the retaining roller, the opening and closing of which shall be controlled by the starting gear, and the design to be such that the guard cannot be opened while the machine is running. The guard plate shall swivel more or less about the centre of its height, and top edge shall swing innards towards the grill bars as the guard opens, and outwards as the guard closes:
(b) Sheet steel or cast iron guards completely enclosing the end gears, the design to be such that access to the gears in possible only by removing the guard in its entirety. If doors or movable panels are provided that: they shall be controlled by a locking device, operated by the starting gear, which will ensure that machine cannot be started unless the guard is completely closed and that no movable part can be opened whilst the machine is in motion:
(c) An efficiency guard which will prevent operative's fingers of hands being caught between the delivery roller and the pressing ball.

1 4. Drawing machine

Provided that in the case of machines installed before 1st January, 1950, a fixed guard will be sufficient if the clearance between the top of the guard and the underside of the retaining roller does not exceed 3/8":
Provided further that in the case of machine with individual electric drive it will be sufficient if the guard is of the swivelling type and interlinked with the driving mechanism so that silver cannot be fed into the grill, or the guard opened, before the machine is stopped, and that the machine cannot be started up unless the guard is closed.
Provided that in the case of machines installed before 1st January, 1950 a guard securely held in position by automatic catches to prevent opening by vibration but without the interlocking arrangements, will be deemed to comply with it.

(d) Starting and stopping gear so designed that the machine can be stopped by operatives on the feed and delivery sides, can be started only by an operative on the feed side but with the co-operation of the operative on the side and cannot be started by an operative on the delivery side. The device necessitating co- operation shall be engaged before the machine stops.

(e) Shear pins driving the individual carriage shall be fitted to the opinion on the main block shaft and not to the opinion on the carriage back shaft.
1 (a) Starting and stopping gear designed to embody the following: (i) Provision for stopping the machine on both the feed and delivery sides.
1 (ii) Provision for starting the machine on delivery side only.
1 (iii) A device on the deliver side which will automatically lock the belt striking gear in the "off" position. This device shall be such that the machine will not stop before the lock is engaged nor start before it is disengaged by a worker on the delivery side.

(b) Sheet steel or cast iron guards completely enclosing the end gears, the design to be such that access to the gears is possible only by removing the guard in its entirety. If doors or movable panels are provided they shall be controlled by locking device, operated by the starting gear, which will ensure that the machines cannot be started unless the guard it completely closed and that no movable part can be opened whilst the machine is in motion:
(c) Shear pins driving individual carriages shall be fitted to the main back shaft and not to the opinion on the carriage back shaft.
(a) Access between the driving cylinders whilst in motion shall be prevented by providing a door at the pass end, so interconnected with the starting gear that neither side of the frame can be set in motion whilst the door is open and conversely, the door cannot be opened whilst either or both sides of the frame is or are running:
(b) Sheet steel or cast iron guards completely enclosing the end gears the design to be such that access to the gears, is possible only by removing the guard in its entirety. It doors or movable panels are provided they shall be controlled by a locking device; operated by the starting gear, which will ensure that the machine cannot be started unless, the guard is completely closed and that no movable

1 5. Removing machine

Provided that in the case of machines installed before 1st January, 1950, a guard securely held in position by automatic catches to prevent opening by vibration, but without the interlock into arrangement, will be deemed to comply with it.
1 6. Spinning frames

Provided that in the case of machines installed before 1st January, 1950, hinged and well secured doors will be deemed to comply with it.

part can be opened whilst the machine is in motion:
Provided that in the case of machines installed before 1st January, 1950, a guard securely held in position by automatic catches to prevent opening by vibration, but without the interlocking arrangement, will be deemed to comply with it.
7. Cop winding machine (a) Effective guards covering the driving off end gears. Hinged doors or panels will not be deemed to comply with this rule unless securely held in the closed position by automatic catches to prevent opening by vibrations.

(b) Guards covering the spindle driving gears of such design that it will not be possible to remove them from position whilst the machine is in motion:

Provided that in the case of machines installed before 1st January, 1950, guards rigidly secured by bolts or screws will be deemed to comply with it.

1 8. Roll winding machine: Effective guards for traverse or other gears and came. Hinged doors or panels will not be deemed to comply with this rule unless securely held in the closed position by automatic catches to prevent opening by vibration

9. Beaming and dressing machines (a) The fly wheel shall be of the disc type.

(b) Cross and side shafts driving the starch rollers shall be enclosed in protecting tubes.

(c) A guard securely anchored in position and protecting the nip between the top and bottom starch rollers. It shall have an aperture large enough to pass the yarn through but not the operative's hand. A hinged guard will not be deemed to be in compliance with this rule.

(d) A guard protecting the nip between the yarn beam pressing roller and the outer top weight roller, i.e., the top with roller on the side at which the beam is inserted and removed.

(e) The space between any yarn guide roller and its adjacent steam cylinder must be not less than 3".

10. Looms (a) Sheet steel or cast iron guards protecting the crank and wiper shafts spur gears shall be provided.

(b) The minimum clearance between the slay and the breast beam shall not be less than 2"

(c) Yarn beams shall be placed on looms by mechanical or other means, lifting into position by hand alone will not be deemed to comply with this rule.

11. Cropping machines: Sheet steel guards protecting the spirals shall be provided.

12. Calendaring machines

(a) A strong and rigid guard, securely fixed in position, in front of the nip between the bottom cast iron roller and the paper roller on top of same. This guard shall be constructed in such manner that it will be impossible for the fingers of an operative to reach the nip through the aperture in the guard.

(b) Safely rollers protecting the nip of the upper rollers. These rollers must be made of steel or wrought iron tube, as light as possible, add of not more than of 2 1 /2" external diameter. The safety roller shall ride on the under roller and be free to lift. It shall be set in such manner that the peripheral clearance between it and the upper roller, and between it and the under roller when the safety roller is fuller raised, will not permit of an operative's fingers reaching the nip.

(c) Sheet steel panels shall be fitted on the machine gable to prevent access through same to the large spur wheel.

(d) Lever weights shall be lowered into strong and rigid guards.

(a) Provision for starting the machine at the feed end only, the design shall be such that an operator at the feed end cannot start the machine without the co- operation of an operator at the delivery end and that he cannot interfere with the device necessitating co-operation.

(b) A "sight panel" fitted to the feed table in such position that operator on either side of the machine can see through to the other side.
(c) The hand wheel on the driving shaft shall be of the disc type and it shall be located at sufficient distance from the machine gable to permit of fencing being constructed between it and the lever mechanism operating the folder.
(d) The treadle mechanism shall be such as to allow extraction of the maximum cloth lapped and no worker shall be required to go up on the machine table to force it down.

1 13. Cloth cutting machine: A guard preventing access to the knife from the front, top or sides shall be provided. On the underside the knife shall be protected up to the maximum limit without interfering with the machine operation.
2 14. Lapping machine
3 15. Sewing machine: An apron plate shall be fitted in front of the feed chain and the plate shall be without holes or openings except for slots for the jockey pulleys.
4 16. Press pits: When the press table in level with the floor the clearance between it and the floor shall not be less than 4".

SCHEDULE II
COTTON GINNING AND PRESSING
1 1. Line Shaft: The line shaft or second motion in cotton ginning factories, when below floor level, shall be completely enclosed by a continuous wall or unclimbable fencing with only so many openings as are necessary for access to the shelf for removing cotton

seed, cleaning and oiling, and such openings shall be provided with gates or doors which shall be kept closed and locked.
1 2. Gin-house: No person other than the gin feeder shall be permitted to clean cloth on or in the proximity of a gin roller where the machine of which it is a part, is in motion under power.
2 3. Press-house: No person working on an opener in a pressing factory shall be permitted to feed the machine by means of his legs. All such workers shall wear tight clothing.
3 4. Cotton opener: In all types of openers in use in pressing factories the slope of the feed table shall not be more than 1 in 10 in no case shall it consist of a smooth metal plate.

The beater or toothed cotton openers in use in pressing shall be guarded by securely fixing across the feed end of the machine a strong guard of metal or wood with sides closed, not more than twelve inches above the lattice and not less than twenty inches in width so arranged that in no circumstances can a man's hand come in contact with the beaters or rollers.
1. Definitions (a) "wood-working machine" means a circular saw, band saw, planning machine, chain mortising machine or vertical spindle moulding machine operating on wood or cork;
(b) "circular saw" means a circular saw working in a bench (including a rack bench) but does not include a pendulum or similar saw which is moved towards the wood for the purpose of cutting operation;

(c) "band saw" means a band saw, the cutting portion of which runs in vertical diction but does not include a long saw or band re-sawing machine;
(d) "planning machine" means a machine for overhand planning or for thicknessing or for both operations.

SCHEDULE III
WOOD-WORKING MACHINERY
For the purpose of this schedule,
1 2. Stopping and starting device: An efficient stopping and starting device shall be provided on every wood-working machine. The control of this device shall be in such a position as to be readily and conveniently operated by the person in charge of the machine.
2 3. Space around machines: The place surrounding every woodworking machine in motion shall be kept free from obstruction.
3 4. Floors: The flour surrounding every wood-working machine shall be maintained in good and level condition, and shall not be allowed to become slippery, and as far as practicable, shall be kept free from chips or other loose material.

1 5. Training and supervision
2 (1) No person shall be employed at a wood-working machine unless he has been sufficiently trained to work that class of machine, or unless he works under the adequate supervision of a person who has thorough knowledge of the working of the machine.
3 (2) A person who is being trained to work on a wood-working machine shall be fully and carefully instructed as to the dangers of the machine and the precautions to be observed to secure safe working of the machine.
3 6. Circular saws (a) Behind and in direct line with the saw there shall be a riving knife, which shall have a smooth surface, shall be strong, rigid and easily adjustable, and shall also conform to the following conditions: (i) The edge of the knife nearer the saw shall form an area of a circle having a radius not exceeding the radius of the largest saw used on the bench.
3 (ii) The knife shall be maintained as close as practicable to the saw having regard to the nature of the work being done at the time, and at the level of the bench table the distance between the front edge of the knife and the teeth of the saw shall not exceed half an inch.
3 (iii) For a saw of a diameter of less than 24 inches, the knife shall extend upwards from the bench table to within one inch of the top of the saw, and for a saw of a diameter of 24 inches or over shall extend upwards from the bench table to a height of at least nine inches.

(b) The top of the saw shall be covered be covered by a strong and easily adjustable guard, with a flange at the side of the saw farthest from the fence. The guard shall be kept so adjusted that the said flange shall extend below the roots of the reach of the saw. The guard shall extend from the top of the riving knife to a point as low as practicable at the cutting edge of the saw.
(c) The part of the saw below the bench table shall be protected by two plates of metal or other suitable material one on each side of the saw; such plates shall not be more than six inches apart, and shall extend from the axis of the saw outwards to a distance of not less than two

inches beyond the teeth of the saw. Metal plates, if not beaded, shall be of thickness of at least 1/10 inch, or if beaded be of a thickness of at least 1/20 inch.
(a) Both sides of the bottom pulley shall be completely encased by sheet or

Every circular saw shall be fenced as follows
1 7. Push sticks: A push stick or other suitable appliance shall be provided for use at every circular saw and at every vertical spindle moulding machine to enable the work to be done without unnecessary risk.
2 8. Band saws: Every band saw shall be guarded as follows,

(b) The front of the top pulley shall be covered with sheet or expended metal or other suitable material.
(a) maintained in an efficient state;
(b) constantly kept in position while the machinery is in motion; and
(c) so, adjusted as to enable the work to be done without necessary risk.

expanded metal or other suitable material.
1 9. Planning machines:
2 (1) A planning machine (other than a planning machine which is mechanically fed) shall not be used for overhands planning unless it is fitted with a cylindrical cutter block.
3 (2) Every planning machines used for overhand planning shall be provided with a "bridge" guard, capable of covering the full length and breadth of the cutting slot in the bench, and so constructed as to the easily adjusted both in a vertical and horizontal direction.
4 (3) The feed roller of every planning machines used for thicknessing, except the combined machine for overhand planning and thicknessing, shall be provided with an efficient guard.
5 10. Vertical spindle moulding machines
6 (1) The cutter of every vertical spindle moulding machine shall be guarded by the most efficient guard having regard to the nature of the work being performed.
7 (2) The wood being moulded at a vertical spindle moulding machine shall, if practicable, be held in a jig or holder of such construction as to reduce as far as possible the risk of accident to the worker.
8 11. Chain mortising machines: The chain of every chain mortising machine shall be provided with a guard which shall enclose the cutters as far as practicable.
9 12. Adjustment and maintenance of guards: The guards and other appliances required under this Schedule shall be:
10 13. Exemptions: Paragraphs. 6,8,9 and 10 shall not apply to any wood-working machines in respect of which it can be proved to the satisfaction of the Inspector that other safeguards are provided, maintained and used which render the machine as safe as it would be if guarded in the manner prescribed in this schedule.

[43][SCHEDULE IV] RUBBER AND PLASTIC MILLS

1. Definition (i) "Rubber and Plastic Mills" shall mean the machine with rollers used in breaking down, cracking washing, grating, mixing, refining and warming of rubber or rubber goods and plastic or plastic goods.

(ii) A “Calendar” shall mean the machines with rollers used for frictioning, sheeting, coating and spreading of rubber or rubber compounds and plastic or plastic compounds.

Installation of machines: Rubber and plastic mills shall be so installed that top of the front roll is not less than one metre above the floor or working level provided that in existing installations where the top of the front roll is below this height a strong rigid distance bar guard shall be fitted across the front of the machine in such position that the operator cannot reach the nip of roller from the normal working position of the operator.
2. Safety Devices (i) Rubber and plastic mills shall be equipped with: (a) Hoppers so constructed or guarded that it is impossible for the opera- tors to come into contact in any manner with the nip of the rolls, or
(b) Horizontal Safety trip rods or tight wire cable across front and rear, which will when pushed or pulled operate instantly to disconnect the power and apply the brakes or to reverse the rolls, Safety-trip rods or tight wire cables on rubber mills shall extend across the entire length of the face of the rolls and shall be located not more than 170 centimetres above the floor or working level.

(ii) Calendar machines shall be equipped with (a) Horizontal safety-trip rods or tight wire across both front and rear, which will when pushed or pulled operate instantly, to disconnect the power and apply the brakes of to reverse the rolls;
(b) Safety-trip rods or tight wire cables on calendar machines shall extend across the entire length of the face of the roll and shall be located not more than 170 centimetres above the floor or working level.
(c) On each side of all calendars and near both ends of the face of the rolls there shall be a vertical tight wire cable connecting with the bar tripping mechanism at the top and fastened to the frame within 30 centimetres of the floor. These cable should be positioned at a distance of not more than 30 centimetres from the face of the roll and at a distance of not less than 25 millimetres from the calendar frame.

3. Maintenance and safety devices: Safety trip rods and tight wire cables on all rubber mills and calendars shall be examined and tested daily in the presence of the Manager or other responsible person and if any defect is disclosed by such examination and test the mill shall not be used until such defect has been remedied.
4. Injection Moulding Machines
(a) An electrical interlocking arrangement shall be provided so that the moulds cannot be closed unless the front safety gate is fully closed and on opening the

front safety gates, the moulds will stop automatically.
(b) In addition to the above arrangement a hydraulic safety guard shall also be incorporated with the front safety gate. This shall prevent the tail stock mould plate from moving forward on opening of the front safety gate.
(c) At the rear of the machine, there shall be provided either an efficient fixed guard or a sliding gate which shall be electrically interlocked with the movement of the mould plates in the manner of the front safety gate as required under (a) above, so as to prevent access to the danger zone of the moulds in motion from the rear.
5. Leather, Plastic and Rubber Stripper Machines: Strippers for trimming or punching tanned hides, plastic or rubber sheets in leather making footwear manufacturing or in similar industries shall be provided with suitable devices which required simultaneous action of both the hands of the operator or an automatic device which will remove both the hands of the operator from the danger zone at every descent of the blade, punch or stripper cutter.]

SCHEDULE V ALL FACTORIES

1 1. Whenever practicable and deemed necessary by the Inspector, service platforms and gangways shall be provided for overhead shafting and where required by him these shall be securely fenced with guard rails and the boards.

2 2. Safe access shall be provided to all bearings, clutches belt, shifting levers and all such other appliances which are required to be handed or operated while the machinery is at work.

3 3. All ladders used in replacing belts or in attending similar overhead machinery shall be especially made for that work and provided with hooks or an effective non-skid device.

4 4. No transmission machinery in motion shall be cleaned by cotton waste, rags or similar material held in hand.

5 5. All belts shall be regularly examined to see that they are kept in proper tension.

6 6. Each water gauge glass of a boiler shall be fitted with an efficient guard.

7 7. [44][Tight fitting clothing: A worker required to wear tight fitting clothing under sub-section (1) of Section 22 shall be provided by the occupier with such clothing which shall consist of at least a pair of closely fitting half sleeves shift or vest. Such clothing shall be returned to the occupier on termination of service or when new clothing is provided.]

[45][SCHEDULE VI] CENTRIFUGAL MACHINE

1 1. Definition: "Centrifugal Machines" include centrifugal extractors, separators and driers.

2. Every part of the centrifugal machine shall be: (a) of good design and construction and of adequate strength;
(b) properly maintained; and
(c) Examined thoroughly by a competent person at regular intervals.

3. Interlocking guard for drum of basket
(1) The case housing the rotating drum or basket of every centrifugal machine shall be provided with a strong lid. The design and construction of the case as well the lid should be such that no access is possible to the drum or basket when the lid is closed.

(2) Every centrifugal machine shall be provided with an efficient inter-locking device that will effectively prevent the lid referred to in sub-paragraph (1) from being opened while the drum or basket is in motion and prevent the drum or basket being set in motion while the lid is in the open position.
4. Braking arrangement: Every centrifugal machine shall be provided with an effective braking arrangement capable of bringing the drum or basket to rest within as short a period of time as reasonably practicable after the power is cut-off.
5. Operating speed: No centrifugal machine shall be operated at a speed in excess of the manufacture's rating which shall be legibly stamped at easily visible places both on the inside of the basket and on the outside of the machine casing.
6. Exceptions: Sub-paragraph (2) of paragraph 3, paragraphs 4 and 5 shall not apply in case of too lung machines or similar machines used in the sugar manufacturing Industry.]

[46][SCHEDULE VII] POWER PRESS

1 1. Application: The Schedule shall apply to all types of power presses including press brakes except when used for working hot metal.
2. Definition (a) "approval" means approved by the Chief Inspector;
(b) "fixed fencing" means fencing provided for the tools of a power press being fencing which has no moving part associated with or dependent upon the mechanism of a power press and include that part of a closed tool which acts as a guard;
(c) "power press" means a machine used in metal or other industries for moulding, pressing, blanking, raising, drawing and similar purposes;
(d) "safety device" means the fencing and any other safeguard provided for the tools of a power press.

For the purpose of this Schedule:

1 3. Starting stopping mechanism: The starting and stopping mechanism shall be provided with a safety stop so as to prevent over running of the press or descent of the ram during tool setting, etc.
2 4. Protection of tool and die
3 (1) Each press shall be provided with a fixed guard with a slip plate on the underside enclosing the front and all sides of the tool.
4 (2) Each die shall be provided with a fixed guard surrounding its front and sides, and extending to the back in the form of a tunnel through which the pressed article falls to the rear of press.
5 (3) The design, construction and mutual position of the guards referred to in (1) and

(2) shall be such as to preclude the possibility of the worker's hand or figures reaching the danger zone.
1 (4) The machine shall be fed through a small aperture at the bottom of the die guard, but a wider aperture may be permitted for second or subsequent operations if feeding is done through a chute.

2 (5) Notwithstanding anything contained in sub-clause (1) and (2) an automatic or an inter-locked guard may be used in place of fixed guard, but where such guards are used they shall be maintained in an efficient working condition and in any guard develops defect, the power press shall not be operated unless the defect of the guard is removed.
3 5. Appointment of persons to power presses for us,
(1) Except as provided in sub-paragraph (4), no person shall set, reset, adjust or try out the tools on a power press or install or adjust any safety device thereon, being installation or adjustment preparatory to production of die or carry out an inspection and test of any safety device thereof required by paragraph 8 unless he: (a) has attained the age of eighteen;
(b) has been trained in accordance with the sub-paragraph (2); and
(c) has been appointed by the occupier of the factory to carry out those duties in respect of the class or description of power press of the class or description of safety device (as the case may be) belongs; and the name of the every such person shall be entered in a register in Form 34.

(2) The training shall include suitable and sufficient practical instruction in the matters in relation to each type of power press and safety device in respect of which it is proposed to appoint the person being trained.
6. Examination and testing of power press and safety devices
(1) No power press or safety device shall be taken into use in any factory for the first time in the factory, or in case of a safety device for the first time on any power

press, unless it has been thoroughly examined and tested, in the case of a power press, after installation in the factory, or in the case of a safety device when in position on the power press in connection with which it is to be used.
1 (2) No power press shall be used unless it has been thoroughly examined and tested by a competent person, within the immediately preceding period of twelve months.
2 (3) No power press shall be used unless every safety device (other than fixed fencing) thereon has within the immediately preceding period of six months when in position on that power press, been thoroughly examined and tested by a competent person.
(4) The competent person carrying out an examination and test under the foregoing provisions shall make a report of the examination and test containing the following particulars and every such report shall be kept readily available for inspection: (a) name of the occupier of the factory;
(b) address of the factory;
(c) identification number or mark sufficient to identify the power press or the safety device;
(d) date on which the power press or the safety device was first taken into use in the factory;
(e) the date of each periodical thorough examination carried out as per requirement of sub-paragraph (2) above;
(f) particulars of any defects effecting the safety working of the power press or the safety device found at any such thorough examination and steps taken to remedy such defects.

7. Defects disclosed during a thorough examination and tests
(1) Where any defect is disclosed in any power press or in any safety device by my examination and test under paragraph 6 and in the opinion of the competent person carrying out the

examination and test, either: (a) the said defect is a cause of danger to workers and in consequence the power press or safety device (as the case may be) ought not to be used until the said defect has been remedied, or
(b) the said defect may become a cause of danger to workers and in consequence the power press or safety device (as the case may be) ought not to be used after the expiration of a special period unless the said defect has been remedied such defect shall, as soon as possible after the completion of the examination and test, be notified in writing by the competent person to the occupier of the factory and, in the case of defect falling within clause (b) of this sub-paragraph such notification shall include

the period within which, in the opinion of the competent person, the defect ought to be remedied.
1 (2) In every case where notification has been given under this paragraph, a copy of the report made under paragraph 6 (4) shall be sent by the competent person to the Inspector of the area within fourteen days of the completion of the examination and test.
(3) Where any such defect is notified to the occupier in accordance with the foregoing provisions of this paragraph the power press or safety device (as the case may be) having the said defect shall not be used: (a) in the case of a defect falling within clause (a) of sub-paragraph (1) until the said defect has been remedied; and
(b) in the case of defect falling within clause (b) of sub-paragraph (1), after the expiration of the period the said defect has been remedied.

(4) As soon as is practicable after any defect of which notification has been given under sub-paragraph (1) has been remedied, a record shall be made by or on behalf of the occupier stating the measures by which and the date on which the defect was remedied.
8. Inspection and test of safety devices
(1) No power press shall be used after the setting, re-setting or adjustment of the tools thereon unless a person appointed or authorized for the purpose under paragraph 5 has inspected and tested every safety device thereon while it is in position on the said power press:

Provided that an inspection, test and certificate as aforesaid shall not be required where any adjustment of the tools has not caused or resulted in any alteration to or disturbance of any safety device on the power press and if, after the adjustment of the tools, the safety devices, remain, in the opinion of such a person as aforesaid, in efficient working order.
1 (2) Every power press and every safety device thereon while it is in position on the said power press shall be inspected and tested by a trained person every day.
2 9. Defects disclosed during an inspection and test
3 (1) Where if appears to any person as a result of any inspection and test carried out by him under paragraph 8 that any necessary safety device is not in position or is not properly set in position on a power press or that any safety device which is in position on a power press is not in his opinion suitable, he shall notify the manager forthwith.

4 (2) Except as provided in sub-paragraph (3) where any defect is disclosed in a safety device by any inspection and test under paragraph 7, the person carrying out the inspection and test shall notify the manager forthwith.
5 (3) Where any defect in a safety device is the subject of a notification in writing

under paragraph 7 by virtue of which the use of the safety device may be continued during a specified period without the said defect having been remedied, the requirement in sub-paragraph (2) of this paragraph shall not apply the said defect until the said period has expired.
1 10. Identification of power presses and safety devices: For the purpose of identification every power press and every safety device provided for the same shall be distinctively and plainly marked.
2 11. Training and instructions to operators: The operators shall be trained and instructed in the safe method of work before starting work on any power press.
3 12. Exemptions
4 (1) If in respect of any factory, the Chief Inspector is satisfied that owing to the circumstances or infrequency of the processes of for any other reason, all or any of the provisions of this Schedule are not necessary for the protection of the workers employed on any power press of any class or description of power press or in the factory, the Chief Inspector may by a certificate in writing (which he may in his discretion revoke at any time), exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.
5 (2) Where such exemption is granted, a legible copy of the certificate, showing the conditions (if any) subject to which it has been granted, shall be kept posted in the factory in a position where it may be conveniently read by the persons employed.

1. Definitions (a) "guillotine" means a machine ordinarily equipped with straight, bevel- edged blade operating vertically against a stationary resisting edge and used for cutting metallic or non-metallic substances;
(b) "shears" or "shearing machine" means a machine ordinarily equipped with straight, bevel-edged blades operating vertically against resisting edges, or with rotary, overlapping cutting wheels and used for shearing metals or non-metallic substances;
(c) "slitter" or "slitting machine" means a machine ordinarily equipped with circular disc type knives, and used for trimming or cutting into metal or non-metallic substances or for slitting them into narrow strips; for the purpose of this schedule, this term includes bread or other food slicers equipped with rotary knives or cutting discs.

[47][SCHEDULE VIII
SHEARS SLITTERS AND GUILLOTINE MACHINES
For the purpose of this Schedule
1 2. Guillotine and Shears

1 (1) Where practicable, a barrier guard of adequate strength shall be provided at the front of the knife, fastened to the machine frame and shall be so fixed as would prevent any

part of the operator body to reach the descending blade from device, below or through the barrier guard or from the sides:

Provided that in case of machines used in the paper printing and allied industries, where a fixed barrier metal guard is not suitable on account of the height and volume of the material being fed, there shall be provided suitable starting devices which require simultaneous action of both the hands of the operator or an automatic device which will remove both the hands of the operator from the danger zone at every descent of the blade.

1 (2) At the back end of each machines, an inclined guard shall be provided over which the slit pieces would slide and be collected at a safe distance in a manner as would prevent a person at the back from reaching the descending blade.

(3) Power driven guillotine cutters, except continuous feed trimmers, shall be equipped with:

(a) starting devices which require the simultaneous action of both hands to start the cutting motion and of at least one-hand on a control during the complete stroke of the knife; or

(b) an automatic guard which will remove the hands of the operator from the danger zone at every descent of the blade, used in conjunction with one- hand starring devices which require two distinct movements of the device to start the cutting motion, and so designed as to return positively to the non-starting position after each complete cycle of the knife.

(4) Where two or more workers are employed at the same time on the same power driven guillotine cutter equipped with two hand control, the device shall be so arranged that each worker shall be required to use both hands simultaneously on the safety trip to start the cutting motion, and at least one-hand on a control to complete the cut.

(5) Power driven guillotine cutters, other than continuous trimmer, shall be provided, in addition to the brake or other stopping mechanism, with an emergency device which will prevent the machine from operating in the event of failure of the brake when the starting mechanism is in the non-starting position.

3. Slitting Machines

(1) Circular disc-type knives on machines for cutting metal and leather, paper, rubber, textiles or other non-metallic substances shall, if within reach of operators standing on the floor or working level, be provided with guards enclosing the knife edges at all times as near as practicable to the surface of the material, and which may either: (a) automatically adjust themselves to the thickness of the materials; or

(b) be fixed or manually adjusted so that the space between the bottom of the guard and the material will not exceed 6 mm (1/4 in.) at any time.

(a) suitable guard, fastened to the machines in front of the knives and provided with slots of per formations to afford visibility of the operations; or

(b) other guard equally efficient for the protection of the fingers of the workers.

1 (2) Portions of blades underneath the tables or benches of slitting machines shall be covered by guards.

2 4. Index cutters and Vertical Paper Slitters: Index cutters, and other machines for cutting strips from the ends of books, and for similar operations shall be provided with fixed guards, so arranged that the fingers of the operators cannot come between the blades and the tables.
3 5. Corner Cutters: Corner cutters, used in the manufacture of paper boxes, shall be equipped with,
4 6. Bank Knives: Bank wheels on band knives, and all portions of the blades except the working side between the sliding guide and the table on vertical mechanics, shall be completely enclosed with hinged guards of sheet metal not less than 4 mm in thickness or of other material of equal strength.]

[48]**[SCHEDULE IX AGITATORS AND MIXING MACHINES**
1 1. Definition: "Agitators and Mixing Machines" means a tank or other container equipped with power driven mixing arms, blades or paddle wheels fixed to resolvable shafts or other single mechanical devices for blending and stirring liquids with other liquids or with solid substances or combinations or these.
2 2. When the top of an open agitator tank, beater tank, tank or paddle tank or a similar vessel is less than 1 Meter above the adjacent floor or working level adequate standard railing shall be installed on all open sides.
3 3. Agitators and mixing machines shall be provided at the top or sides of the containers, vessels of the agitators and mixing machines, such openings shall be provided with standard grill guards as would prevent access of any part of the operator's body coming in contact with agitator stirring or similar devices whilst in motion.
4 4. When discharge holes, openings, chutes or similar arrangements are provided at the bottom or at the sides of the container vessels of the agitator and mixing machines, they shall be so designed, shaped, guarded or situated as would prevent access of any part of operator's body coming in contact with agitating, stirring or similar devices, whilst in motion inside the vessel]

60. Employment of young persons on dangerous machines
The following machines shall be deemed to be of such dangerous character that young persons shall not work at them unless the provisions of Section 23 (1) are complied with:

(1) A register shall be maintained with the following columns to record particulars of examination of hoists and lifts [49][and report of examination of each hoists and lifts shall be made in Form 33]:
(2) In pursuance of the provisions of sub-section (4) of Section 28, in respect of any class or description of hoists or lifts specified in first column of the following Schedule, the requirements of Section 28 specified in the second column of the said Schedule and set opposite to that class of description of hoists or lifts shall not apply.

Power presses other than hydraulic presses; Milling machines used in the metal trades;
Guillotine machines;
Circular saws;

Planten printing machines; Decorticators and oil expellers.

61. Exemption of certain hoists and lifts

i (i) Date of examination,
ii (ii) Number of hoists and lifts,
iii (iii) Details of tests made,
iv (iv) Results of examination,
v (v) Signature of examiner, and
vi (vi) Designation and qualification of the examiner.

SCHEDULE

(1)	(2)
Class or description of hoist or lift. Hoists or lifts mainly used for raising materials for charging blasts furnaces or lime- kilns.	Requirements which shall not apply. Sub- section (1) (b) in so far as requires a gate at the bottom landing; sub-section (1) (d) sub- section (1) (e).
Hoists not connected with mechanical power and which are not used for carrying person	Sub-section (1) (b) in so far as it requires the hoist way or lift way enclosure to be so constructed as to prevent any person or thing from being trapped between any part of the hoist or lift and any fixed structure or moving part; sub-section (1) (e).

62. [50]**[Cranes and other lifting machines** (1) No lifting machine and no chain, tape or lifting tackle, except a fibre rope sling, shall be taken into use in any factory for the first time in that factory unless it has been tested

(2) (a) Every jib-crane so constructed that the safe working load may be varied by the raising or lowering of the jib, shall have attached thereto either an automatic indicator of safe working loads or an automatic jib angle indicator and a table indicating the safe working loads at corresponding inclinations of the jib or corresponding radii of the load.
(b) A table showing the safe working loads of every kind and size of chain, rope or lifting tackle in use and in the case of multiple sling. The safe working loads at different angles of the legs, shall be posted in the store room or place or in which the chains, ropes or lifting tackles are kept, and in prominent position on the premises and no rope, chain or lifting tackle not shown in the table shall be used. The foregoing provisions of this paragraph shall not apply in respect of any lifting tackle if the safe working load thereof, or, in the case of multiple sling, the safe working load at different angles of the legs, is plainly marked upon it.

(3) No person under 18 years of age and no person who is not sufficiently competent and reliable shall be employed as driver of a lifting machine whether driven by mechanical power or otherwise, or to give signals to driver.]

and all parts have been thoroughly examined by a competent person and a certificate of such test and examination specifying the safe working load or loads and signed by the person making the test and the examination, has been obtained and is kept available for inspection.

Indication of safe loads

63. (1) [51][Particulars of register to be maintained under clause (a) (iii) of sub-section (1) of Section 29 of the Act shall be:

(i) Name of Occupier of Factory
(ii) Address of the Factory
(iii) Distinguishing number or mark, if any, and description sufficient to identify the lifting machine, chain, rope or the lifting tackle
(iv) Date when the lifting machine, chain, rope or lifting tackle was first taken into use in the factory
(v) Date and number of the certificate relating to any test and examination made under Rule 62 (1) and 66 together with the name and address of the person who issued the certificate
(vi) Date of each periodical thorough examination made under clause (a) (iii) of sub- section (1) of Section 29 of the Act and Rule 65 (2), and by whom it was carried out
(vii) Date of annealing or other heat treatment of the chain and other lifting tackle

made under Rule 65 (1) and by whom it was carried out
(viii) Particulars of any defect affecting the safe working load found at any such thorough examination or after appealing and of the steps taken to remedy such defects (2) The register shall be kept readily available for inspection.]
(1) All rails on which a travelling crane moves and every track on which the carriage or a transporter or runway moves, shall be of proper size and adequate strength and have an even running surface and every such rail or track shall be properly laid, adequately supported and properly maintained.
(2) Passage-ways for cranes:
(1) All chains and lifting tackle except a rope sling shall, unless they have been subjected to such other heat treatment as may be approved by Chief Inspector of Factories be effectively annealed under the supervision of a competent person at the following intervals:
(2) Nothing in the foregoing Rule 65 (1) shall apply to the following classes of chains and lifting tackles:

64. [52]**[Strength of Crane Tracks**

i (i) To provide access to rail tracks of over-head travelling cranes suitable passage- ways of at least 50 cm. (23 in.) width with toe, boards and double hand rails, 90 cm. (3 f.) high shall be provided alongside, and clear of, rail tracks of over-head travelling cranes, such that no moving part of the crane can strike persons on the ways, and the passage-ways shall be at the lower level than the crane tract itself, Safe access ladders shall be provided at suitable intervals to afford access to these passage-ways, and from passageways to the rail tracks.

ii (ii) The State Government may in writing exempt any existing factory from the provisions of sub-rule (1) if by virtue of the construction of the factory it is impossible to provide such a passage-way.]

65. [53][Maintenance of lifting tackles

i (i) All chains, slings, rings, hooks, shackles and swivels used in connection with molten metal or molten slag or when they are made of half inch bar or smaller, once at least in every six months.

ii (ii) All other chains, rings, hooks, shackles and swivels in general use once at least in every twelve months:

Provided that chains and lifting tackles not in frequent use shall, subject to the Chief Inspector's approval, be annealed only when necessary. Particulars of such annealing shall be entered in a register prescribed under Rule 63.

i (i) Chains made of malleable cast iron.

ii (ii) Plate link chains.

i (iii) Chains, rings, hooks, shackles and swivels made of steel or of non- ferrous metal.

ii (iv) Pitched chains working on sprocket or pocketed wheels,

iii (v) Rings, hooks, shackles and swivels permanently attached to pitched chains, pulley blocks or weighing machines.

iv (vi) Hooks and swivels having screw threaded part; or ball bearing or other case hardened parts.

iv (vii) Sockets shackles secured to wire ropes by white metal capping. (viii) Bordeaux connections. (1) No person shall be employed to operate a crane, locomotive or fork-lift truck, or to give signals to a crane or locomotive operator unless his eye sight and colour vision has been examined and declared fit by a qualified ophthalmologist to work whether with or without the use of corrective glasses.

iv (2) The eye sight and colour vision of the person employed as referred to in sub- rule (1) shall be examined at least once in every 12 months up to the age of 45 years and once in every 6 months beyond that age.

iv (3) Fees if any payable for an examination of a person under this rule shall be paid by the occupier and shall not be recoverable from that person.

iv (4) The record of examination or re-examination carried out so required under sub-rule (1) Interpretation (a) "design pressure" means the maximum pressure that a pressure vessel or plant is designed to withstand safety when operating normally;

(b) "maximum permissible working pressure" is the maximum pressure at which a pressure vessel or plant is permitted to be operated or used under this rule;

(c) "plant" means a system of piping that is connected to a pressure vessel and is used to contain a gas, vapour of liquid under pressure greater than the

Such chains and lifting tackles shall be thoroughly examined by a competent person once at least in every twelve months and particulars entered in the Register and Register kept in accordance with Rule 63.]

66. [54][Precautions in lifting appliances

All lifting machines, chains, ropes and lifting tackles except a fibre rope or fibre rope sling, which have been lengthened, altered or repaired by welding or otherwise, shall, before being again taken into use, be adequately retested and re-examined by a competent person and a certificate of such test and examination be obtained and particulars entered in the register kept in accordance with Rule 63.]

66-A. [55][Examination of eye sight of certain workers

(1) and sub-rule (2) shall be maintained in Form No. 35.]

67. [56][Pressure Vessels of Plants

(d) "pressure vessel" means an unfired vessel that may be used for containing, storing, distributing, transferring, distilling, processing or otherwise handling any gas, or liquid under pressure greater than the atmospheric pressure and includes any pipe line fitting or other equipment attached thereto or used in connection therewith; and.

(e) "competent person" means a person who is, in the opinion of the Chief Inspector, capable by virtue of his qualification, training and experience conducting a thorough examination and pressure tests, as required on a pressure vessel or plant, and of making a full report on its condition.

(2) Exception: Nothing in this rule shall apply to, (a) [57][deleted;]

(b) vessels made of ferrous materials having an internal maximum permissible working pressure not exceeding 1 Kg/sq. cm. (15 Lbs./ sq. inch.);

(c) steam boilers, steam and feed pipes and their fitting coming under the purview of Indian Boilers Act, 1923 (V of 1923);

(d) metal bottles or cylinders used for storage of transport of compressed gases or liquefied or dissolved gases under pressure covered by the Gas Cylinder Rule, 1940 framed under the Indian Explosives Act, 1884 (IV of 1884);

(e) vessels is which internal pressure is due solely to the static head of liquid;

(f) vessels with a nominal water capacity not exceeding 500 liters connected in a water pumping system containing air that is compressed to serve as a cushion;

(g) vessels for unclear energy applications;

(h) refrigeration plant having a capacity of 3 tons or less or refrigeration in24 hours; and

(i) working of cylinders of steam engines or prime mover feed pumps and steam steps; turbine casings; compressor cylinders; steam separators of dryers; steam stramers; steam; de-super heaters; oil seed operators; air receivers for fire sprinkler installations; air receivers; of monotype machines provided the maximum working pressure of the air receiver does not exceed 1.33 Kg. f/ cm 2 (20 Lbs/ sq. in) and the capacity 84.95 liters (3 cu. ft); air receivers electrical breakers; air receiver of electrical relay; air vessels on pumps pipe/coils, accessories of instruments and appliances such as cylinders and piston assemblies use for operating relays and interlocking appear of guards; vessels with liquids subjected to static head only; and

hydraulically operating cylinders other than any cylinder communicating with an air loaded accumulator.

(3) Design and construction: Every pressure vessel or plant used in a factory, (a) shall be properly designed on sound engineering practice;

atmospheric pressure and includes that pressure vessel;]

(b) shall be of good construction, sound material, adequate strength and free from any patent defects; and
(c) shall be properly maintained in a safe condition:

(4) Safety devices (a) suitable safety valve of other effective pressure relieving device of adequate capacity to ensure that the maximum permissible working pressure of the pressure vessel shall not be exceeded. It shall be set to operate at a pressure not exceeding the maximum permissible working pressure and when more than one protective device are provided, only one of the devices need be set to operate at the maximum permissible working pressure and the additional device shall be set to discharge at a pressure not more than 5 per cent in excess of the maximum permissible working pressure;
(b) a suitable pressure gauge with a dial range not less than 1.5 times the maximum permissible working pressure, easily visible and designed to show at all times correct internal pressure and marked with a prominent red mark at the maximum permissible working pressure of the pressure vessel;
(c) a suitable nipple and globe value connected for the exclusive purpose of attaching a test pressure gauge for clerking the accuracy of the pressure gauge referred to in clause (b) of this sub-rule;
(d) a suitable stop valve or valves by which the pressure vessel may be isolated from other pressure vessel or plant or source of supply of pressure such a stop valve or valves shall be located as close to the pressure vessel as possible and shall be easily accessible; and
(e) a suitable drain cock or valve at the lowest part of the pressure vessel for the discharge of the liquid or other substances that may collect in the pressure vessel:

Provided that the pressure vessel or plant in respect of the design and construction of which there is an Indian standard or a standard of the country of manufacture or any other law or regulation in force, shall be designed and constructed in accordance with the said standard, law or regulation, as the case may be, and a certificate thereof shall be obtained from the manufacturer or from the competent person which shall be kept and produced on demand by an Inspector.
Every pressure Vessel shall be fitted with,

Provided that it shall be sufficient for the purposes of this sub-rule if the safety value or pressure relieving device, the pressure gauge and stop valve are mounted on a pipe-line immediately adjacent to the pressure vessel and where there is a range of two or more similar pressure vessel served by the same pressure load one set of such mounting need be fitted on the pressure load immediately adjacent to the range of pressure vessels, provided they cannot be

(5) Pressure reducing devices (a) Every pressure vessel which is designed for a working pressure less than the pressure at the source of supply or less than the pressure which can be obtained in the pipe connecting the pressure vessel with any other source of supply, shall be fitted with a suitable automatic device to prevent the minimum permissible working pressure of the pressure vessel being exceeded;
(b) To further protect the pressure vessel in the event of failure of the reducing value or device, at least one safety value having a capacity sufficient to release all the steam, vapour or gas without undue pressure rise as determined by the pressure at the source of supply and the size of the pipe connected the source of supply, shall be fitted on the low pressure side of the reducing valve.

(6) Pressure vessel or plant being taken into use (a) No new pressure vessel or plant shall be taken into use in a factory after coming in force of this rule unless it has been hydrostatically tested by a competent person at a pressure, at least 1.3 times the design pressure and not pressure vessels or plant which has been previously used or has remained isolated or idle for a period exceeding 2 months or which has undergone alterations or repairs shall be taken into use in a factory unless it has been thoroughly examined by a competent person externally if practicable and has been hydrostatically tested by the competent person at a pressure which shall be 1-5 times the maximum permissible working pressure:
(b) No pressure vessel or plant shall be used in a factory unless there has been obtained from the maker of the pressure vessel or plant or from the competent person a certificate specifying the design pressure or maximum permissible working pressure thereof, and stating, the nature of tests of which the pressure vessel or plant and its fittings (if any) have been subjected and every pressure vessel or plant so used in a factory shall be marked so as to enable it to be

isolated.
Provided, however, that the pressure vessel or plant which is so designed and constructed that it cannot be safety finned with water or liquid or is used in service where even some traces of water cannot be tolerated, shall be pneumatically tested at a pressure not less than the design pressure or the maximum permissible working pressure as the case may be:
Provided further that the pressure vessel or plant which is lined with glass shall be tested hydrostatically or pneumatically as required at pressure not less than the design pressure or maximum permissible working pressure as the case may be.
Design pressure shall be not less than the maximum permissible working pressure and shall take into account the possible fluctuations of pressure during actual operations.

(c) No pressure vessel or plant shall be permitted to be operated or used at a pressure higher than its design pressure or maximum permissible working pressure as shown in the certificate.

(7) Service test and examination: Every pressure vessel or plant in service shall be thoroughly examined by a competent person, (a) externally, once in every six months;
(b) internally, once in every twelve months;
(c) hydrostatically tested once in every four years:
(d) the hydrostatic test pressure to be carried out for the purposes of this rule shall be 1.25 times the design pressure or 1.50 times the maximum permissible working pressure vessel whichever is less.

(8) Thin walled pressure vessel or plant (a) In respect of any pressure vessel or plant of thin walls such as sizing cylinder made of copper or any other non-ferrous metal the maximum permissible working pressure shall be reduced at the rate of 50 % of the original maximum permissible working of pressure for every years of its use after the first five years and no such cylinder shall be allowed to be continued to be used for more than twenty years after it was first taken into use;
(b) If any information as to the date of construction, the thickness of walls, or

indemnified as to be the pressure vessel or plant to which the certificate relates and the certificate shall be kept available for perusal by the Inspector;
If by reason of the construction of a pressure vessel or plant, a thorough internal examination is not possible, this examination may be replaced by a hydrostatic test which shall be carried out once in every two years:
Provided that for a pressure vessel or plant process which cannot be frequently opened, the period of internal examination may be extended to four years; and
Provided that in respect of pressure vessel or plant with thin walls such as sizing cylinder made of copper or any other non-ferrous metal periodic hydro stating test may be dispensed with subject to the conditions that the requirements laid down in sub-rule (8) are fulfilled:
Provided further that when it is impracticable to carry out thorough external examination of any pressure vessel or plant every six months as required by clause (a) or if owing to its construction and use a pressure vessel or plant cannot be hydrostatically tested as required in sub-rule (b) of this clause thorough external examination of the pressure vessel or plant shall be carried out at least once in every two years, and at least once in every four years a thorough systematic non-destructive test like ultrasonic test for metal thickness or other defects of all parts the failure of which might lead to eventual rapture of the pressure vessel or plant shall be carried out.

(c) Every new and second hand pressure vessel of plant or thin walls to which repairs likely to affect its strength or safety have been carried out, shall be tested before use to at least 1-5 times its maximum permissible working pressure.

(9) Report by competent person (a) If during any examination any doubt arises as to the ability of the pressure vessel or plant to work safety until the next prescribed examination the competent person shall enter in the register his observations, findings, and conclusions with other relevant remarks with reasons any may authorise the pressure vessel or plant to be used and kept in operation subject to a lowering of maximum permissible working pressure, or to more frequent of special examination or test, or subject to both of these conditions;
(b) A report of the result of every examination or test carried out shall be completed in the prescribed Form No. 9 and shall be signed by the person making the examination or test, and shall be kept available for perusal by the Inspector at all hours when the Factory or any part thereof is working;
(c) Where the report of any examination under these rules specified any condition for securing the safe working of any pressure vessel or plant, the pressure vessel or plant shall not be used unless the specified conditions is fulfilled;
(d) The competent person making report of any examination under this Rule, shall within seven days of the completion of the examination sent to the Inspector a copy of the report in every case where the maximum permissible working pressure reduced or the examination shows that the pressure vessel or plant or any part thereof cannot continue to be used with safety unless certain repairs are carried out or unless any other safety measure is taken.

(10) Application of other laws (a) The requirements of this Rule be in addition to and without any prejudice to and not in derogation of the requirements of any other law in force;
(b) Certificates or reports of any examination or test of any pressure vessel or plant to which sub-rules (7) to (9) do not apply, conducted or required to be conducted under any other law in force and other relevant record relating to such pressure vessel or plant, shall be properly maintained as required under the said law and shall be produced on demand by the Inspector.]

maximum permissible working pressure is not available, the age of such pressure vessel or plant shall be determined by the competent person in consultation with the Chief Inspector from the other particulars available with the manager;

67-A. [58]**[Water Sealed Gas Holder**

1 (1) The expression "gas holder" means a water-sealed gas-holder which has a storage capacity of not less than 141.5 cubic meters (5000 eft.)

2 (2) Every gas-holder shall be of adequate material and strength, sound construction and

properly maintained.

1 (3) Where there is more than one gas-holder in the factory every gasholder shall be marked in a conspicuous position with a distinguishing number or letter.

2 (4) Every gasholder shall be thoroughly examined externally by a competent person at least once in a period of 12 months.

3 (5) In the case of gasholder of which any lift has been in use for more than two years, the internal state of the sheeting shall, within one year of the coming into operation of these

rules and thereafter at least every period of four years, be examined by a competent person by means of electronic or other accurate devices:

Provided that if the Chief Inspector is satisfied that such electronic or other accurate devices are not available, he may permit the cutting of samples from the crown and the sides of the holder:
Provided further that if the above inspection raises a doubt, an internal visual examination shall be made.
1 (6) All possible steps shall be taken to prevent or minimize ingress or impurities in the gasholder.
2 (7) No gasholder shall be repaired or demolished except under the direct supervision of a person who by his training and experience and his knowledge of the necessary precautions against risks of explosion and of person being overcome by gas, is competent to supervise such work.
2 (8) (i) All sample discs cut under sub-rule (5) above shall be kept readily available for inspection.
(ii) A permanent register in Form 9-A duly signed by the occupier or manager shall be maintained giving the following particulars; (a) The serial number of the gasholder, vide Rule 3 above and the particulars of manufacture i.e. maker's name, date of manufacture, capacity, number of lifts, pressure thrown by holder when full of gas.
(b) The dates of inspections carried out as required under Rules 4 and 5 above and by whom carried out.
(c) The method of Inspection used.
(d) Date of painting etc.
(e) Nature of repairs and name of person carrying out repairs, and
(f) Remarks.

(iii) The results of examinations by a competent person carried out under sub-rule
(iv) A copy of the report shall be kept in the register and both the register and the

(4) and (5) shall be in the Form No. 9-A.

(1) No woman or young person shall, unaided by another person, lift, carry or move by hand or on head, any material, article, tool or appliance exceeding the maximum limit in weight set out in the following schedule:
(2) No woman or young person shall engage, in conjunction with others, in lifting carrying or moving by hand or on head any material article tool or appliance, if the weight thereof exceeds the lowest weight fixed by the schedule to sub-rule (1) for any of the persons engaged, multiplied by the number of the persons engaged.

report shall be readily available for inspection.]

68. Excessive weight

59[SCHEDULE

Person	Maximum weight of materials, article, tool or appliance in kilogram
Adult male	55 kg.
Adult female	30 Kg.
Adolescent male	30 Kg.
Adolescent female	30 Kg.
Male child	16 Kg.
Female child	14 kg.

69. Protection of eyes

Effective screens or suitable goggles shall be provided for the protection of persons employed in or in the immediate vicinity of the following processes:

(a) The processes specified in Schedule I annexed hereto being processes which involve risk of injury to the eyes from particles or fragments thrown off in the course of the process.

(b) The processes specified in Schedule II annexed hereto being processes which involve risk of injury to the eyes by reason of exposure to excessive light.

60[SCHEDULE-I

1 1. The breaking, cutting, dressing or carving of bricks, stone, concrete, slag or similar materials by means of a hammer, a chisel, pick or similar hand tool, or by means of a portable tool driven by power and the dry grinding of surfaces of any such materials by means of a wheel or disc driven by power, where in any of the foregoing cases particles or fragments are liable to be thrown off in the course of the process.

2 2. The dry grinding of surfaces of metal by applying them by hand to a wheel, disc or hand driven by power, and of surfaces of metal by means of a portable tool driven by power.

3 3. The dividing into separate parts of metal, bricks stone, concrete of similar materials by

means of a saw driven by power of by means of abrasive cutting of wheel or dice driven by power.

1 4. The turning of metals, or articles of metal, where particles or fragments are liable to be thrown off in the course of the process.

2 5. Drilling by means of portable tools, where particles or fragments are liable to be thrown off in the course of process.

3 6. The welding and cuttings of metals by means of an electric, oxyacetylene or similar process.

4 7. The hot, fettling of steel casting by means of a flux injected burner or air torch and the deseaming of metal.

5 8. The fettling of metal castings, involving the removal of metal including runners, gates and risers and the removal of any other material during the course of such fettling.

6 9. The chipping of metal and the chipping, knocking out, cutting out or cutting off of cold rivets, bolts, nuts, lugs, pins, collars, or similar articles from any structure or plant, or from part of any structure or plant, by means of a hammer, chisel punch or similar hand-tools, or by means of portable tool driven by power.
7 10. The chipping or surfacing of paint, scale, slag, rust or other corrosion from the surface of metal and other hard materials by means of a hand tool or by a portable tool driven by power.
8 11. The breaking of scrap metal by means of hammer or by means of a tool driven by mechanical power.
9 12. Work with drop hammers and power hammers used in either case for the manufacture of forgings, and work by any person not working with such hammers whose work is carried on in such circumstances and in such a position that particles or fragments are liable to be thrown off during work with drop hammers of power hammers.
10 13. Work at a furnace where there is risk to the eyes from melten metal.
11 14. Pouring or skimming of melten metal.
12 15. Work involving risk to the eyes from hot stand being thrown off.
13 16. Turning dress of an abrasive wheel.
14 17. The handling in open vessels or manipulating of strong acids or dangerous corrosive liquids or materials, and the operation maintenance or dismantling of plant or any part of plant, being plant or part of plant which contains or has contained such acids, liquids or materials, unless the plant or part of plant has been so prepared (by isolation, reduction of pressure, or otherwise), treated, or designed and constructed as to prevent risk of injury.
15 18. Any other process wherein there is risk of injury to eyes from particles or fragments thrown off during the course of the process.]

61[SCHEDULE II
1 (1) Welding or cutting of metals by means of an electrical, oxy-acetylene or similar process.
2 (2) All work on furnaces where there is risk of exposure to excessive light or infrated radiation.
3 (3) Process such as rolling, casting or forging of metals where there is risk of exposure to excessive light or infrared radiations.
4 (4) Any other process wherein there is risk of injury to eyes from exposure of excessive light or ultra violet or infrated radiations.]

70. Minimum dimensions of manholes
Every chamber, tank, vat, pipe, flue or other confined space, which persons may have to enter and which may contain dangerous fumes to such an extent as to involve risk of the persons being overcome thereby, shall, unless there is other effective means of egress, be provided with a manhole which may be rectangular, oval or circular in shape, and which shall:
(a) in the case of a rectangular or oval shape, be not less than 16 inches long and 12 inches wide;
(b) in the case of a circular shape, be not less than 16 inches in diameter.

71. Exemptions

The requirement of sub-section (5) of Section 37 shall not apply to the following processes carried on any factory,

(a) The operation of repairing a water-sealed gasholder by the electric welding process, subject to the following conditions: (i) The gasholder shall contain only following gases, separately, or mixed at a pressure greater than at morphemic pressure, namely town gas, coke-oven gas, producer gas, blast furnace gas, or gases, other than air, used in their manufacture:

(ii) Welding shall only be done by the electric welding process and shall be carried out by experienced operatives under the constant supervision of a competent person.

(i) The main or service shall be situated in the open air, and it shall contain only the following gases, separately or mixed at a pressure greater than atmospheric pressure, namely, gas, coke-oven gas, producer gas, blast furnace gas, or gases other than air, used in their manufacture.

Provided that this exemption shall not apply to any gas- holder containing acetylene or mixture of gases to which acetylene gas been added intentionally;

(b) The operations of cutting or welding steel or wrought iron gas mains and services by the application of heat, subject to the following conditions:

a (ii) The main or service shall not contain acetylene or any gas or mixture of gases to which acetylene has been added intentionally.

a (iii) The operation shall be carried out by an experienced person or persons and at least two persons (including those carrying out the operations) experienced in work on gas mains and over 18 years of age shall be present during the operation.

a (iv) The site of the operation shall be free from any inflammable or explosive gas or vapor.

a (v) Where acetylene gas is used as a source of heat in connection with an operation, it shall be compressed and contained in porous substance in a cylinder; and

a (vi) Prior to the application of any flame to the gas main or service this shall be pierced or drilled and the escaping gas ignited.

a (i) The only oil contained in the tank shall have a flash point of not less than 150ø F (close test) and a certificate to this effect shall be obtained from a competent analyst;

a (ii) The analyst's certificate shall be kept available for inspection by an Inspector, or by any person employed or working on the ship;

a (iii) The welding operation shall be carried out only on the exterior surface of the tank at a place (a) which is free from oil or oil leakage in inflammable quantities and (b) which is not less than one foot below the nearest part of the surface of the oil within the tank; and

a (iv) Welding shall be done only by the electric welding and shall be carried out by experienced operatives under the constant supervision of a competent person.

(1) Processes, equipment, plant, etc. involving serious explosion and serious fire hazards: (a) All processes, storages, equipments, plant, etc., involving serious explosion and flash fire hazards shall be located in segregated buildings where the equipment shall be so arranged that only minimum number of employees are exposed to such hazards at any one time.

(b) All industrial processes involving serious fire hazard shall be located in buildings or work places separated from one another by walls of fire-resistant construction.
(c) Equipment and plant involving serious fire or flash fire hazards shall, whenever possible be so constructed and installed that in case fire, they can be easily isolated.
(d) Ventilation ducts, pneumatic conveyors and similar equipment involving a serious fire is risk shall be provided with flamer resting or automatic fire

(c) The operation of repairing an oil tank on any ship by the electric welding process, subject to the following conditions:

72. [62]**[Fire Protection**

(e) In all work places having serious fire or flash fire hazards, passages between machines, installations or piles of material shall be at least 90 cm. wide. For storage piles, the clearance between the ceiling and the top of the pile shall not be less than 2m.

(2) Access for the fighting (a) Buildings and plants shall be so laid out and roads, passageways etc., so maintained as to permit unobstructed access for firefighting.
(b) Doors and window openings shall be located in suitable positions on all external walls of the building to provide easy access to the entire area within the building for firefighting.

(3) Protection against lightening: Protection from lightening shall be provide for, (a) buildings in which explosive or highly flammable substances are manufactured, used, handled or stored;
(b) storage tanks containing oils, paints or other flammable liquids; (c) grain elevators;
(c) buildings, tall chimneys or stacks where flammable gases, fumes, dust or lint are likely to be present; and
(d) substation buildings and out-door transformers and switch yards.

(4) Precautions against ignition Wherever there is danger of fire or explosion for accumulation of flammable or explosive substances in air, (a) all electrical apparatus shall either be excluded from the area of risk or they shall be such construction and so installed and maintained as to prevent the danger of their being a source of ignition;
(b) effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;
(c) workers shall wear shoes without iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction;
(d) smoking, lighting or carrying of matches, lighters or smoking materials shall be prohibited;
(e) transmission belts with iron fastness shall not be used; and
(f) all other precautions, as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, factional spark overheated surfaces of machinery or plants, chemical or physical-chemical reaction and radiant heat.

(5) Spontaneous ignition: Where materials are likely to induce spontaneous ignition, care

extinguishing appliances, or fire resisting dampers electrically interlocked with heat sensitive/smoke detectors and the air-conditioning plant system.

a (6) Cylinders containing compressed gas: Cylinders containing compressed gas may only be stored in open if they are protected against excessive variation of temperature, direct rays of sun, or continuous dampness. Such cylinder shall never be stored near highly flammable substances, furnaces or hot processes. The room where such cylinders are stored shall have adequate ventilation.
(7) Storage of flammable liquids (a) The quantity of flammable liquids in any work room shall be the minimum required for the process or processes carried on in such room. Flammable liquids shall be stored in suitable containers with closed fitting covers:
(b) Flammable liquids shall be stored in closed containers and in limited quantities in well ventilated rooms of fire resisting construction which are isolated from the remainder of the building by fire walls and self-closing fire doors.
(c) Large quantities of such liquids shall stored in isolated adequately ventilated building of fire resisting construction or in storage tanks, preferably underground and at a distance from any building as required in the Petroleum Rules, 1976.
(d) Effective steps shall be taken to prevent leakage of such liquids into basements, slumps or drains and to confine any escaping within safe limit.

(8) Accumulation of flammable dust, gas, fume or vapor in air or flammable waste material on the floors, (a) Effective steps shall be taken for removal or prevention of the accumulation in the air of flammable dust, gas, fume or vapor to an extent which is likely to be dangerous.
(b) No waste material of a flammable nature shall be permitted to accumulate on the floors and shall be removed at least once in a day or shift, and more often, when possible. Such materials shall be placed in suitable metal containers with covers wherever possible.

a (9) Fire exits (a) In this Rule, (i) "horizontal exit" means an arrangement which allows, alternative egress from a floor area to another floor at or near the same level in an adjoining building or an adjoining part of the same building with adequate separation; and

shall be taken to avoid formation of air pocket and to ensure adequate ventilation. The material susceptible to spontaneous ignition should stored in dry condition and should be in heaps of such capacity and separated by such passage which will prevent fire. The materials susceptible to ignition and stored in the open shall be at a distance not less than 10 meters away from process or storage buildings.
Provided that not more than 20 liters of flammable liquids having a flash point of 21^{o}C or less shall be kept or stored in any work room.

a (ii) "travel distance" means the distance an occupant has to travel to reach at exit.

(b) An exit may be doorway, corridor, passageway, to an external stairway or to a verandah or to an internal stairway segregated from the rest of building by fire resisting walls which shall provide continuous and protected means of egress to the exterior of a building or to an exterior open space. An exit may also include a horizontal exit leading to an adjoining building at the same level.
(c) Lifts, escalators and revolving doors shall not be considered as exits for the purpose of this sub-rule.
(d) In every room of a factory exits sufficient to permit safe escape of the occupants in case of fire or other emergency shall be provided which shall be free of any obstruction.
(e) The exit shall be clearly visible and suitably illuminated with suitable arrangement, whatever artificial lighting is to be adopted for this purpose, to maintain the required illumination in case of failure of the normal source of electric supply.
(f) The exits shall be marked in a language understood by the majority of the workers.
(g) Iron rung ladders or spiral staircases shall not be used as exit staircases.
(h) Fire resisting doors or roller shutters shall be provided at appropriate places along with the escape routes to prevent spread of fire and smoke, particularly at the entrance of lifts or stairs where tunnel of the flue effect may be created inducing an upward spread of fire.
(i) All exits shall provide continuous means of egress to the exterior of a building or to an exterior open space leading to a street.
(j) Exits shall be so located that the travel distance to reach at least one of them on the floor shall not exceed 30 meters.
(k) In case of those factories where high hazard materials are stored or used, the travel distance to the exit shall not exceed 22.5 meters and there shall be at least two ways of escape from every room, however small, except toilet rooms, so located that the points of access thereto are out of or suitably shielded from areas of high hazard.
(l) Wherever more than one exit is required for any room space or floor, exits shall be placed as remote from each other as possible and shall be arranged to provide direct access in separate directions from any point in the area served.
(m) The unit of exit width used to measure capacity of any exit shall be 50 cm. A clear width of 25 cm. shall be counted as an additional half unit. Clear width of less than 25 cm. shall not be counted for exit width.
(n) Occupants per unit width shall be 50 for stairs and 75 for doors.

(o) For determining the exits required, the occupant load shall be reckoned on the basis of actual number of occupants within any floor area of 10 square meters per person whichever is more.
(p) There shall not be less than two exits serving every floor area above and below the ground floor, and at least one of them shall be an internal enclosed stairway.

(q) For every building or structure used for storage only, and every section thereof considered separately, shall have access to at least one exit so arranged and located as to provide a suitable means of escape for any person employed therein, and in any such room wherein more than 10 persons may be normally present, at least two separate means of exit shall be available, as remote from each other as practicable.
(r) Every storage area shall have access to at least one means of exit which can be readily opened.
(s) Every exit doorway shall open into an enclosed stairway, a horizontal exit on a corridor or passageway providing continuous and protected means of egress.
(t) No exit doorway shall be less than 100 cm. in width, doorways shall be not less than 200 cm. in height.
(u) Exit doorways shall open outwards, that is, away from the room but shall not obstruct the travel along any exit. No door when opened, shall reduce the required width of stairway of landing to less than 90 cm. Over head or sliding doors shall not be installed for this purpose.
(v) An exit door shall not open immediately upon a flight or stairs. A landing at least
(w) The exit doorways shall be open able from the side which they serve without the use of a key.
(x) Exit corridors and passageways shall be of a width not less than the aggregate required width of exit doorways leading from there in the direction of travel to the exterior.
(y) Where stairways discharge through corridors and passageways, the height of the corridors and passageways shall not be less than 2.4 meters.

1.5 m. X 1.5 m. in size shall be provided in the stairway at each doorway. The level of landing shall be the same as that of the floor which it serves.
(aa) A staircase shall not be arranged round a lift shaft unless the later is totally enclosed by a material having a fire-resistance rating not lower than that of the type of construction of the former.
(bb) Hollow combustible construction shall not be permitted.
(cc) The minimum width to treads without nosing shall be 25 cm. for an internal staircase. The treads shall be constructed and maintained in a manner to prevent slopping.

(10) First-aid firefighting arrangements (a) In every factory, there shall be provided and maintained adequate and suitable firefighting equipment for fighting fires in the early stages, those be in referred to as first-aid firefighting equipment in this rule.
a (b) The types of first-aid firefighting equipment to be provided shall be determined by considering the different types of fire risks which are classified as follows: (i) "Class A fire" : Fire due to combustible materials such as wood, textiles, paper, rubbish and the like, 1. "Light hazard"-Occupancies like offices, assembly halls, canteens,

(dd) The maximum height of a riser shall be 19 cm. and the number of risers shall be limited to 12 per flight.
(ee) Hand rails shall be provided with a minimum height of 100 cm. and shall be firmly supported.
(ff) The use of spiral staircase shall be limited to low occupant load and to a building of height of 9 meters, unless they are connected to platforms such as balconies and terraces to allow escapes to pause. A spiral staircase shall be not less than 300 cm. in diameter and have adequate head room.
(gg) The width of a horizontal exit shall be same as for the exit doorways.
(hh) The horizontal exit shall be equipped with at least one fire door of self-closing type.
(ii) The floor area on the opposite or refuge side of a horizontal exit shall be sufficient to accommodate occupants of the floor areas served, allowing not less than 0.3 square meter per person. The refuge area shall be provided with exits adequate to meet the requirements of this sub-rule At least one of the exits shall lead directly to the exterior or street.
(jj) Where there is difference in level between connected areas for horizontal exit, ramps not more than 1 into 8 slope shall be provided. For this purpose steps shall not be used.
(kk) Doors in horizontal exits shall be open able at all times.
(ll) Ramps with a slope of not more than 1 into 10 may be substituted for the requirements of staircase. For all slopes exceeding 1 to 10 and wherever the use is such as to involve danger of slipping, the ramp shall be surface with non- slipping material.
(mm) In any building not provided with automatic fire alarm a manual fire alarm system shall be provided if the total capacity of the building is over 500 persons, or if more than 25 persons are employed above or below the ground floor, except that no manual fire alarm shall be required in one- storey buildings where the entire area is undivided and all parts thereof are clearly visible to all occupants.

a 2. "Ordinary hazard"-Occupancies like saw mill carpentry shop, small timber yards book-binding shops, engineering workshop and the like;
a 3. "Extra hazard"-Occupancies like large timber yards, go- downs storing fibrous materials, flour mills, cotton mills, jute mills, large wood working factories and the like;

(ii) "Class B fire “Fire inflammable liquids like oil, petroleum products, solvent, grease, paint, etc.
(iii) "Class C fire “Fire arising out of gaseous substances.
(iv) "Class D fire “Fire from reactive chemicals, active metal and the like.
(v) "Class E fire “Fire involving electrical equipment and delicate machinery and the like.

(c) The number and types of first-aid firefighting equipment to be provided for Tight hazard' occupancy shall be as given in Schedule to the rule. For "ordinary hazard or extra hazard" occupancies equipment as given in paragraph 12 shall be provided in addition to that given in Schedule I.
(d) The first-aid firefighting equipment shall confirm to the relevant Indian Standards.

(e) As far as possible the first-aid firefighting equipment shall all be similar in shape and appearance and shall have the same method of operation.
(f) All first-aid firefighting equipment shall be placed in a conspicuous position and shall be readily and easily accessible for immediate use. Generally, these equipments shall be placed as near as possible to the exits or stair landing or normal routes of escape.
(g) All water buckets and bucket pump type extinguishers shall be filled with clean water. All sand buckets shall be filled with clean, dry and fine sand.
(h) All other extinguishers shall be charged appropriately in accordance with the instructions of the manufacturer.
(i) Each first-aid firefighting equipment shall be allotted a serial number by which it shall be referred to in the records. The following details shall be painted with white paint on the body of each equipment,
(j) First-aid firefighting equipment shall be placed on platforms or in cabinets in such a way that their bottom is 750 mm. above the floor level. Fire bucket shall be placed on books attached to a suitable stand or wall in such a way that their

restrooms, ambulance rooms and the like;
1 1. Serial number;
2 2. Date of last refilling; and
3 3. Date of last inspection.

(k) All extinguishers shall be thoroughly cleaned and re-charged immediately after discharge. Sufficient refill material shall be kept readily available for this purpose at all times.
(l) All first-aid firefighting equipment shall be subjected to routine maintenance, inspection and testing to be carried out by properly trained persons. Periodically of the routine maintenance, inspection and test shall confirm to the relevant Indian Standards.

(11) Other firefighting arrangements (a) In every factory, adequate provision of water supply for fire righting shall be made and where the amount of water required in liters per minute as calculated from the formula A+B+C+D divided by 20 is 550 or more, power driven tailor pumps of adequate capacity to meet the requirement of water as calculated above shall be provided and maintained.

bottom is 750 mm. above the floor level. Such equipment if placed outside the building, shall be under sheds or covers.
In the above formula:
(A) the total area is square meters of all floors including galleries in all buildings of the factory;
(B) the total area in square meters of all floors and galleries including open spaces in which combustible materials are handled or stored;
(C) the total area in square meters of all floors over 15 meters above ground level; and

(D) the total area in square meters of all floors of all buildings other than those of fire resisting construction: (b) Each trailer pump shall be provided with equipment as per Schedule II appended to this rule. Such equipment shall confirm to the relevant Indian Standards.

Provided that in areas where the fire risk involved does not require use of water, such areas under B, C or D may, for the purpose of calculation, be halved:
Provided further that where the areas under B, C or D are protected by permanent automatic firefighting installations approved by any fire association or fire insurance company such areas may, for the purpose of calculation, be halved:
Provided also that where the factory is situated not more than 3 kilometers from an established city or town fire service the pumping capacity based on the amount of water arrived at by the formula above may be reduced by 25 %, but no account shall be taken of this reduction in calculating water supply required under clause (a).

(c) Trailer pumps shall be housed in a separate shed or sheds which shall be sited closed to a principal source of water supplied in the vicinity of the main risks of the factory.
(d) In factories where the area is such as cannot be reached by man- hauling of trailer pumps within reasonable time vehicles with towing attachment shall be provided at the scale of one for every four trailer pumps with a minimum of one such vehicle kept available at all times.
(e) Water supply shall be provided to give flow of water as required under clause (a) for at least 100 minutes. At least 50% of this water supply or 4,50,000 liters whichever is less, shall be in the form of static tanks of adequate capacities (not less than 4,50,000 liters each) distributed around the factory with the regard to the potential fire risks in the factory. Where piped supply is provided, the size of the main shall be capable of supplying a minimum of 4500 liters per minute at a pressure of not less than 7 kilogram per square centimeter.
(f) All trailer pumps including the equipment provided with them and the vehicles for towing them shall be maintained in good condition and subject to periodical inspection and testing as required.

(12) Personnel in charge of equipment and for firefighting, fire drills, etc. (a) The first-aid and other firefighting equipment to be provided as required in sub- rules (1) and (11) shall be in charge of a trained responsible person.
(b) Sufficient number of persons shall be trained in the proper handling of firefighting equipment as referred to in clause (a) and their use against the types of fire for which they are intended to ensure that adequate number of persons are available for firefighting both by means of first-aid firefighting, equipment and others. Such persons shall be provided with clothing and equipment including helmets, belts and boots, preferably gumboots. Wherever vehicles with towing attachment are to be provided as required in clause (d) of sub-rule (11) sufficient number of persons shall be trained in driving these vehicles to ensure that trained persons are available for driving them wherever the need arises.
(c) Firefighting rills shall be held as often as necessary and at least once in every period of 2 months.

(13) Automatic sprinklers and fire hydrants shall be in addition and not in substitution of the requirements in sub-rules (10) and (11).
(14) If the Chief Inspector is satisfied in respect of any part of the factory that owing to the exceptional circumstances such as inadequacy of water supply or infrequency of the manufacturing process or for any other reason, to be recorded in writing, all or any of the requirements of the rules are impracticable or not necessary for the protection of workers, he may by order in writing (which he may at his discretion revoke) exempt such factory or part of the factory from all or any of the provisions of the rules subject to conditions as he may by such order prescribe.

SCHEDULE I
FIRST AID FIRE FIGHTING EQUIPMENTS

1 (1) The different type of fires and first aid firefighting equipments suitable for use on them are as under:

Class of fire		**Suitable type of appliances**
A.	Fires in ordinary combustibles (wood, vegetable fibers, paper and the like).	Chemical Extinguishers of Soda- acid, Gas/expelled water and antifreeze types, and water buckets.
B.	Fires inflammable liquids, paints, grease solvents and the like.	Chemical Extinguishers of foam, Carbon dioxide and dry powder types and sand buckets.
C.	Fires in gaseous substance under pressure.	Chemical Extinguishers of foam, Carbon dioxide and dry powder types and sand buckets.
D.	Fires in Reactive Chemicals, active matal and the like.	Special type of dry powder extinguishers and sand buckets.
E.	Fires in electrical equipments.	Chemical Extinguishers of carbon dioxide and dry powder types and sand buckets.

1 (2) One 9 litres water bucket shall be provided for every 100 sq. m. of the floor area or part thereof and one 9 litres water type extinguishers shall be provided to six buckets or part thereof with a minimum of one extinguisher and two buckets per compartment of the building. Buckets may be dispensed with, provided supply of extinguishers is double that indicated above.
2 (3) Acceptable replacements for water buckets and water type extinguishers in occupancies where Class B fires are anticipated are as under:

Acceptable Replacements	**Buckets of water**		**Water type Extinguishers**
For one bucket	For three buckets		For each 9 ltrs. (or 2 gallons) extinguishers
Dry sand Carbon dioxide Extinguishers	1 bucket 3 kg. (or 7 lbs)	3 buckets 9kg (or 20 lbs) (In not less than 2 extinguishers).	9 kg. (or 20 lbs)
Dry powder	2 kg. (or 5 lbs)	5 kg. (or 11 lbs) (In one or more	(In 5 kg. (or 11 lbs)

extinguishers).			
Foam extinguishers	9 liters (or 2 gallons)	9 liters (or 2 gallons)	9 liters (or 2 gallons)

(4) The following provisions shall be complied with where Class E fires are anticipated: (a) For rooms containing electrical transformers, switchgears, motor and/or other electrical apparatus only, not less than two kg. Dry powder or Carbon Dioxide type extinguishers shall be provided within 15 m. of the apparatus.
(b) Where motors and/or other electrical equipment are installed in room other than those containing such equipment only, one 5 kg. Dry powder or Carbon Dioxide extinguisher shall be installed within 15 m. of such equipment in addition to the requirements as mentioned at (3) and (4) above. For this purpose the same extinguisher may be deemed to afford protection to all apparatus within 15 m. thereof.
(c) Where electrical motors are installed on platforms, one 2 kg. Dry powder or Carbon dioxide type extinguisher shall be provided on or below each platform. In case of a long platform with a number of motors, one extinguisher shall be acceptable as adequate for every 3 motors on the common platform. The above requirements will be in addition to the requirements mentioned at Item (3) and

(4) above.
(5) The first aid fighting equipments shall be so distributed over the entire floor area that a person has to travel not more than 15 m. to reach the nearest equipment.
(6) Selection of sites for the installation of first aid firefighting equipments, (a) While selecting sites for first aid firefighting equipments, due consideration shall be given to the nature of the risk to be covered. The equipments shall be placed in conspicuous position and shall be readily accessible for immediate use in all parts of the occupancy. It should always be borne in mind while selecting sites that first aid firefighting equipments are intended only for the use on incipient fires and their value may be negligible if the fire is not extinguished or brought under control in the early stages.

(b) Buckets and extinguishers shall be placed at convenient and easily accessible locations either on hangers or on stands in such a way that their bottom is 750 mm. above the floor level.

(7) The operation instructions of the extinguishers shall not be defected or obliterated. In case the operating instructions are obliterated or have become illegible due to passage of time fresh transfers of the same shall be obtained from the manufacturers of the equipments and affixed to the extinguishers.

SCHEDULE II
EQUIPMENT TO BE PROVIDED WITH TRAILER PUMP
For light trailer pump of a capacity of 680 liters/minute:

1	Armoured suction hose of 9 meters length, with wrench.
2	Metal suction strainer.
1	Basket strainer.
1	Two-way suction collecting-head.
1	Suction adopter.
10	Unlined or rubber lined 70 mm. delivery hose of 25 meters length complete with quick -release couplings.
1	Dividing breaching place.
2	Branch-piece with 15 mm. nozzles.
1	Diffuser nozzles.
1	Standpipe with blank cap.
1	Hydrant key.
4	Collapsible canvas buckets.
1	Fire hook (preventer) with cutting edge.
1	25 mm. manila rope of 30 meters length.
1	Extension ladder of 9 meters length (where necessary).
1	Heavy axe.
1	Spade.
1	Pick Axe.
1	Crowbar.
1	Saw.

1	Hurricane lamp.
1	Electric torch.
1	Pair rubber gloves. For large trailer pump of capacity of 1800litres/minute.
1	Armoured suction hose of 9 length, with wrenches:
1	Metal strainer.
1	Basket strainer.
1	Three-way suction collecting head.
Suction adopter.	
14	Unlined or rubber lined 70mm. delivery hose of 25 metres length complete with quick-release couplings.
1	Dividing breaching place.

4	Branch-pipes with one 25mm., two 20mm. and one diffuser nozzles.
2	Stand pipe with black caps.
2	Hydrant keys
6	Colapsible canvas buckets.
1	Coiling hook (preventer) with cutting edge.
1	50mm. manila rope of 30 metres length.
1	Extension ladder of 9 metres length (where necessary)
1	Heavy Axe.
1	Spade.
1	Pick axe.
1	Crowbar.
1	Saw.
1	Hurricane lamp.
1	Electric torch.
1	Pair rubber gloves.

Note: If it appears to the Chief Inspector of Factories that in any factory the provisions of breathing apparatus and any other emergency device is necessary he may by order in writing require the occupier to provide suitable breathing apparatus or the emergency device in addition to the equipment for light trailer pump or large trailer pump as the case may be.]

72-A. [63][Qualification of Safety Officer

(1) A person shall not be eligible for appointment as a Safety Officer unless he: (i) Possesses recognized degree in any branch of engineering or technology and has had practical experience of working in a factory in a supervisory capacity for a period of not less than 2 years; or a recognized degree in physics or chemistry and has had practical experience of working in factory in a supervisory capacity for a period of not less than 5 years; or a recognized diploma in any branch of engineering or technology and has had practical experience of working in a factory in a supervisory capacity for a period of not less than 6 years;

(ii) Possesses a degree or diploma in the industrial safety recognized by the State Government in this behalf; and

(iii) Has adequate knowledge of the language spoken by majority of the workers in the region in which the factory where he is to be appointed is situated.

(2) Notwithstanding the provisions contained in clauses (i) and (ii) sub-rule (1), any person who possesses a recognized degree or diploma in engineering or technology and has

had experience of less than 5 years in a department of the Central or State Government which deals with the administration of the Factories Act, 1948 or Indian Dock Labor Act, 1934; or Possesses a recognized degree or diploma in engineering or technology and has had experience of not less than 5 years, (full time) in training education consultancy or research in the field of accidents prevention in industry or in any institution, shall also be eligible for appointment as Safety Officer:

Provided that the Chief Inspector may, subject to such conditions as he may specify, grant exemption from the requirements of this sub rule, if in his opinion, a suitable person possessing the necessary qualifications and experience is not available for appointment:

Provided further that in the case of person who has been working as a Safety Officer in administration of Safety and Health provisions for a period not less than 3 years on the date of commencement of this Rule, the Chief Inspector may subject to such condition as he may specify relax all or any of the above said qualifications.

72-B. Conditions of Service

(a) Where the number of Safety Officer to be appointed in a factory as required by a notification in the Official Gazette exceeds one of them shall be designated as a Chief Safety Officer and shall have a status higher than of the others. The Chief Safety Officer shall be in overall charge of the safety functions as envisaged in Rule 72-C, the other Safety Officers shall work under his control.

(b) The Chief Safety Officer or the Safety Officer in the case of factories where only one Safety Officer is required to be appointed shall be given the status of a senior executive and he shall work directly under the control of the Chief Executive of the Factory. All other safety officers shall be given appropriate status to enable them to discharge their functions effectively.

(c) The scale of pay and the allowances to be granted to the safety officers including the Chief Safety Officer, and other conditions of their service shall be the same as those of other officers of corresponding status in the factory.
(d) In case of dismissal or discharge a safety Officer including the Chief Safety Officer shall have a right to appeal to the State Government whose decision thereon shall be final.

72-C. Duties of Safety Officer
(a) The duties of a Safety Officer shall be to advice and assist the factory management in the fulfilment of its obligations, statutory otherwise concerning prevention of personal injuries and maintaining a safe working environment. These duties shall include the following namely: (i) to advice the concerned departments in planning and organizing measures necessary for the effective control or personal injuries;
(ii) to advise on safety aspects in all job studies and to carry out detailed) job safety

(iii) to check and evaluate the effectiveness of the action taken or proposed to be taken to prevent personal injuries;
(iv) to advise the purchase and stores departments in ensuring high quality and availability of personal protective equipment;
(v) to advise on matter related to carrying out plant safety inspections;
(vi) to carry out plant safety inspections in order to observe the physical conditions of work and the work practices and procedures by workers and to render advice on measures to be adopted for removing unsafe physical conditions and pretending unsafe actions by workers;
(vii) to render advise on matters related to reporting and investigation of industrial accidents diseases;
(viii) to investigate selected accidents;
(ix) to investigate the cases of industrial diseases contracted dangerous occurrence reportable under Rule 108;
(x) to advise on the maintenance of such records as are necessary relating to accidents, dangerous occurrences and industrial diseases;
(xi) to promote setting up of safety committees and act as advisor to such committees;
(xii) to organize in association with the concerned departments, campaigns, contests and other activities will develop and maintain the interest of the workers in establishing and maintaining safe conditions of work and procedures; and
(xiii) to design and conduct either independently or in collaboration with the training department suitable training and educational programmes for the prevention of personal injuries.
(1) Suitable protecting devices such as tight fitting clothes, foot wears, gloves, finger guards, goggles, head gears, life belts, scaffoldings, non-skid ladders, respirators, gas masks, etc., shall be maintained and used on all such processes which are likely to cause injuries to workers, if not used.

of selected jobs;

72-D. Facilities to be provided to Safety Officers

An occupier of the factory shall provide each Safety Officer with such facilities equipment and information as are necessary to enable him to discharge his duties effectively.

72-E. Prohibition on performance of other Duties

No Safety Officer shall be required or permitted to do any work which is inconsistent with of department to the performance of the duties prescribed in Rule 72-C.

73. [64]**[Protective appliances**

(2) All personal protective appliances provided to the workers as required under any of the provisions of the Act or the rules shall have certification of ISI.

(3) Protective Equipment: The Inspector may, having regard to the nature of the hazards involved in work and process being carried out, order the occupier or the manager in writing to supply to the workers exposed to particular hazard any personal protective equipment or emergency devices as may be found necessary].

73-A. [65]**[Ovens and Driers**

1 (1) Application: This rule shall apply to ovens and driers, except those used in laboratories or kitchen of any establishment and those which have a capacity below 325 liters.

2 (2) Definition: For the purpose of this rule, oven or drier means any enclosed structure, receptacle, compartment or box which is used for baking, drying or otherwise procession of any article or substances at a temperature higher than the ambient temperature of the air in room or space in which the oven or drier is situated, and in which a flammable or explosive mixture of air and a flammable substance is likely to be evolved within the enclosed structure, receptacle, compartment or box or part thereof on account of the article or substance which are baked, dried or otherwise processed within it.

3 (3) Separate electrical connection: Electrical power supplied to every oven or drier shall be by means of a separate circuit provided with in isolation switch.

(4) Design, Construction, examination and testing (a) Every oven or drier shall be properly designed on sound engineering practice and be of good construction, sound material and adequate strength free from any patent defects and safe if properly used;

(b) No oven or drier shall be taken into use in a factory for the first time unless a competent person has thoroughly examined all its part and carried out the tests as are required to establish that the necessary safe system and controls provided for safety in operation for the processes for which it is to be used and a certificate of such examination and tests signed by that competent person has been obtained and is kept available for inspection;

(c) All parts of an oven or drier which has undergone any alteration or repair which has the effect of modifying any of the design characteristics, shall not be used unless a thorough examination and tests as have been mentioned in clause (b) has been carried out by a competent person and a certificate of such examination and tests signed by that competent person has been obtained and is kept available for inspection;

(d) Competent person for the purpose of this rule shall be the person who is graduate or diploma engineer in electrical or mechanical branch and has at least 5 years working experience of designing or manufacturing or repairing and maintenance of such equipments.

(5) Safety Ventilation (a) Every oven or drier shall be provided with a positive and effective safety ventilation system using one or more motor-driven centrifugal fans so as to dilute any mixture of air and any flammable substance that may be formed within the oven or drier and maintain the concentration of the flammable substance in the air a safe level of dilution.
1 (b) The safe level of dilution referred to in clause (a) shall be so as to achieve a concentration of the concerned flammable substance in air of not more than 25 per cent of its lower explosive limit: (i) shows continuously the concentration of the flammable substance in air present in the oven or drier at any instance;
1 (ii) sounds an alarm when the concentration of the flammable substance in air in any part of the oven or drier reaches a level of 50 per cent of its lower explosive; and
1 (iii) shuts down the heating system of the oven or drier automatically when the concentration in air if the flammable substance in any part of the oven or drier reaches a level of 60 per cent of its lower explosive limit, is provided to a oven or drier and maintained in efficient working condition.

(c) No oven or drier shall be operated without its safety ventilation system working in an efficient manner.
(d) No oven or drier shall be operated with a level of dilution less than what is referred to in clause (b).
(e) Exhaust dusts of safety ventilation system should be so designed and placed that their dust discharge the mixture of air and flammable substance away from the work-rooms and not near windows or doors or other openings from where the mixture could re-enter the work-rooms.
(f) The fresh air admitted into the oven or drier by means of the safety ventilation system shall be circulated adequately by means of circulating fan or fans through all parts of the oven or drier so as to ensure that there are no locations where the flammable substance can accumulate in the air become pocketed to any dangerous degree.
(g) Throttling dampers in any safety ventilation system should be so designed by cutting away a portion of the damper or otherwise, that the system will handle at least the minimum ventilation rate required for safety when they are set in their maximum throttling position.

Provided that a level of concentration in air up to 50 per cent of the lower explosive limit of the concerning flammable substance may be permitted to exit subject to installation and maintenance of an automatic device which:
1 (6) Explosion panels

(a) Every oven or drier having an internal total space of not less than half cubic meter shall be provided with suitably designed explosion panels so as to allow release of the pressure of any possible explosion within the oven or drier through explosion vents. The area of openings to be provided by means of such vents together with the area of opening of any access doors which are provided with suitable arrangements for their release in case of an explosion, shall be not less than 2200 square centimeters for every one cubic meter of volume of the oven or drier.

The design of the explosion panels and doors as above said shall be such as to secure their complete release under an internal pressure of 0.25 kg per square centimeter.
(b) The explosion releasing panels, shall, as far as practicable, be situated at the roof of the oven or drier or at those portions of the walls where persons do not remain in connection with operation of the oven or drier.

1 (7) Interlocking arrangements: In each oven or drier efficient inter-locking arrangements shall be provided and maintained to ensure that,
2 (i) all ventilating fans and circulating fans whose failure would adversely effect the ventilation rate or flow pattern, are in operation before any mechanical conveyor that may be provided for feeding the articles or substances to be processed in the oven or drier is put into operation;
3 (ii) failure of any of the ventilating or circulating fans will automatically stop any conveyor as referred to in clause (i) as may be provided, as well as stop the fuel supply by closing the 'shut off valve and shut off' the ignition in the case of gas or oil fired ovens, and in the case of electrically heated ovens switch off the electrical supply to the heaters;
4 (iii) the above said mechanical conveyor is set in operation before the above said shut-off valve can be energized; and
5 (iv) the failure of the above said conveyor will automatically close the above said shut off valve in the case of ovens and driers heated by gas, oil or steam and deactivate the ignition systems, or cut off the electrical heaters in the case of electrically heated ovens or furnaces.
6 (8) Automatic preventilation: Every oven or drier heated by oil, gas, steam or electricity shall be provided with an efficient arrangement for automatic preventilation consisting of at least 3 volume changes with fresh air by operation of the safety ventilation fans and the circulating fans (if used) so as to effect purging of the oven or drier of any mixture of air and a flammable substance before the heating system can be activated and before the conveyor can be placed in position.
7 (9) Temperature Control: Every oven or drier should be provided with an automatic arrangement to ensure that the temperature within does not exceed a safe upper present limit to be decided in respect of the particular processing being carried on.
8 (10) Multistage processes: Wherever materials are to be processed in ovens or driers in

successive operations, suitable arrangement should be provided to ensure that the operating temperatures necessary for safe operation at each stage are maintained within the design limits.
1 (11) Combustible substances not to drip on electrical heaters or burners flames: Effective arrangements shall be provided in every oven or drier to prevent (dripping of combustible substances on electric heater or burner flame used for heating.
2 (12) Periodical examination testing and maintenance

(1) All parts of every oven and drier shall be properly maintained and thoroughly examined and the various controls as mentioned in this rule and working of the oven or drier tested at frequent intervals to ensure its safe inter-operation by a responsible person designated by the

occupier or manager who by his experience and knowledge of necessary precautions against risks of explosion, is fit to undertake such work.
(b) A register shall be maintained in which the details of the various tests carried out from time to time under clause (a) shall be entered and every entry made shall be signed by the person making the tests.
(13) Training of operations: No person shall be assigned any task connected with operation of any oven or drier unless he has completed 18 years of age and he is properly trained.
(14) Polymerizing machines (a) Printed fabric shall be thoroughly dried by passing them over drying cans or through hot flue or other equally effective means, before the same is allowed to pass through polymerizing machines.
(b) Infra-red ray heaters of polymerizing machines shall be cut-off while running the prints.

73-B. [66]**[Fragile roofs provision of Crawling Boards etc.**
In any factory, no person shall be required or allowed to stand or pass over or work on or near any roof or ceiling covered with fragile material through which he is liable to fall, from a distance, in case it breaks or gives way, unless:
(a) suitable and sufficient ladders, duck ladders or crawling boards which shall be securely supported, are provided and used; and
(b) permit to work on fragile roof is issued to him each time he is required to work thereon by a responsible person of the factory concerned.]

[67]**[Explanation:** Fragile material means sheets made of asbestos cement or made from similar materials such as Perspex, polyester or other types of plastic fibers.]
73-C. [68]**[Buildings and structures**
No building, walls, chimney, bridge, tunnel, road, gallery, stairways, ramp, floor, platform, staging, or other structure, whether of a permanent or temporary character, shall be constructed, situated of maintained in any factory in such a manner as to cause risk of bodily

injury.
73-E. Method of work
No process or work shall be carried in any factory in such manner as to cause risk of bodily injury.
73-F. Stacking and storing of materials, etc.
No material or equipment shall be stacked or stored in such a manner as to cause risk of bodily injury.
73-G. Reaction vessels and kettles
1 (1) This rule applied to reaction vessels and kettle have in referred to as reaction vessels, which normally work at a pressure not above the atmospheric pressure but in which there is likelihood of pressure being created above the atmospheric pressure due to reaction getting out of control or any other circumstances.
2 (2) In the event of the vessel being heated by electrical means, a suitable thermostatic control device shall be provided to prevent the temperature exceed the safe limit.

3 (3) Where steam is used for heating purpose in a reaction vessel, it shall be supplied through a suitable automatic device to prevent the maximum permissible steam pressure being exceeded, unless the pressure of the steam in the supply line itself cannot exceed the said maximum permissible pressure.

4 (4) A suitable safety valve or rupture disc of adequate size and capacity shall be provided to effectively prevent the pressure being buildup in the reacting vessel beyond the safe limit. Effective arrangements shall be made to ensure that the released gases, fumes, vapors, liquids or dusts, as the case may be, are led away and disposed of through suitable pipes without causing any hazard. Where flammable gases or vapors are likely to be vented out from the vessel the discharge valve shall be provided with a flame arrestor.

5 (5) Every reaction vessel shall be provided with a pressure guage having the appropriate range.

6 (6) In addition to the devices as mentioned in the foregoing provisions, means shall be provided for automatically stopping the feed into the vessel as soon as process condition deviate from the normal limits to an extent which can be considered as dangerous.

7 (7) Wherever necessary, an effective system for cooling, flooding or blanking shall be provided, for the purpose of controlling the reaction and process condition within the safe limit of temperature and pressure.

8 (8) An automatic auditory and visual warning shall be given whenever process conditions exceed the present limits. This device, wherever possible, shall be integrated with automatic process correction systems.

9 (9) A notice pointing out the possible circumstances in which pressure above atmospheric

pressure may be buildup in the reaction vessel, the danger involved and the precautions to be taken by the operators shall be displayed at a conspicuous place near the vessel.

73-H. Railways in factories

1 (1) This rule shall apply to railways in the precincts of a factory which are not subject to Indian Railways Act, 1890.

2 (2) Gateways: A gateway through which a railway track passes shall not be used for the general passage of workers into or out of a factory.

(3) Barriers and Turn gate (a) Where building or walls contain doors or gates which open to a railway track, a barrier about 1 meter high shall be fixed parallel to and about 60 cm. away from the building or wall outside the opening and extending several feet beyond it at either end, so that any person passing out may become aware of an approaching train when his pace is checked at the barrier.

(b) If the distance between wall and track cannot be made to accommodate such a barrier, the barrier or a turn gate shall be placed at the inside of the opening.

(c) Where a footway passes close to a building or other obstruction as it approaches a railway track, a barrier or a turn gate shall be fixed in such a manner that a person approaching the track is compelled to move away from the building or obstruction and thus obtain timely sight of an approaching locomotive or wagon.

(a) Worker's pay-windows, first-aid stations and other points where a crowd may collect shall not be placed near a railway track.

(b) At any time of the day when workers are starting or ending work, all railway traffic shall cease for not less than five minutes.
(a) No locomotive shall be used in shunting operations unless it is in good working order.
(b) Every locomotive and tender shall be provided with efficient breaks all of which shall be maintained at suitably fixed intervals and those that are worn out be replaced at once.
(c) Water-guage glasses of every locomotives, whatever its boiler pressure, shall be protected with substantial glass or metal screen.

If the traffic on the nearest track is all in one direction, the barrier shall be in the form of an "L" with the end of the short leg abutting on to the wall and other end opening towards the approaching train.
1 (4) Crowds
2 (5) Locomotives

(d) Suitable steps and hand-holes shall be provided at the corners of the locomotive for the use of shunters.
(e) Every locomotive crane shall be provided with lifting and jacking pads at the four corners of the locomotive for assisting in re-railing operations.
(f) It shall be clearly indicated on every locomotive crane in English and in language understood by the majority of the workers in the factory, for what weight of load and of what radius the crane is safe.
(a) Every wagon (and passenger coach if any) shall be provided either with self- acting brakes capable of being applied continuously or with efficient hand brakes which shall be maintained in good working order. The hand brakes shall be capable of being applied by a person on the ground and fitted with a device for retaining them in the applied position.
(b) No wagon shall be kept standing within 3 meters of any authorized crossing.
(c) No wagon shall be moved with the help of crowbars or pinch bars.
(a) No locomotive, wagon or other rolling stock shall be kept standing unless its brakes are firmly applied and, where it is on a gradient, without sufficient number of properly constructed sections placed firmly in position.
(b) No train shall be set in motion until the shunting jamadar has satisfied himself that all wagon doors are securely fastened.
(a) If the load on a wagon projects beyond its length, a guard or dummy- truck shall be used beneath the projection.
(b) No loco-crane shall travel without load unless the jib is completely lowered and positioned in line with the track.
(c) When it is necessary for a loco-crane to travel with a load, the jib shall not be swung until the loco-crane has come to rest.

1 (6) Wagons

2 (7) Riding on locomotive, wagon or other rolling stock: No person shall be permitted to be upon (whether inside or outside) any locomotive, wagon or after rolling stock except where secure foothold and handhold are provided.
3 (8) Attention to brakes and doors
4 (9) Projecting loads and cranes
5 (10) Loose-shunting: Loose-shunting shall be permitted only when it cannot be avoided. It shall never be performed on a wagon not accompanied by a man capable of applying and pinning down the brakes. A wagon not provided with brakes in good working order and capable of being easily pinned down shall not be loose- shunted unless there is attached to it at least another wagon with each brakes. Loose shunting shall not be performed with, or against a wagon containing passengers, live-stock or explosives.

1 (11) Fly-shunting: Fly-shunting shall not be permitted on any factory railway.
(12) The shunting jamadar (a) Every locomotive or wagon in motion in a factory shall be in charge of a properly trained jamadar.
(b) Before authorizing a locomotive or wagon to be moved, the shunting jamadar shall satisfy himself that no person is under or in between or in front of the locomotive or wagon.

(13) Hand signals: The hand signals used by the shunting jamadar by day and night shall be those prescribed by the shunting rules of railways, working under the Indian Railways Act, 1890 (IX of 1890).
(14) Night work and fog (a) In factories where persons work at night, no movement of locomotive, wagon or other rolling stock otherwise than by hand shall be permitted between sunset and sunrise unless the tracks and their vicinity are lighted on a scale of not less than 10 lakhs as measured at the horizontal plane at the ground level.
(b) In no circumstances shall any locomotive or train be moved between sunset and sunrise or at any time when there is fog, unless it carries a white head light and a red rear light.

(15) Speed control (a) Locomotive or train shall not be permitted to moves at a speed greater than seven kilometers per hour.
(b) A train, locomotive, wagon or other rolling stock shall not be moved by a mechanical or electrical power unless it is proceeded at a distance of not less than 10 meters during the whole of its journey by a shunting jamadar. He shall be provided with signaling flags or lamp and whistle necessary for calling the attention of the driver.

(16) Tracks (a) The distance (i) between tracks and (ii) between tracks and buildings, blind walls or other structure and (iii) tracks and materials deposit on the ground shall be respectively not less than:

(aa) from centre to centre of parallel tracks, the overall width of the widest wagon of that guage plus twice the width of the door of such a wagon when opened directly outward plus 1 meter;

(bb) from a building or structure other than a leading platform to the centre of the nearest track, half the overall width of the widest wagon of that guage, plus the width of its door when opened outward, plus 1.5 meters.
(cc) from material stacked or deposited alongside the track, on the ground or on a loading platform to the centre of the nearest track, half the overall

(b) Sleepers of a track shall be in level width the ground and at the crossings of the track with a road or walkway, surface or the road of walkway shall be in level with the top of the rails.
(c) All track ends shall be equipped with buffer stops of adequate strength.
(d) Barriers of substantial construction shall be securely and permanently fixed across any doorway or gateway in a building or in a wall which conceals an approaching train front view, between the building and the track as prescribed in clause (a) of sub-rule (3).
(e) Where track are carried on a gantry another elevation, a safe footway or footways with hand rails and toe-bards shall be provided at all position where persons work or pass on foot; and where there is an opening in the stage of an elevated track for the dropping of material to a lower level the position shall be adequately fenced or the opening itself provided with a grill through which a person cannot fall.
(f) All point levers shall have their movements parallel to, not a cross, the direction of the track.
(g) All loading platforms which are more than 60 cm. above the level of the ground on which the track is laid and more than 15 meters in length, shall be provided with stops at intervals not greater than 15 meters apart to enable the platform to be easily mounted from the track.
(h) Turn tables on plant railways shall be provided with locking devices which will prevent the tables from turning while locomotive or wagons are being run on or off the tables.
(i) Workers shall be prohibited from passing under, between or above railway wagons.
(a) At all crossings of a track with a road or walkway, danger or crossing signs and wherever reasonably practicable, blinking lights shall be provided. At all important crossing gates or barriers manned by watchmen shall be provided. Swinging gates and barriers shall be secured against inadvertent opening or closing.
(b) All crossings, warning signs, gates and barriers shall be illuminated during hours of darkness.

width of the widest wagon of that guage, plus half the width of its door when opened directly outward, plus 1 meter.
1 (17) Crossings
2 (18) Duties of drivers and shunters: It shall be the duty of every driver of a locomotive, or a shunter including a shunting jamadar to report without delay to their superior any defeet in permanent way, locomotive or rolling stock.
3 (19) Young person not to be employed as drivers of locomotive or as shunters: No person

who is under 18 years of age and no person who is not sufficiently competent and reliable shall be employed as a driver of a locomotive or as a shunter.

1 (20) The Chief Inspector may by an order in writing exempt a factory or part of it from all or any of the provisions of this rule to such extent and on such conditions as he deems necessary.

73-I. Safety Committee

(1) In every factory: (a) wherein 250 or more workers are ordinarily employed;
(b) which carries on any process or operation declared to be dangerous under Section 87 of the Act; or
(c) which carries on 'hazardous process' as defined under Section 2 (cb) of the Act; There shall be Safety Committee.

(2) The representatives of the management on Safety Committee shall include: (a) A senior official, who by his position in organization can contribute effectively to the functioning of the Committee, shall be the Chairman;
(b) A Safety Officer and a Factory Medical Officer wherever available and the Safety Officer in such a case shall be the Secretary of the Committee;
(c) A representative each from the production, maintenance and purchase departments.

(3) The workers, representatives on this Committee shall be elected by the workers.
(4) The tenure of the Committee shall be two years.
(5) Safety Committee shall meet as often as necessary but at least once in every quarter. The minutes of the meeting shall be recorded and produced to the Inspector or demand.
(6) Safety Committee shall have the right to be adequately and suitably informed of: (a) potential safety and health hazards to which the workers may be exposed at workplace;
(b) data on accidents as well as date resulting from surveillance of the working environment and of the health of workers exposed to hazardous substances so far as the factory is concerned, provided that the Committee undertake to use the data on a confidential basis and solely to provide guidance and advice on measures to improve the working environment and the health and safety of the workers.

(7) Function and duties of the Safety Committee shall include: (a) assisting and co-operating with the management in achieving the aims and objectives outlined in the 'Health and Safety Policy' of the occupier;

(b) dealing with all matters concerning health, safety and environment and to arrive at practicable solutions to problems encountered;
(c) creating safety awareness amongst all workers;
(d) undertaking educational training and promotional activities;
(e) discussing reports on safety, environmental and occupational health surveys, safety audits, risk-assessment, emergency and disaster management plans and implementation of the recommendations made in the reports;
(f) carrying out health and safety surveys and identifying causes of accidents;

(g) looking into any complaint made on the likelihood of an imminent danger to the safety and health of the workers and suggesting corrective measures; and
(h) reviewing the implementation of the recommendations made by it.

1 (8) Where owing to the size of the factory, any other reasons, the functions, referred to in sub-rule (7) cannot be effectively carried out by the Safety Committee, it may establish sub-committee as may be required to assist it.

73-J. Thermic Fluit Heaters

1 (1) All heaters shall be such construction that coils are removable for periodic cleaning, visual inspection and hydraulic test.
2 (2) Suitable arrangements shall be made for cooling the furnace effectively in case of power failure.
3 (3) Before restarting the furnace, it shall be effectively purged.
4 (4) Velocity of flow of thermic fluid shall not be allowed to fall below the minimum recommended by the manufacturers while the heater is in operation.
5 (5) The thermic fluid shall be circulated in a closed circuit formation with an expansion cumdeaerator tank. This tank shall be located outside the shed where the heater is installed.
6 (6) Every heater shall be provided with a photo-resister actuated audio visual alarm to indicate flame failure and automatic burner cut off.
7 (7) The stack temperature monitor-cum-controller with audio visual alarm shall be provided so as, to warn the operator in case the out-let temperature exceeds the specified minimum.
8 (8) Where inspection doors are provided on the furnace they shall be interlocked with the burner itself so that they cannot be opened until burner is shut off and furnace is cooled sufficiently.
(9) All heaters shall also be provided with the following safety devices: (i) level control in the expansion tank;
(ii) temperature control of thermic fluid;

(iii) differential pressure switch on the out let line of the heater tubes; and
(iv) temperature control device for the fuel oil supply to the burner.
(i) weekly checks carried out conforming the effectiveness of the interlock;
(ii) weekly checks confirming that all accessories are in good state of repairs; and
(iii) information regarding fuel oil temperature pressure, thermic fluid inlet/outlet pressure and temperature fuel gas temperature, recorded at 4 hourly intervals.

1 (10) All devices mentioned in paragraph 9 shall have interlocking arrangement with burner so that in case of any predetermined limits being crossed the supply of fuel and air to burner shall automatically be cut-off.

2 (11) All safety interlocks when operated shall be indicated on the control panel of the heater by a suitable audio visual alarm.
3 (12) Every heater unit shall be provided as a standard accessory an arrangement for sniffing with low pressure steam or nitrogen for putting out the fire.
4 (13) Electric panel for the heater shall be located near the heater but not so close as to be exposed to spilling or leaking oil.
5 (14) The heater shall be located in a place partitioned off with fire proof material from other manufacturing activities.
6 (15) Explosion vent shall be so installed that release takes place at safe location.
7 (16) The heater coil shall be subjected to pressure test by competent person once at least in every 12 months. The test pressure shall not be less than twice the operation pressure.
8 (17) If repairs are carried out to the coil, it shall be tested before taking it into use.
9 (18) The thermic fluid shall confirm to the specifications prescribed by the manufacturers and shall be tested by competent person for suitability at least once in every three months' period. Such test shall include test for acidity, suspended matter, ash contents, viscosity and flash point.
10 (19) Cleaning of internal surface of the heater or soot and check-up of refractory surface on the inside shall be carried out every month or as often as required depending upon working conditions. The coils shall be removed and surface of the coils cleaned thoroughly once at least in a period of six months. The burner, nozzles, oil filters and pumps shall be cleaned once a week during the period of use.
11 (20) A separate register containing the following information shall be maintained:
12 (21) The heater when in operation shall always be kept in charge of a trained operator.

1 (1) This rule shall come into force, in respect of any class or description of factories, on such date as the State Government may, by notification in the official gazette; appoint in this behalf.
1 (2) There shall be provided and maintained in every factory for the use of employed persons adequate and suitable facilities for washing which shall include soap and nail brushes or other suitable means of cleaning and the facilities shall be conveniently accessible and shall be kept in a clean and orderly condition.
(3) Without prejudice to the generality of the foregoing provision the washing facilities shall include: (a) a trough with taps or jets at intervals of not less than two feet, or
(b) wash-basins with taps attached thereto, or
(c) taps on stand-pipes, or
(d) showers controlled by taps, or
(e) circular trough of the fountain type:

(4) (a) Every trough and basin shall have a smooth, impervious surface and shall be filled with a waste pipe and plug.
(b) The floor or ground under and in the immediate vicinity of every trough, tap, jet, wash-basin, stand-pipe and shower shall be so laid or finished as to provide a smooth impervious surface and shall be adequately drained.

(5) For persons whose work involves contact with any injurious or noxious substance there shall be at least one tap for every fifteen persons; and for persons whose work does not involve such contact, the number of taps shall be as follows :

74. Washing facilities

CHAPTER V WELFARE

Provided that the Inspector may, having regard to the needs and habits of the workers, fix the proportion in which the aforementioned types of facilities shall be installed.

Maximum number or workers employed at any one time	**Number of taps**
Upto to 20	1
21 to 35	2
36 to 50	3
51 to 150	4

(6) If female workers are employed, separate washing facilities shall be provided and so enclosed or screened that the interiors are not visible from any place where persons of the other sex work or pass. The entrance to such facilities shall bear conspicuous notice in the language understood by the majority of the workers. "For Women Only" and shall also be indicated pictorially.

(7) The water-supply to the washing facilities shall be capable of yielding at least six gallons a day for each person employed in the factory and shall be from a source approved in writing by the Health Officer. Provided that where the Chief Inspector is satisfied that such a yield is not practicable, he may, by certificate in writing, permit the supply of a smaller quantity not being less than one gallon per day for every person employed in factory.

151 to 200	5
Exceeding 200 but not exceeding 500	5 plus one tap for every 50 or fraction of 50.
Exceeding 500	11 plus one tap for every 100 or fraction of 100.

75. [69]**[First Aid Appliance**

The First Aid Boxes or cupboards shall be distinctively marked with red cross on white background and shall contain the following equipment:

A. For factories in which the number of person employed does not exceed ten, or (in the case of factories in which mechanical power is not used) does not exceed fifty persons- Each first aid-box or cupboard shall contain the following equipment: (i) Six small size sterilized dressings.
(ii) Three medium size sterilized dressings.
(iii) Three large size sterilized dressings.
(iv) Three large size burn dressings.
(v) One (60 ml.) bottle of cetrimide solution (1%) or a suitable antiseptic solution.
(vi) One (60 ml.) bottle of mercurochrome solution (2%) in water.
(vii) One (30 ml.) bottle containing sal-volatile having the does and mode of administration indicated on the label.
(viii) One pair scissors.
(ix) One roll of adhesive plaster (2 cms. x 1 meter).
(x) Six pieces of sterilized eye pads in separate sealed packets.
(xi) A bottle containing 100 tablets (each of 5 grains) of aspirin or any other analgesic.
(xii) Polythene Wash bottle (1/2 liter, i.e. 500 c.c.) for washing eyes.

(xiii) A snake-bite lancet.
(xiv) One (30 ml.) bottle containing Potassium Permanganate crystals.
(xv) One copy of first aid leaflet issued by the Directorate General of Factory Advice Service and Labor Institutes, Government of India, Bombay.
(i) Twelve small size sterilized dressings.
(ii) Six medium size sterilized dressings,
(iii) Six large size sterilized dressings,
(iv) Six large size sterilized burn dressings.
(v) Six (15 gm.) packets of sterilized cotton wool.
(vi) one (120 ml.) bottle of cetrimide solution (1%) or a suitable anti-septic solution.
(vii) One (120 ml.) bottle of mercurochrome solution (2%) in water.
(viii) One (60 ml.) bottle containing sal-volatile having the dose and mode of administration indicated on the label.
(ix) One pair scissors.
(x) Two rolls of adhesive plaster (2 cms. x 1 meter)
(xi) Eight pieces of sterilized eye pads in separate sealed packets.
(xii) One tourniquet.
(xiii) One dozen safety pins.
(xiv) A bottle containing 100 tablets (each of 5 grains) of aspirin or any other analgesic.
(xv) One polythene wash bottle (1/2 liter x 500 c.c.) washing eyes.
(xvi) A snake-bite lancet.
(xvii) One (30 ml.) Bottle containing Potassium permanganate crystals.
(xviii) One copy of the First aid leaflet issued by the Directorate General of Factory Advice Service and Labor-Institutes, Government of India, Bombay.
(i) Twenty-four small sterilized dressings.
(ii) Twelve medium size sterilized dressings.
(iii) Twelve large size sterilized dressings.

(iv) Twelve large size sterilized burn dressings.

B. For factories in which mechanical power is used and in which the number of persons employed exceeds ten but does not exceed fifty. Each first-aid box or cupboard shall contain the following equipment:
C. For factories employing more than fifty persons. Each first aid box or cupboard shall contain the following equipment:

(v) Twelve (15 gms.) packets of sterilized cotton wool.
(vi) One (200 ml.) bottle of cetrimide solution (1 %) or a suitable antiseptic solution.
(vii) One (200 ml.) bottle of mercurochrome (2%) solution in water.
(viii) One (120 ml.) bottle of sal-volatile having the dose and mode of administration indicated on the label.
(ix) One pair scissors.
(x) One roll of adhesive plaster (6 cms. x 1 meter).
(xi) Two rolls of adhesive plaster (2 cms. x 1 meter).
(xii) Twelve pieces of sterilized eye pads in separate seated packets.
(xiii) A bottle containing 100 tablets (each of 5 grains) of aspirin or any other analgesic.
(xiv) One polythene wash bottle (500 c.c.) for washing eyes.
(xv) Twelve roller bandages 10 cms. wide.
(xvi) Twelve roller bandages 5 cms. wide.
(xvii) Six triangular bandages.
(xviii) One tourniquet.
(xix) A supply of suitable splints.
(xx) Two packets of safety pins.
(xxi) Kidney tray.
(xxii) A snake-bite lancet.
(xxiii) One (30 ml.) bottle containing Potassium Permanganate crystal.
(xxiv) First aid leaflet issued by the Directorate General of Factory Advice Service and Labor Institutes, Bombay:

Provided that items (xiv) to (xxi) inclusive need not be included in the standard first aid box or cupboard (a) where there is a properly equipped ambulance room or (b) if at least one box containing such items and placed and maintained in accordance with the requirements of Section 45 is separately provided.
D. In lieu of the dressings required items (i) and (ii), there may be substituted adhesive wound dressings approved by the Chief Inspector of Factories and other equipment or medicines that may be considered essential and recommended by the Chief Inspector of Factories from time to time.]

75-A. [70]**[Notice regarding first-aid**

A notice containing the names of the persons working within the precincts of the factory who are trained in first aid treatment and who are in charge of the first aid box or cupboards shall be posted in every factory at a conspicuous place and near each such box or cupboard.

(1) Every ambulance room shall be under the charge of at least one whole time qualified medical practitioner (hereinafter referred to as medical officer) assisted by at least one qualified nurse or dresser-cum-compounder and one nursing attendant in each shift: (a) there shall be no relaxation in respect of nursing staff; and
(b) the medical officer is readily available on call during the working hours of the factory.

(2) There shall be displayed in the ambulance room [72][.] dispensary a notice giving
(3) The ambulance room [74][.....] dispensary shall be separate from the rest of the factory and shall be used only for the purpose of first-aid treatment and rest. It shall have a floor area of at least 24 sq. meters and smooth, hard and impervious wall and floors shall be adequately ventilated and lighted by both natural and artificial means. 4[There shall be attached to it at least one latrine and urinal of sanitary type]. An adequate supply of whole-some drinking water shall be laid on and the room shall contain at least:

The notice shall also indicate work-room where the said person shall be available. The name of the nearest hospital and its telephone number shall also be mentioned prominently in the said notice.]

76. [71][Ambulance Room

Provided that where a factory works in more than one shift, the Chief Inspector, if he is satisfied that on account of the size of the factory, nature of hazards or frequency, of accidents, shifts, subject to the conditions that:
the name, address and telephone number of the Medical Practitioner in charge. The name of the nearest hospital and its telephone number shall also be mentioned prominently in the said notice.
(2-A) [73][No medical officer shall be required or permitted to do any work which is inconsistent with or detrimental to his responsibilities under this rule].

i (i) A glazed sink with hot and cold water always available.
ii (ii) A table with a smooth top at least 180 cms. x 105 cms.
iii (iii) Means for sterilizing instruments.
iv (iv) A couch.
v (v) Two stretchers.
vi (vi) Two buckets or containers with close fitting lids.
vii (vii) Two rubber hot water bags.
viii (viii) A kettle and spirit stove or other suitable means of boiling water.
ix (ix) Twelve plain wooden splints 900 mm. x 100 mm. x 6 mm.
x (x) Twelve plain wooden splints 350 mm. x 75 mm. x 6 mm.

i (xi) Six plain wooden splints 250 mm. x. 50 mm. x 12 mm.
ii (xii) Six woolen blankets.

iii (xiii) Three pairs artery forceps.
iv (xiv) One bottle of spiritus Ammonia Aromaticus (120 ml.)
v (xv) Two medium size sponges.
vi (xvi) Six hand towels.
vii (xvii) Four "kidney" trays.
viii (xviii) Four cakes of toilets preferably antiseptic soap.
ix (xix) Two glass tumblers and two wine glasses.
x (xx) Tow clinical thermometers.
xi (xxi) Tea Spoons-Two.
xii (xxii) Graduated (120 ml.) measuring glass-Two.
xiii (xxiii) One wash bottle (1000 c.c.) for washing eyes.
xiv (xxiv) One bottle (one liter) carbolic lotion 1 in 20.
xv (xxv) Three chairs.
xvi (xxvi) One screen.
xvii (xxvii) One electric hand torch.
xviii (xxviii) Four first-aid boxes or cupboards stocked to the standards prescribed under C of Rule 75.
xix (xxix) Smelling salts (60 gms.)
xx (xxx) Minimum measuring glass-Two.
xxi (xxxi) An adequate supply of anti-tetanus oxide.
xxii (xxxii) Injections-Morphia, Pethidine, Atropine, Adrenaline, Coramine, Novocam- 6 each.
xxiii (xxxiii) Coramine liquid (60 ml.)
xxiv (xxxiv) Tablets-antihistamine, antispasmodic (25 each).
xxv (xxxv) Syringes with needles-2 cc, 5 cc, 10 cc, 50 cc,
xxvi (xxxvi) Surgical scissors-Three.
xxvii (xxxvii) Needle holder.
xxviii (xxxviii) Suturing needles and materials.
xxix (xxxix) Dissecting forceps-Three. (xl) Dressing forceps-Three.

(4) The Occupier of every factory to which these Rules apply shall for the purpose of removing serious cases of accident or sickness, provide in the premises and maintain in good condition a suitable conveyance unless he has made arrangements for obtaining such a conveyance from a hospital.
(5) A record of all cases of accident and sickness treated at the room shall be kept separately and produced to the Inspector or Certifying Surgeon when required.
(1) Rules 77 to 82 shall come into force on such date in respect of any factory as the State Government may notify in the Official Gazette in this behalf.
(2) The occupier of every factory notified by the State Government in this behalf, and wherein more than two hundred and fifty workers are ordinarily employed shall provided in or near the factory an adequate canteen according to the standards prescribed in these rules.
(3) The manager of the factory shall submit, for the approval of the Chief Inspector, plans and site plan, in duplicate, of the building to be constructed or adapted for use as a canteen.

(4) The canteen building shall be situated not less than fifty feet from any latrine, urinal, boiler house, coal stocks, ash dumps and any other source of dust, smoke, obnoxious fumes, or nuisance:
(5) The canteen building shall be constructed in accordance with the plans approved by the Chief Inspector, and shall accommodate at least a dining-hall, kitchen, storeroom, pantry and washing-places separately for workers and for utensils.
(6) In a canteen the floor and inside walls up to a height of four feet from the floor shall be made of smooth and impervious material; the remaining portion of the inside walls shall be made smooth by cement plaster or in any other manner approved by the Chief Inspector.
(7) The doors and windows of a canteen building shall be of fly proof construction, and shall allow adequate ventilation.

(xli) Scalpels-Three.
(xlii) Stethoscope-One.
(xliii) Rubber land age-pressure bandage.
(xliv) Oxygen cylinder with necessary attachments.
Explanation: For the purposes of this rule, "qualified medical practitioner" means a person holding a qualification granted by an Authority specified in the Schedule to the Indian Medical Degrees Act, 1916, or in the Schedule to the Indian Medical Council Act,

77. Canteen

Provided that the Chief Inspector may, in any particular factory, relax the provisions of this sub-rule to such extent as may be reasonable in the circumstances and may require measures to be adopted to secure the essential purpose of the sub-rule.

(8) The canteen shall be sufficiently lighted at all times when any person has access to it. (9)

77-A.

(a) In every canteen: (i) all inside walls of rooms and all ceilings and passages and staircases shall be lime-washed or color-washed at least once in each year or painted once in three years, dating from the period when last lime-washed, or painted, as the case may be;
(ii) all wood work shall be varnished or painted once in three years, dating from the period when last varnished or painted;
(iii) all internal structural iron or steel-work be varnished or painted once in three years, dating from the period when last varnished or painted provided that inside walls of the kitchen shall be lime- washed once every four months.

(b) Records of dates on which lime-washing, color-washing, varnishing or painting is carried out shall be maintained in the described Register (Form No. 7.)

(10) The precincts of the canteen shall be maintained in a clean and sanitary condition. Waste water shall be carried away in suitably covered drains, and shall not be allowed to accumulate

so as to cause a nuisance. Suitable arrangement shall be made for the collection and disposal of garbage.

1 (1) [75][Annual medical examination for fitness of each member of the canteen staff who handles foodstuffs shall be carried out by the Factory Medical Officer or the Certifying Surgeon in the following manner, namely: (i) blood shall be examined for venereal disease, namely, syphilis, and Gonorrhea in addition to routine blood examination;

1 (ii) stool and urine examination shall be done for worms infection;

1 (iii) skin disease, such as scabies, dermatitis shall be thoroughly seen;

1 (iv) X-Ray and other examination shall be done to detect tuberculosis.

1 (2) Any person, who in the opinion of the Factory Medical Officer or the Certifying Surgeon is unsuitable for employment, on account of possible risk to the health of others shall not be employed as a member of canteen staff.] (1) The dining hall shall accommodate at a time at least 30 per cent of the workers working at a time:

78. Dining hall

Provided that, in any particular factory or in any particular class of factories, [76][the Inspector of Factories may, by an order in writing in this behalf,] alter the percentage of workers to be accommodated.

1 (2) The floor area of the dining-hall, excluding the area occupied by the service counter and any furniture, except tables and chairs, shall be not less than 10 sq. ft. per dinner to be accommodated as prescribed in sub-rule (1).

1 (3) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number. Washing places for women shall be separate and screened to secure privacy.

1 (4) Sufficient tables, chairs or benches shall be available for the number of dinners to be accommodated as prescribed in sub-rule (1).

1 (1) There shall be provided and maintained sufficient utensils, crockery, cutlery, furniture and other equipment necessary for the efficient running of the canteen. Suitable clean clothes for the employee serving in the canteen shall also be provided and maintained.

1 (2) The furniture, utensils and other equipment shall be maintained in the clean and hygienic condition. A service counter, if provided, shall have a top smooth and impervious material. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipment.

1 (3) Food and food-materials shall be stored in fly proof almirah and handed with the help of wooden ladles or suitable metal forceps whichever is convenient. Vessels once used should be scalded before being used again.

(1) Food, drink and other items served in the canteen shall be sold on a non-profit basis, and the prices charged shall be subject to the approval of the canteen managing committee. (a) The rent for the land and building;

(b) The depreciation and maintenance charges of the building and equipment provided for the canteen;

(c) The cost of purchase, repairs and replacement of equipment including furniture, crockery, cutlery and utensils;
(d) The water charges and expenses for providing lighting and ventilation;
(e) The interest on the amount spent on the provision and maintenance of the building furniture and equipment provided for the canteen;
(f) The cost of fuel required for cooking food stuffs or water; and
(g) The wages of the employees serving in the canteen and the cost of uniforms, any, provided to them.]

(2) The charge per portion of fooled stuff, beverages and any other item served in the

79. Equipment
80. Prices to be charged
(1-a) [77][In computing the prices referred to in sub-rule (1) the following items of expenditure shall not be taken into consideration, but will be borne by the occupier:

(3) [78][Where the canteen is managed by a co-operative society the charges to be made for the food-stuffs served may be allowed to include a profit up to 5 per cent on its working capital employed in running the canteen; subject to following conditions: (a) The co-operative society shall have been, registered under Chhattisgarh, Co- operative Societies Act, 1960, and at best one-half of its share capital shall have been subscribed by the workmen of the factory.
(b) If the society engages in any business other than the canteen also separate accounts of the canteen shall be maintained.
(c) The manager of the factory shall nevertheless be responsible for providing free of cost land, building furniture and equipment as well as electricity wherever available in the factory.
(d) The canteen shall be subject to inspection and control under this Act as it would have been if not managed by the Co-operative society, and if the Chief Inspector of Factories is of opinion that the canteen is not being managed properly by the society he may, by three months notice, require the society to withdraw from its management and require the manager of the factory to manage it himself.]

(1) All books of accounts, registers and any other documents used in connection with the running of the canteen shall be produced on demand to an Inspector of Factories.
(2) The accounts pertaining to the canteen shall be audited, once every twelve months, by registered accountants and auditors. The balance-sheet prepared by the said auditor shall be submitted to the canteen managing committee not later than two months after the closing of the audited accounts:
(1) The manager shall appoint a canteen managing committee which shall be consulted from time to time as to: (a) the quality and quantity of food-stuffs to be served in the canteen;
(b) the arrangement of the menu;
(c) times of meals in the canteen; and
(d) any other matter as may be directed by the committee.

canteen shall be conspicuously displayed in the canteen.

81. Accounts

[79][Provided that the accounts pertaining to the canteens in a Government's Factory, having its own accounts department, may be audited in such department:

Provided further that where the canteen is managed by workers, co- operative under the Chhattisgarh Co-operative Societies Act, 1960, the accounts pertaining to such canteens may be audited in accordance with the provisions of that Act.]

82. Managing Committee

[80][Provided that when the canteen is managed by a co-operative society as

1 (2) The canteen managing committee shall consist of an equal number of persons nominated by the occupier and elected by the workers. The number of elected worker shall be in the proportion of 1 for every 1,000 workers employed in the factory:

1 (3) The manager shall determine and supervise the procedure for election to the canteen managing committee.

1 (4) A canteen managing committee shall be dissolved by the manager two years after the last election, no account being taken of a bye- election.

1 (1) This rule shall come into force, in respect of any class or description of factories, on such date as the State Government may, by notification in the Official Gazette, appoint in this behalf.

(2) The shelters, or rest-rooms and lunch-rooms shall conform to the following standards. [82][ ]

(a) The building shall be soundly constructed, and all the walls and roofs shall be of suitable heat resisting materials and shall be water-proof. The floor and wall to a height of 3 feet shall be so laid or finished as to provide a smooth, hard and impervious surface.

1 (b) The height of every room in the building shall be not less than 12 feet from floor level to the lowest part of the roof, and there shall be at least 12 square feet of floor area for every person employed: (i) workers who habitually go home for their meals during the rest periods may be excluded in calculating the number of workers to be accommodated, and

1 (ii) in the case of factories in existence, at the date of commencement of the Act, where it is impracticable, owing to lack of space to provide 12 sq. ft. of floor area for each person, such reduced floor area per person shall be provided as may be approved in writing by the Chief Inspector.

(c) Effective and suitable provision shall be made in every room for securing and maintaining adequate ventilation by the circulation of fresh air, and there shall

mentioned in Rule 80 (3) it shall not be necessary to appoint a Canteen Managing Committee.]

Provided that in no case shall there be more than 5 or less than 2 workers on the committee.

[81][Provided that where in any factory there exists a Representatives Union of the employees as provided in Chhattisgarh Industrial Relations Act, 1960. It shall have a right to nominate on the Canteen Managing Committee representative of employees instead of the election.]

83. Shelters, rest-rooms and lunch-room

Provided that,

(d) Every room shall be adequately furnished with chairs and benches with back- rests.
(e) Sweepers shall be employed whose primary duty is to keep the rooms, buildings and precincts thereof in a clean and tidy condition.
(f) [83][Suitable provision shall be made in every room for supply of drinking water and facilities for washing.]

(3) [84][The lunch rooms shall: (a) comply with the requirements laid down in clauses (a) to (f) of sub-rule (2); and
(b) be provided with adequate number of tables with impervious tops for the use of workers for taking food.]

(1) Rules 84 to 87 shall come into force, in respect of any class or description of factories, on such dates as the State Government may, by notification in the Official Gazette, appoint in this behalf.
(2) The creche shall be conveniently accessible to the mothers of the children accommodated therein and so far as is reasonably practicable it shall not be situated in close proximity to any part of the factory where obnoxious fumes, dust or odours are given off or in which excessively noisy processes are carried on.
(3) The building in which the creche in situated shall be soundly constructed, and all the walls and roof shall be of suitable heat-resisting materials and shall be water proof. The floor and internal walls of the creche shall be so laid or finished as to provide a smooth impervious surface.
(4) The height of the rooms in the building shall be not less than 12 feet from the floor to the lowest part of the roof and there shall be not less than 20 sq. ft. of floor area for each child to be accommodated.
(5) Effective and suitable provision shall be made in every part of the creche for securing and maintaining adequate ventilation by the circulation of fresh air.
(6) The creche shall be adequately furnished and equipped and in particular there shall be one suitable cot or cradle with the necessary bedding for each child, provided that for children over two years of age it will be sufficient if suitable bedding is made available and at least one chair or equivalent seating accommodation for the sue of each mother while she is feeding or attending to her child, and a sufficient supply of suitable toys for the older children.
(7) A suitable fenced and shady open air play-ground shall be provided for the older children:

also be provided and maintained sufficient and suitable natural or artificial lighting.

84. Creches

Provided that the Chief Inspector may by order in writing exempt any factory from

compliance with this sub-rule if he is satisfied that there is not sufficient space available for the provision of such a play-ground.

84-A. [85][Exemption from the provisions of creche

(1) In factories where the number of married women or widows employed does not exceed 15 or where the factory works for less than 180 days in a calendar year, or where number of children kept in the creche was less than 5 in the preceding year, the Chief Inspector may exempt such factories from the provisions of Section (a) The alternate arrangements required in sub-rule (1) shall include a creche building which has a minimum accommodation at the rate of 1.86 square meters per child and constructed in accordance with the plans approved by the Chief Inspector.

1 (b) The creche building shall have, (i) a suitable wash-room for washing of the children and their clothing;

1 (ii) adequate supply of soap and clean clothes and towels; and

1 (iii) adequate number of female attendants who are provided with suitable clean clothes for use while on duty to look after the children in the creche.

(1) There shall be in or adjoining the creche a suitable latrine and a wash-room for the washing of the children and their clothing. (a) The floor and internal walls of the room to a height to 3 feet shall be so laid or furnished as to provide a smooth impervious surface. The room shall be adequately lighted and ventilated, and the floor shall be effectively drained and maintained in a clean and tidy condition;

(b) There shall be at least one basin or similar vessel for every four children accommodated in the creche at any one time together with a supply of water

(c) An adequate supply of clean cloths, soap and clean towels shall be made

48 and the Rules 84 to 87 made there under, if he is satisfied that alternate arrangements as stipulated under sub-rule (2) are provided by the factory.

(2)

(3) The exemption granted under sub-rule (1) may at any time be withdrawn by the Chief Inspector if he finds after such enquiry as he may deem fit, that the factory has committed a breach of this rule.]

85. Wash-room and latrine

The wash-room shall conform to the following standards,

Provided, if practicable, through taps from a source approved by the health officer. Such source shall be capable of yielding for each child a supply of at least five gallons of water a day;

(2) Adjoining the washing room referred to above, a latrine shall be provided for the sole use of children in the creche. The design of latrine and the scale of accommodation to be provided shall either be approved by the Public Health Authorities, or where there is no such Public Health Authority by the Chief Inspector.

(1) The occupier of every factory where five hundred or more workers are ordinarily employed, shall appoint at least one welfare officer:
(2) In the case of a Government undertaking to which sub-section (1) of Section 49 applies, the State Government shall, within three months from the date on which these rules come into force, by order, specify at least one officer who shall perform the duties of a Welfare Officer in that undertaking.

available for each child while it is in the creche.

86. Supply of milk and refreshment

At least half a pint of clean pure milk shall be available for each child on every day it is accommodated in the creche and the mother of such child shall be allowed in the course of her daily work intervals of at least 15 minutes in each period of work to feed the child. For children above two years of age, there shall be provided in addition an adequate supply of wholesome refreshments.

87. Clothes for Creche Staff

The creche staff shall be provided with suitable clean clothes for use while duty in the creche.

88. [86][Number of welfare officers

Provided that where the number of workers exceeds two thousand, one Additional Welfare Officer shall be appointed for every additional two thousand workers, or a fraction thereof over five hundred workers and if there are more than one welfare officers, senior most of them shall be designated as chief welfare officer, and the others as welfare officers.

89. Duties of Welfare Officers

The duties of the Welfare Officer shall be as follows:

i (i) to establish contacts and hold consultations with a view to maintaining harmonious relations between the Management and the Workers;

ii (ii) to take up with the Factory Management the grievances of workers, individual as well as collective, with view to securing their redress and to act as a liaison officer between the Management and Labour;

iii (iii) to help the factory management in determining its labour policies and to interpret them to the workers in Hindi;

iv (iv) to watch employment relations with a view to using his influence in the event of an industrial dispute arising between the Management and Workers and to assist in bringing about a settlement by persuasive efforts;

i (v) [87][to advise on fulfillment by the management and the concerned departments of the factory of their obligations, statutory or otherwise concerning regulation of working hours, maternity benefits, medical care, compensation for injuries and sickness and other welfare and social benefit measures;]

(v-a) [88][to advise and assist the management in the fulfillment of its obligations statutory or otherwise concerning prevention of personal injuries and maintaining a safe work environment, in such factories where a Safety Officer is not required to be appointed under enabling provision under Section 40-B;]

i (vi) to advise on fulfillment by the concerned departments of factory of obligations, statutory or otherwise: with regard to the provisions of the Factories Act and rules made there under, and to establish a liaison with Factory Inspectors and Medical Service concerning medical examinations of employees, health, record, supervision of hazardous jobs, sick visiting and convalescence, accident prevention and supervision of Safety Committee, systematic plant inspection, safety education, investigation of accidents and administration of Workmen's Compensation;

ii (vii) to promote relations between the concerned department of the factory and workers which will bring about productive efficiency as well as amelioration in the working conditions and to help workers to adjust and adapt themselves to their working;

iii (viii) to encourage the formation of Joint Production Committees, Co- operative Societies, Savings Scheme [89][.....] Welfare Committees and to supervise their working.

iv (ix) to encourage provision of amenities, such as canteens, rest shelters, creches adequate latrine facilities, drinking water supply, sickness and benevolent scheme of payments, pension and superannuation funds, gratuity payments, granting longs leave and legal advice to workers;

v (x) to advice on provision of welfare facilities such as housing facilities, food, social and recreational facilities, sanitation, advise on individual personnel problem and children's education;

vi (xi) to advice the management on questions relating to training of learners, new-comers, apprentice, workers on transfer and promotion, instructors and supervisors, supervision and control of notice-board and information bulletins to encourage additional education; and attendance of workers at Technical Institutes;

vii (xii) to take measures which will serve to raise the standard of living of workers and in general promote their good being.

90. Qualifications

A person shall not be eligible for appointment as a Welfare Officer, unless he,

(a) possesses a degree of a University recognized by the State Government in this behalf;

(b) has obtained a Degree or Diploma in Social Science from any institution recognised by the State Government in this behalf; and

(c) has adequate knowledge of Hindi as also of the language spoken by the majority or the workers in the factory to which he is to be attached:

Provided that in the case of person who has been entrusted with the duties of a Welfare Officer, six months prior to the commencement of these Rules, the State Government may, subject to such conditions, as it may specify relax all or any of the aforesaid qualifications.

91. Conditions of Service

(a) The posts of Welfare Officer shall be advertised in at least two newspapers having a wide circulation in the State, one of which should be in English Newspaper and selection made from amongst the applicants applying for and interviewed by a committee appointed by the Factory Management and the appointment notified to the Government or such authority as the State

Government may specify for the purpose, giving full details of the qualification and experience etc., of the officer appointed and the terms and conditions of service.
(b) The candidate appointed as Welfare Officer shall be given a status corresponding to the status of the other heads of departments of the factory.
(c) The term and conditions of service of the Welfare Officer shall be the same as for other members of the staff of his status in the factory: Provided in case of discharge or dismissal Government's prior concurrence shall have to be obtained.
(d) 90[The scale of pay of welfare officers (excluding Dearness Allowance, or other Allowances) shall not be less than the scale given below (a) For Chief Welfare Officer Rs. 800-50-1300;
(b) For other welfare officers. Rs. 500-30-800-50-1000.]
(c) The salaries referred to in (d) above, shall be exclusive of Dearness Allowances or any other allowance which it is customary to pay to Officers of similar status employed in the factory.

Scale No. 1
For factories ordinarily employing 500 to 1000 workers per day Rs. 375-25-500-30- 850.
Scale No. 2
For factories ordinarily employing 1001 to 2,000 workers per day Rs. 500-30-800-50- 1,000.
Scale No. 3
For factories ordinarily employing more than 2,000 workers per day.

92. Powers of exemption

The State Government may by notification in the Official Gazette, exempt any factory or class of description of factories from the operation of all or any of the provisions of these

Rules subject to such alternative arrangements as may be approved.

CHAPTER VI WORKING HOURS OF ADULTS

1 **93. Compensatory holidays** (1) Except in the case of workers engaged in any work which for technical reasons must be carried on continuously throughout the day, the compensatory holidays to be allowed under sub-section (1) of Section 53 of the Act, shall be so spaced that not more than two holidays are given in one week.

1 (2) The Manager of the factory shall display, on or before the end of the months in which holidays are lost, a notice in respect of workers allowed compensatory holidays during the following month and of the dates thereof, at the place at which the Notice of Periods of Work prescribed under Section 61 is displayed. Any subsequent change in the notice in respect of any compensatory holiday shall be made not less than three days in advance of the date of that holiday.

1 (3) Any compensatory holiday or holidays to which a worker is entitled shall be given to him before he is discharged or dismissed, and shall not be reckoned as part of any period of notice required to be given before discharged or dismissal.

(4) (a) The Manager shall maintain a register in Form No. 10:
(b) The register maintained under clause (a) shall be reserved for a period of three years after the last entry in it, and shall be produced before the Inspector on demand.

(1) The Manager of every factory in which workers are exempted under Section 69 or 65 from the provisions of Section 51 or 54 shall keep a muster roll in Form No. 11. In this muster roll shall be correctly entered the overtime hours of work and payment therefore of all exempted workers. The muster roll in Form No. 11 shall always be available for inspection. The overtime wages accruing during the wage period shall be paid in accordance with Section 5 of the Payment of Wages Act, 1936.
(2) [91][The period of overtime worked shall also be entered in overtime slips in duplicate, in Form No. 12 a copy of which duly signed by the Manager or by person duly authorized by him shall be given to the worker immediately after completion of the

Provided that, if the Chief Inspector of Factories is of the opinion that any muster roll or register maintained as part of the routine of the factory of return made by the Manager, gives in respect of any or all of the workers in the factory the particulars required for the enforcement of Section 53, he may, by order in writing, direct that such muster roll or register or return shall, to the corresponding extent, be maintained in place of and be treated as the register or return required under this rule for that factory.

94. Muster roll for exempted factories

(1) The register of adult workers shall be in Form No. 14.
(2) The Manager shall be responsible for production, on demand, of the register, irrespective of the fact whether he is present or not during an inspection.
(3) The register shall be preserved for three years after the close of the year to which it relates.

overtime work.]

95. Notice of periods of work for adults

The notice of periods of work for adult worker shall be in Form No. 13.

96. Register of adult workers

97. [92][Persons defined to hold position of supervision or management of confidential capacities

(a) the following persons shall be deemed to hold position of supervision or management or to have been employed in a confidential capacity. (i) Manager and Assistant Manager;
(ii) Heads of Department and their Assistants;
(iii) Foreman;
(iv) Engineers and Assistant Engineers but not Boiler Attendants;
(v) Store Keeper and their Assistants;
(vi) Technical experts;
(vii) Labour Welfare Officers;
(viii) Inspectors;
(ix) Charge men;
(x) Workshop Overseers.
(xi) Official Assistants;
(xii) Clerks;

(xiii) Time Keepers;
(xiv) Watchman;
(xv) Messengers;
(xvi) Fire Brigade man:

Supervision or Management;
Confidential Capacity
Provided that clerks engaged in weighing, measuring, checking and entering goods etc. in the Department of factory whose work must necessarily be carried out in

proximity to the manufacturing process shall not be considered to be employed in confidential capacity;
(b) Any other persons who in the opinion of the Chief Inspector holds a position of supervision or management is employed in a confidential capacity. (1) A list of workers in a factory to whom Provisions of sub-section (1) of Section 64 have been applied shall be submitted in duplicate by the Manager in form No. 15 to the Chief Inspector for approval.
(2) The list approved by the Chief Inspector under sub-rule (1) shall be pasted at the back of the front cover of the Inspection Book.

98. Approval and maintenance of list of exempted workers
99. Exemption of certain adult workers
Adult workers engaged in factories specified in column No. 4 (3) of the schedule hereto annexed on the work specified in column No. (4) of the said schedule shall be exempted from the provisions of the sections specified in column No. (5) thereof, subject to the conditions if any specified in column No. (6) of the said schedule and also to the following conditions
CONDITIONS
a (a) Except in respect of exemption under clause (a) of sub-section (2) the restrictions imposed under Section 64 (4) shall apply to all exemptions granted under this rule, (i) the total number of hours of works in any day shall not exceed 10 (ten) inclusive of overtime;
a (ii) the spread over, inclusive of intervals for the rest, shall not exceed twelve hours in any one day:
a (iii) the total number of hours of work in a week including overtime shall not exceed sixty;
(iv) the total number of hours of overtime shall not exceed fifty for any one quarter. (a) "Quarter" means a period or the conclusive months beginning on the 1st January, the 1st of April, the 1st of July or the 1st of October.
(b) Overtime wages shall be paid in accordance with the provisions of Section 59 and Rule. 94.

Provided that the State Government may in respect of any or all of the categories of workers referred to in clause (d) of sub-section (2) make rules prescribing the circumstances in which,

and the conditions subject to which, the restrictions imposed by clause (i) and clause (ii) shall apply in order to enable shift worker to work the whole or part of a subsequent shift in the absence of a worker who has failed to report for duty;
Explanation

(c) The exemption granted under Section 54 shall not apply in the case of female workers.
(d) whenever workers are exempted by Section 52 they shall be granted compensatory holiday in accordance with the provisions of Section 53 and Rule 93.

SCHEDULE PRESCRIBED UNDER RULE 99

S. No	Section of the Act empowering the grant of exemption	The class of factories	Nature of exempted work	Extent of exemption	Conditions subject to which the exemption is granted. (These conditions are in addition to those specified under Rule 99)
(1)	(2)	(3)	(4)	(5)	(6)
1.	64 (2) (a) and 64 (3)	All Factories	Urgent Repairs. The following shall be considered to be urgent repairs: (a) Repairs to any Part of the machinery, plant or a structure of a Factory which are of such nature that delay in their execution would involve danger to human life or safety or stoppage of the manufacturing process.	(a) Within 24 hours of commencement of work on urgent repairs a written notice shall be sent to the Inspector describing briefly the nature of the urgent repairs and specifying the estimated time required to execute them. Before any worker is employed on overtime work entry of the proposed overtime shall be made in the overtime register	
(b) Breakdown repairs to the motive power transmission or other essential parts of the factories, Collieries, railways, motor transport, gas electrical generating and transmission pumping or similar essential or public utility services carried out in general engineering works and foundries and which are necessary to enable such concerns to maintain their	Sections 51, 52,54,56,61			(b) No worker shall be employed for more than 14 consecutive days without a holiday for the whole day or in the alternative a net period of at least 36 consecutive hours.	

manufacturing process, production or service during normal working hours,		

(a) Repairs to commercial air craft done in a factory which are essential to enable aircraft to leave port in their proper time or continue their normal operations in air worthy conditions as the case may be.				(c) The average weekly hours of work of any such worker in any month shall not exceed 60.
(b) Repairs in connection with a change of motive power for example from a steam to electricity or vice versa. When such work cannot possibly be done without stoppage of the normal manufacturing process. Note- Periodical cleaning and lubricating are not included in the term 'URGENT REPAIRS'.				(d) No worker shall be employed for more than 15 hours on any one day.
2.	64 (2) (b) (1)	(1) All factories	(a) work in connection with the mill gearing the electrical driving or lighting apparatus the mechanical or electrical lifts or steam of water pipes or pumps of factory.	(a) No worker shall be allowed to work for more than 54 hours in any week.
(a) Work of examining or repairing any machinery or other parts of the plant which is necessary for carrying on work in the factory.				(b) No worker shall be employed for more than 10 hours in any one day.
(b) Work in boiler houses and engine room such as lighting fire in order to raise steam or generating gas preparatory to the commencement of regular work in the factory or of engine drivers and engine oilers.		Sections 51, 54, 55, and 56.		(c) Interval of at least half an hour for food and rest shall be given on each working day to all the workers employed on such work
(b) Work of cleaning work places.				(d) The spread-over shall not exceed 12 hours.

(c) Work of Departmental oilers and belt men.					
(d) Work in connection with pumping operations.					
(2) Gur Factories	(e) Work in foundries on the cupola and casting on the day the cupola is worked.		Sections 51, 55, and 56.		(a) No workers shall be employed for more than 54 hrs. in any one week.
(3) Dyeing and Bleaching Factories or Depth.		Work performed by Kier man			(b) The interval for food and rest totalling 1 hour if the working hours exceed 8- 1/2 hours in a day or half an hour if working hours, do not exceed 8-1/2 hours shall be given to each worker every day.
3.	64 (2)(c) and 64 (3)	(1) All Factories	(a) Work performed by workers on lighting ventilation and humidifying apparatus.	Sections 51, 54, 55 and 61.	No worker shall be employed for more than 54 hours in only one week.
(b) Work performed by fire pump man.					
64(2)(c)	(2) Cotton Ginning and Pressing Factories.	Work of Fitters Oilmen Belt and Rope men, Turners and Blacksmiths.	Section 51		No worker shall be allowed to work for more than 54 hours in any week.
64 (2) (c)	(3) Cotton, Spinning and Weaving Mills.	Work involved in cleaning Blow room Flue	Sections 51, 54 and 56		(a) No worker shall be allowed to work for more than 54 hours in any week.
(b) No worker shall be allowed to work in such a manner that the spread over exceed 10 1/2 hours except in one day in a week, previously notified to the Inspector when it shall not exceed 12 hours.					
64 (2) (c)	(4) Pottery	Work on kilns other continuous fire klins.	Sections 51 and 54.		No workers shall be employed for more than 54 hours in any one week.

64 (2) (d)	(1) All Factories	(a) workers engaged in the work which for technical reasons must be carried continuously and in such, emergencies when their respective relievers at the end of their shifts have failed to report for duty.	In the absence of worker who has failed to report for duty a shift worker shall be allowed to work, the whole or part of a subsequent shift provided: (a) The next shift of the shift worker shall not commence before a period of 8 hours have elapsed.
(b) work in connection with generation and supply of steam, electricity and water.		(b) Within 24 hours of the commencement of the subsequent shift notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the subsequent shift.	
(c) The exemption shall be restricted to only male adult workers.			
(d) No workers shall be employed for more than 14 consecutive days without a rest period of at least 24 consecutive hours.			
(2) Cement Factories and Asbestos factories.		(a) No worker shall be employed for more than 56 hours in any one week.	
(3) Oil Mills and Vegetable Hydrogenation		(b) No worker shall be employed for more than 14	

consecutive days without a rest period of allowed 24 consecutive hours.			
1 (4) Ice Factories. 2 (5) Distilleries	Workers engaged on a manufacturing process which is essentially continuous.	Sections 51, 52, 54, 55, and 56	(c) The workers shall be employed on daily 8 hours shift.
1 (6) Paper and Card-Board Factories. 2 (7) Chemical Factories 3 (8) Carbolic acid gas factories.		(d) Interval of at least 1/2 hour for food and rest shall be given on each working day to all workers employed on such work.	

1 (9) Cold Storage 2 (10) Electric supply power houses and Auxiliaries	Operation and maintenance of prime movers and auxiliaries generators, transformers and switch gear, boilers and auxiliaries.	(a) No workers shall be employed for more than 56 hrs. in any one week.
(11) Pottery work and Ceramic Industry		(a) Work or polisher in all potteries.
(b) Workers working in continuous fire kilns in potteries.		(b) No worker shall be employed for more than 14 consecutive days without rest period at least 24 consecutive hours.
(12) Water works	Worker employed in water works.	Sections 51, 52, 54, 55 and 56
(13) Glass Factories	(a) Work in attending to furnaces and blowing and moulding.	(c) The workers shall be employed on daily 8 hours shift.
(b) Workers employed in a healing section.		(d) Interval of at least 1/2 hour for food and rest shall be given on each working day to all workers employed on such work.
(14) Spinning and Weaving Mills.		Work of workers employed in Dyeing, Printing

and Bleaching Departments and Kiers.		
(15) Soap Factories	(a) Work on Boilers and Generators, Motors, Switch Boards.	
(b) Work on boiling scratching and framing.		
(16) Biscuits Factories and confectionery.	Work on mixing of the dough, backing, drawing and packing Biscuits and confectionery	(a) No worker shall be employed for more than 56 hrs. in any one week.
(17) Starch Factories	Work on manufacturing of starch and its by products except the Engineering and workshop.	
(18) Sugar Factories and Refineries working on the vacuum pan system.	(a) Workers attending to boilers Engines Motors Switch Boards and pumps.	(b) No workers shall be employed for more than 14 consecutive days without a rest period of at least 24 consecutive hours.

(b) Workers handling and crushing cane and handling Gur to melting bow ups. (c) Workers engaged in filtration clarification and crystallization of cane juice and Gur Liquor. (d) Workers engaged in evaporation and concentration of cane juice and Gur Liquor. (e) Workers engaged in curing of the messecuits. (f) Workers engaged in drying, crushing and bagging of sugar. (g) Engaged in burning lime stones sulfur for the production of carbon dioxide and sulfur dioxide and sulfur dioxide gases for the clarification of cane juice.			(c) The workers shall be employed on daily 8 hours shift.
(19) Wood Product (Cutch and Kattha Factories)	Work of Engines, Boilers, Motors, Switch, Board, Pumps, Mechanical and sawing and Clipping, Autoclaves evaporation,		Sections 51, 52, 54, 55 and 56.
refrigeration, filtration and drying in wood products.			
(20) Iron and Steel factories	All works on steel furnaces		(d) Intervals at least hour for food and rest shall be given on each working day to all workers employed on such work.
(21) Rolling Mills.		Work of ingot transporters, fumace-ment ongmen such as roughters and toppers (workers on the cooling bed, waterman, strengthen workers engaged in stacking of finished materials an attendance of shears and other auxiliaries machineries).	
(22) Lime Bhattas	Workers employed on kilns.		The worker shall be employed on 8 hours shift.
(23) Ferrous and nonferrous metal factories.	(a) worker employed on furnace. (b) Worker employed in hetrolling.	Sections 54 and 55(b)	All interval of at least 1/2 hour shall be given to each worker for food and rest.
(c) Worker employed in foundries.			
(24) Shellic Factories.	Worker employed in Bhattas.		Sections 54 and 55

(25) Oil tank installation.	Work performed by workers connected with pumping operations.	Sections 51, 52, 54, 55 and 56.	(a) No worker shall be allowed to be employed for more than 56 hours in any week.
(b) A compensatory rest period of at least 24 Consecutive hours shall be given to each worker after the cessation of pumping operation. (c) Notice of such operation with the number of work be sent to the Inspector immediately after the commencement of such work. .			

(26) Flour mills.	All work.	Sections 52 and 55	(a) The workers shall ordinarily be employed on 8 hours shift. (b) An interval of at least 1/2 hrs. Shall be given to each worker, for food and rest.
(27) Tanneries	Work on soaking, liming, washing bathing, tanning, and drying and hides, kps. and skInserted	Sections 51 and 52.	(a) The Sunday work of such workers shall not exceed 4 hours. (b) No worker shall be allowed to work for more than 58 hours in any one week.
(28) Brick factories	Work of firemen on kilns.	Section 55.	
(29) Rubber Plastic Factories.		All work on curing processes.	
(30) 93[All factories.	Work automatic equipment engaged in galvanizing, anodizing enamellings.	Sections 51, 52, 54, 55, 56 and 58.	1 (1) The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of Section 64. 1 (2) The exemption shall be granted only in respect of adult mate workers.]

5.	64(2)	(1) Motor repairs workshop and service station.	All work.	No worker shall be employed for more than 4 hours on a weekly holiday and the holiday so lost be compensated within a period of 3 months.
(2) Dairies			All work in dairy factory other than printing and manufacturing of container for milk cream, Ghee and butler.	
(3) Printing Press.			Workers engaged in daily newspapers.	
6.	64 (2)	(1) Cotton Ginning and Pressing	Work of Fitters, Oilment Biet and Rope men,	Section 52

Factories.			Turners and Blacksmiths.		
(2) Canning Industries and perfumeries.			All work.		
(3) Rice Mills.			Work on drying platforms.		
(4) Opium Factories.			Work on removing opium from railways wagons to be import shed.		
7.	64 (2)(h)	(1) All factories.	Workers engaged in engine room or boiler houses or in attending to power plant or transmission machineries.	Section 52	No worker shall be employed for more than 14 consecutive days without rest period of at least 24 consecutive hours.
8.	64 (2)(f)	Printing Press engaged in printing of newspapers.	(a) Workers engaged in composing, linotype and Monotype machineries and printing machines, folding and dispatching, who are held up on account of the breakdown of the machineries.	Sections 51, 54 and 56.	(a) No worker shall be employed for more than 56 hours in any one week.
(b) Workers employed on teleprinter service.			(c) No worker shall be employed for more than 10 hours on any one day. (d) The spread over inclusive of interval for food and rest shall not 12 hours on any one day.		

9.	64 (2)(i)	(1) All Factories	Workers engaged in loading and unloading of Railway wagons, lorries and trucks.	Sections 51, 52, 54 and 56.	(a) No worker shall be employed for more than 56 hours in any one week. (b) No worker shall be employed for more than 14 consecutive days without a rest period to at least 24 consecutive hours. (c) No worker shall be employed for more than 10 hrs. on any one day. (d) The spread over inclusive of interval for food and rest

shall not exceed 12 hours on any one day.					
10.	64(2)(k)	(1) All Factories.	Workers engaged in work of National importance notified by the State Government.	Sections 51, 52, 54, 55 and 56	(a) No worker shall be employed for more than 56 hours in any one week.
(a) Work in connection with printing of electoral rolls and Ballot Papers for conduct of elections to Parliament and Legislature of every State.					
(b) Work of manufacture and testi of arms, ammunition, vehicles and equipments for defense requirements in defense factories owned by the Government of India.			(b) No worker shall be employed for more than 14 consecutive days without a rest period of at least 24 consecutive hours.		
(c) Work of manufacture of currency notes, paper and printings of currency notes, in security papers mills and other factories owned by the Government of India, and			(c) The workers shall be employed on daily 8 hours' shift.		
(d) Work in connection with the manufacture of the articles of food, medicines and clothing used for relief work in case of flood and/or earthquake.			(d) Interval of at least 1/2 hours for food and rest shall be given on each working day to all workers employed on such work.		

11.	94["64 (2) (k)"	"Any factory or class or description of factories as may be notified by State Government in the Official Gazette."	"Work of national importance as may be notified by the State Government in the Official Gazette."	Sections 51, 52, 54, 55, 56 and 58.	1 (1) The limit of work inclusive of overtime shall not exceed those mentioned in sub- section (4) of Section 64. 2 (2) The Exemption shall be limited to adult male worker."]

95[Explanation

(1) The shall be considered to be urgent repairs, (a) repairs to any part of the machinery, plant or structure of a factory which are of such a nature that delay in their execution would involve danger to human life or safety or the stoppage of manufacturing process;

(b) breakdown repairs to the motive power transmission or other essential plant of other factories, collieries, railways, dockyards, harbours, transways, motor transport, gas, electrical generating and transmission, pumping or similar essential or public utility services carried out in general engineering works and foundries and which are necessary to enable such concerns to maintain their main manufacturing processes, production or services during normal working hours;

(c) repairs to deep-sea ships and repairs to commercial air-craft done in a factory which are essential to enable such ships or air- craft to leave port at proper time or continue their normal operations in a sea-worthy or air-worthy condition, as the case may be; and

(d) repairs in connection with a change of motive power, for example, from steam to electricity or vice versa, when such work cannot possibly be done without stoppage of the normal manufacturing process.

(2) Periodical cleaning is not included in the terms "examining" or "repairing".]

CHAPTER VII EMPLOYMENT OF YOUNG PERSONS

100. Notice of period of work for children (1) The Register of child workers shall be in Form No. 17.

(2) The register of child workers shall be preserved for a period of three years after the last entry in it, and shall be produced before the Inspector on demand.

The notice of periods of work for child workers shall be in Form No. 16.

101. Register of child workers

CHAPTER VIII LEAVE WITH WAGES

102. Leave with wages register (1) The Manager shall keep a register in Form No. 18 hereinafter called the "Leave with Wages Register"

Provided that if the Chief Inspector is of the opinion that any muster roll or register maintained as part of the routine of the factory, or return made by the Manager; gives in respect of any or all of the workers in the factory, the particulars required for the

(2) The Leave with Wages Register shall be preserved for a period of three years after the last entry in it, and shall be produced before the Inspector on demand.
(1) The Manager shall provide each worker with a card in Form No. 19 (hereinafter called the leave card). The leave card shall be the property of the worker and it shall not be surrendered to the management, unless demanded by the Manager or his agent for the purpose of making entries therein. It shall not be kept by the Manager for more than a week for the purposes of effecting entries therein.
(1) Except in regard to a worker who has given notice of his intention not to avail himself of leave with wages in the year in which these fall due, the manager shall, by a notice displayed at the place at which the notice of the periods of works required by Section

enforcement of the Chapter VIII of the Act, he may, by order in writing, direct that such muster roll or register or return shall, to the corresponding extent, be maintained in place of and be treated as the register or return required under this rule in respect or that factory.

103. Leave Card

A duplicate copy of the leave card may be granted on payment of 15 n.p.:

[96][Provided that in the case of a worker who is discharged or dismissed from service during the course of the year, that is, who is covered under sub-section (3) of Section 79 of the Act, the manager shall issue an abstract from the register of leave with wages within a week from the date of discharge of dismissal as the case may be.]

103-A. [97][Medical certificate

If any worker is absent from work and it appears that his absence is due to illness, he shall, if so required by his manager by a notice in writing, submit a medical certificate signed by a registered medical practitioner or by a registered or recognized Vaid or Hakim stating the cause of the absence and the period for which the worker is, in the opinion of such medical practitioner, Vaid or Hakim, unable to attend to his work."

103-B. Notice to Inspector of involuntary unemployment

The manager shall give, as soon as possible, a notice to the Inspector of every case of involuntary unemployment of workers, giving number of unemployed and the reason for their unemployment. Entries to this effect shall be made in the register of leave with wages and the leave book in respect of each worker concerned.

103-C. Notice by worker

Before or on the completion of a period of twelve months' continuous service in the factory, as defined in Section 79, a worker may give notice to the manager of his intention not to avail himself of holidays falling due in the following period of twelve months. The manager shall make an entry to that effect in the register of leave with wages and in the leave book of the worker concerned.]

104. [98]**[Notice of leave with wages**

(2) As far as circumstances permit, members of the same family comprising husband, wife and children shall be allowed leave on the same date.
(3) he Manager may alter the dates fixed for leave only after giving a notice of four weeks to the worker.
(4) A worker may exchange the period of his leave with another worker, subject to the approval of the Manager.]
(1) Where an exemption is granted under Section 84, the Manager shall maintain a register showing the position of each worker as regards leave due, leave taken and wages granted.
(2) He shall display at the main entrance of the factory, a notice giving full details of the system established in the factory for leave with wages and shall send a copy of it to the Inspector.
(3) No alteration shall be made in the scheme approved by the State Government at the time of granting exemption under Section 84 without their previous sanction.

61 is displayed, fix the dates on which leave with wages shall be allowed to each worker or group of workers including any worker who has accumulated his leave. This date shall not, in an individual case, be earlier than four weeks from the date of notice unless the worker agrees to take the leave earlier. The necessary entries shall be made in the register of leave with wages and the leave card of the worker concerned.

105. Payment of wages if the worker dies

If a worker dies before he resumes work, the balance of his pay, due for the period of leave, shall be paid to his nominee within one week of the receipt of intimation of death of the worker.
For this purpose each worker shall submit a nomination in Form No. 20 to which the nominee has subscribed his signature attested by the two witnesses and duly signed by himself before an officer of the factory. The nomination shall, remain in force until it is cancelled or revised by another domination.

106. Register to be maintained in case of exemption under Section 84

CHAPTER IX SPECIAL PROVISIONS

107. [99]**[Dangerous manufacturing processes or operations** (1) The following manufacturing processes or operations when carried on in any factory are declared to be dangerous operations under Section 87,

(i) Manufacture of aerated water and processes incidental thereto.
(ii) Electrolytic plating or Oxidation of metal articles by use of an electrolyte containing chromic acid of other chromium compounds.
(iii) Manufacture and repair of electric accumulators.

i (iv) Glass manufacture.
ii (v) Grinding or glazing of metals.
iii (vi) Manufacture and treatment of lead and certain compounds of lead.
iv (vii) Generating Petrol gas from petrol.

v (viii) Highly flammable liquids and flammable compressed gases.
vi (ix) Liming and tanning of raw hides and skins and processes incidental thereto.
vii (x) Lead Process carried in Printing Press and Types Foundries.
viii (xi) Chemical Works.
ix (xii) Manufacture of Pottery.
x (xiii) Compression of Oxygen and Hydrogen by the Electrolysis of Water.
xi (xiv) Cleaning or smoothing roughening, etc. of articles by a jet of sand, metal shots, or grit or other abrasive propelled by a blast of compressed air or steam.
xii (xv) Handling and processing of Asbestos, Manufacture of any article of asbestos and any other process of manufacture or otherwise, in which asbestos is used in any form.
xiii (xvi) Handling and manipulation of corrosive substances.
xiv (xvii) Manufacture of articles from refractory materials.
xv (xviii) Solvent Extractions Plants.
xvi (xix) Carbon Disulphide plants.
xvii (xx) Manufacture or Manipulation of Manganese and its compounds.
xviii (xxi) Applicable to factories in which Benzene or substances containing Benzene are manufactured, handled or used.
xix (xxii) Manufacture of Slate Pencils.
xx (xxiii) Manufacture or manipulation of dangerous pesticides.
xxi (xxiv) Manufacture or manipulation of carcinogenic dye intermediates.
xxii (xxv) Operations involving high noise levels.
xxiii (xxvi) Manufacture Rayon by viscose process.
(xxvii) Operations in Foundries. (2) The provisions specified in the schedules annexed hereto shall apply to any class or description of factories where in dangerous manufacturing processes or operations specified in each schedule are carried on and the term 'First employment' appearing in various schedule means employment or re-employment therein after ceasation of employment in such processes or operations for a period exceeding three calendar months.

i (3) Notwithstanding the provisions specified in the schedules annexed to this rule, the Inspector may by issue of order in writing to the manager or occupier or both, direct them to carry out such measures and within such time as may be specified in such order with a view to removing conditions dangerous to-the health and safety of the workers, or to suspend any process where such process constitutes, in the opinion of the Inspector on the basis of his findings, an imminent danger of poisoning or toxicity or a major hazard.
(4) (a) For the medical examination of workers to be carried out by the certifying surgeon as required by the schedule annexed to this rule, the occupier shall pay fees at the rate of Rs. 20/- per examination of each worker every time he is examined.
(b) The fees prescribed in clause (e) shall be exclusive of any charges for biological, radiological or other test, which may have to be carried out in connection with the medical examination. Such charges shall be payable by the occupier.
(c) The fees to be paid for medical examination shall be payable to the certifying Surgeon who shall credit all or the part of as may be specified by the State Government by order from time to

time, collection of fees made under this rule in the Government treasury at the end of each quarter under the revenue head.
(d) Any register or record of medical examinations and tests connected therewith required to be carried out under any of the schedules annexed thereto in respect of any worker shall be kept readily available to the Inspector and shall be preserved till the expiry of two years after the worker ceasee to be in employment of the factory.
(e) The certifying surgeon after examining a worker, employed/or to be employed in any dangerous operation as specified in the following schedules, shall issue a certificate of fitness in Form 32.]

"0230-Labor & Employment
104-Receipt under the Factories Act, 1948."

SCHEDULE I

MANUFACTURE OF AERATED WATERS AND PROCESSES INCIDENTAL THERETO

1 1. Fencing of machines

All machines for filling bottles or siphons shall be so constructed, placed or fenced as to prevent, as far as may be practicable, a fragment of a bursting bottle or siphon from striking any person employed in the factory.
2. Face-guards and gauntlets (1) The occupier shall provide and maintain in good condition for the use of all persons

(a) suitable face-guards to protect the face, neck and throat, and
1 (b) suitable gauntlets for both arms to protect the whole hand arms Provided that, (i) paragraph 2 (1) shall not apply where bottles are filled by means of an automatic machine so constructed that no fragment of a bursting bottle can escape, and
1 (ii) where a machine is so constructed that only one arm of the bottler at work upon it is exposed to danger, a gauntlet need not be provided for the arm which is not exposed to danger.

(2) The occupier shall provide and maintain in good condition for the use of all persons engaged in corking, crowing, screwing, wiring, foiling, capsule, sighting or labeling bottles or siphon, (a) suitable face-guards to protect the face, neck and throat, and
(b) suitable gauntlets for both arms to protect the arm and at least half of the palm and the space between the thumb and forefinger. 3. Wearing of face-guards and gauntlets All persons engaged in any of the processes specified in paragraph 2 shall, while at work in such processes wear the face-guards and gauntlets provided under the provisions of the said paragraph.

engaged in filling bottles or safeness

100[SCHEDULE II

ELECTROLYTIC PLATING OR OXIDATION OF METAL ARTICLES BY USE OF AN ELECTROLYTE CONTAINING ACIDS BASES OR SALTS OF METALS SUCH AS CHROMIUM NICKEL CADMIUM ZINC COPPER SILVER GOLD ETC.

1. Definition (a) "electrolytic process" means the electrolytic plating or oxidation of metal articles by the use of an electrolyte containing acids, bases or salts of metals such as chromium, nickel, cadmium, zinc, copper, silver, gold, etc.;

(b) "bath" means any vessel used for an electrolytic process or for any - subsequent process;

For the purposes of this Schedule,

(c) "employed" means employed in any process involving contact with liquid from a bath.

1 2. Exhaust draught

An efficient exhaust draught shall be applied to every vessel in which an electrolytic process is carried on. Such draught shall be provided by mechanical means and shall operate on the vapor or spray given off in the process as near as may be at the point of origin. The exhaust draught appliance shall be so constructed, arranged and maintained to prevent the vapor or spray entering into any room or place in which work is carried on.

1 3. Prohibition relating to women and young person

No women, adolescent or child shall be employed or permitted to work at a bath.

1 4. Floor of work-rooms

The floor of every work room containing a bath shall be impervious to water. The floor shall be maintained in good and level condition and shall be washed down at least once a day.

1 5. Protective devices

(1) The occupier shall provide and maintain in good and clean condition the following articles of protective devices for the use of all persons employed on any process at which they are liable to come in contact with liquid from a bath and such devices shall be worn by the persons concerned, (a) water-proof aprons and bibs; and

(b) for persons actually working at a bath, loose fitting rubber gloves and rubber boots or other waterproof footwear and chemical goggles.

(2) The occupier shall provide and maintain for the use of all persons employed suitable accommodation for the storage and drying of protective devices.

6. Water facilities

1 (1) There shall be provided and maintained in good repairs for the use of all persons employed in electrolytic process and processes incidental to it (a) a wash place under cover, with either (i) a trough with a smooth impervious surface fitted with a waste pipe, and of

sufficient length to allow at least 60 cm. for every 5 persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 cms.; or

1 (ii) at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and having a constant supply of water laid on.

(b) a sufficient supply of clean towels renewed daily, and soap or other suitable cleaning material.

(2) In addition to the facility in sub-paragraph (1) an approved type of emergency

shower with eye fountain shall be provided and maintained in good working order. Wherever necessary, in order to ensure continuous water supply storage tank of 1500 liters capacity shall be provided as a source of clean water for emergency use.

1 7. Cautionary placard

A cautionary placard in the form specified below and printed in the language of the majority of the workers employed shall be affixed in a prominent place in the factory where it can be easily and conveniently read by the workers.

CAUTIONARY NOTICE

Electrolytic Plating

1 1. Chemicals handled in this plant are corrosive, and poisonous.

2 2. Smoking, chewing, tobacco, eating food or drinking, in this area is prohibited. No food stuff or drink shall be brought in this area.

3 3. Some of these chemicals may be absorbed through the skin and may cause poisoning.

4 4. A good wash shall be taken before meals.

5 5. Protective devices supplied shall be used while working in this area.

6 6. Spillage of the chemicals on any part of the body or on the floor shall be immediately washed away with water.

7 7. All workers shall report for the prescribed medical tests regularly to protect their own health.

8. Medical facilities and records of examinations and tests. (1) The occupier of every factory in which electrolytic processes are carried on shall, (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector of Factories;

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a); and

(c) maintain a sufficient supply of suitable barrier cream, ointment and impermeable water proof plaster in a separate box readily accessible to the workers and used solely for the purpose of keeping substances. In case cyanides are used in the bath, the box shall also contain an emergency cyanide kit.

(2) The medical practitioner shall examine all workers before they are employed in electrolytic processes. Such examination in case of chrome plating shall include inspection of hand, forearms and nose and will be carried out once at least in every fortnight.
(3) The record of the examinations, referred to in sub-paragraph (2) shall be maintained in a separate register approved by the Chief Inspector of Factories

which shall be kept readily available for inspection by the Inspector.
9. Medical examination by the. Certifying Surgeon (1) Every worker employed in the electrolytic processes shall be examined by a Certifying Surgeon before his first employment. Such examination shall include X- ray of the chest and, (a) in case of chromium plating include examination for nasal septum preformation and test for chromium in urine;
(b) in case of nickel plating, test for nickel in urine; and
(c) in case of cadmium plating, test for cadmium urine and 2 micro globulins in urine.

(2) No worker shall be employed in any electrolytic process unless certified fit for such employment by the Certifying Surgeon.
(3) Every worker employed in the electrolytic process shall be re-examined by a Certifying Surgeon at least once in every year, except in case of the workers employed in cadmium, chromium and nickel plating processes for whom this examination shall be carried out once in every six months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified under sub-paragraph (1) excluding the X-ray of the chest which shall not be required normally to be carried out earlier than once in three years.
(4) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 21.
(5) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
(6) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the electrolytic processes on the ground that continuance therein would involve danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents shall also include the period for which he considers that the said person in unfit for work in the said processes. The person declared unfit in such circumstances shall be provided with alternate placement facility unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected shall be suitably rehabilitated.
(7) No person who has been found unfit to work as said in sub-paragraph (6) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.

SCHEDULE III

MANUFACTURE AND REPAIR OF ELECTRIC ACCUMULATORS

1 1. Savings

This Schedule shall not apply to the manufacture or repair of electric accumulators or parts thereof not containing lead or any compound of lead; or to the repair on the premises, of any accumulator forming part of a stationary battery.

2. Definition (a) "Land process" means the melting of lead or any material containing lead, casting, pasting, lead burning, or any other work, including trimming or any other abrading or cutting of pasted plates involving the use, movement of manipulation of, or contact with any oxide of lead;

(b) "Manipulation of raw oxide of lead" means any lead process involving any manipulation or movement of raw oxides of lead other than its conveyance in a receptacle or by means of an implement from one operation to another;

For the purposes of this Schedule

(c) 101[----------]

1 3. Prohibition relating to women and young person

No woman or young person shall be employed or permitted to work in any lead process or in any room in which the manipulation of raw oxide or lead or pasting is carried on.

4. Separation of certain processes (a) Manipulation of raw oxide of lead;

(b) Pasting;

(c) Drying of pasted plates;

(d) Formation with lead burning ("tacking") necessarily carried on in connection therewith;

(e) Melting down of pasted plates.

Each of the following processes shall be carried on in such a manner and under such conditions as to secure effectual separation from one another, and from any other process,

1 5. Air space

In every room in which a lead process is carried on, there shall be at least 500 cubic feet of air space for each person employed therein, and in computation this air space no height over 12 feet shall be taken into account.

1 6. Ventilation

Every work-room shall be provided with inlets and outlets of adequate size as to secure and maintain efficient ventilation in all parts of the room.

1 7. Distance between workers in pasting room

In every pasting-room the distance between the centre of the working position of any paster and that of the paster working nearest to him shall not be less than five feet.

1 8. Floor of work-rooms

(1) The floor of every room in which a lead process is carried on shall be, (a) of cement or similar material so as to be smooth and impervious to water;
(b) maintained in sound condition;
(c) kept free from materials, plant, or other obstruction not required for, or produced in the process carried on in the room.

(2) In all such rooms other than grid casting shops the floor shall be, (a) cleansed daily after being thoroughly sprayed with water at a time when no other work is being carried on in the room.

(3) In gird casting shops, the floor shall be cleansed daily.
(4) Without prejudice to the requirements of sub-paragraphs (1), (2) and (3), where manipulation of raw oxide of lead or pasting is carried on, the floor shall also be, (a) kept constantly moist while work is being done;
(b) provided with suitable and adequate arrangements for drainage;
(c) thoroughly washed daily by means of a hose pipe.

9. Work-benches (a) have a smooth surface and be maintained in sound condition;
(b) be kept free from all materials or plant not required for, or produced in, the process carried on thereat; and, all such work-benches other than those in grid casting shops shall
(c) be cleansed daily either after being thoroughly damped or by means of a suction cleaning apparatus at a time when no other work is being carried on thereat; and, all such work-benches in grid casting shops, shall
(d) be cleansed daily; and, every work-bench used for pasting, shall-
(e) be covered throughout with sheet lead or other impervious material;
(f) be provided with raised edges;
(g) be kept constantly moist while pasting is being carried on.
(a) Melting of lead or materials containing lead;

The work-benches at which any lead process is carried on shall,
1 10. Exhaust draught

The following processes, shall not be carried on without the use of an efficient exhaust draught,

(b) Manipulation of raw oxide of lead, unless done in an enclosed apparatus so as to prevent the escape of dust into the work-room;
(c) Pasting;
(d) Trimming, brushing, filing or any other abrading or cutting of pasted plates giving rise to dust;
1 (e) Lead burning, other than, (i) "tacking" in the formation-room;
1 (ii) chemical burning for the making of lead linings for cell cases necessarily carried on in such a manner that the application of efficient exhaust is impracticable.

Such exhaust draught shall be effected by mechanical means, and shall operate on the dust or fume given off as nearly as may be at its point of origin, so as to prevent it entering the air of any room in which person work.

1 11. Fumes and gases from melting post

The products of combustion produced in the heading of any melting pot shall not be allowed to escape into a room in which person work.

1 12. Container for dross

A suitable receptacle with tightly fitting cover shall be provided and used for dross as it is removed from every melting pot. Such receptacle shall be kept covered while in the work-room, except when dross is being deposited therein.

1 13. Container for lead waste

A suitable receptacle shall be provided in every work-room in which old plates and waste material which may give rise to dust shall be deposited.

1 14. Racks and shelves in drying-room

The racks or shelves provided in any drying-room shall not be more than 8 feet from the floor nor more than 2 feet in width: provided that as regards racks or shelves set or drawn from both sides the total width shall not exceed 4 feet. Such racks or shelves shall be cleaned only after being thoroughly damped unless an efficient suction cleaning apparatus is used for this purpose.

1 15. 102[Medical facilities and records of examination and tests

(1) The occupier of every factory in which manufacture and repair of electric accumulaters is carried on shall, (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for

inspection by the Inspector.

15-A. Medical examination by Certifying Surgeon

1 (1) Every worker employed in lead processes shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for lead in urine and blood. ALA in urine haemoglobin content, stippling of cells and steadiness tests. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

2 (2) Every worker employed in the said process shall be re-examined by a Certifying Surgeon atleast once in every three calendar months. Such re- examination shall, wherever the Certifying Surgeon considers appropriate, include tests specified in sub-paragraph (1).
3 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 21.
4 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
5 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve danger to health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process being unfit for work in that process, shall be provided with alternate placement facilities by Factory management unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected shall be suitably rehabilitate.
6 (6) No person who has been found unfit to work as said in sub-paragraph (5) above, shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in these processes.]
16. Protective clothing (a) manipulation of raw oxide of lead;
(b) pasting;
(c) the formation-room;

Protective clothing shall be provided and maintained in good repair for all persons employed in, and such clothing shall be worn by the persons concerned. The protective clothing

shall consist of waterproof apron and waterproof footwear, and also, as regards persons employed in the manipulation of raw oxide of lead or in pasting, head coverings. The head coverings shall be washed daily.
1 17. Mess-room

There shall be provided and maintained for the use of all persons employed in a lead process and remaining on the premises during the meal intervals a suitable mess- room which shall be furnished with (a) sufficient tables and benches, and (b) adequate means for warming food. The means-room shall be placed under the charge of a responsible person, and shall be kept clean.
18. Cloak-room (a) a cloak-room for clothing put during working hours with adequate arrangements for drying the clothing if wet. Such accommodation shall be separate from any mess room;

(b) separate and suitable arrangements for the storage of protective clothing provided under paragraph 16.

1 (a) A wash-place under cover, with either: (i) a trough with a smooth impervious surface fitted with a waste pipe, without plug, and of sufficient length to allow of at least two feet for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than two feet; or

1 (ii) at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of water laid on;

1 (iii) a sufficient supply of clean towels made of suitable materials renewed daily, which supply, in the case of pasters and persons employed in the manipulation of raw oxide of lead, shall include a separate marked towel for each such worker; and

1 (iv) a sufficient supply of soap or other suitable be cleansing material and of main brushes.

(b) There shall in addition be provided means of washing in close proximity to the rooms in which manipulation of raw oxide of lead or pasting is carried on if required by notice in writing from the Chief Inspector.

There shall be provided and maintained for the use of all persons employed in a lead process,

1 19. Washing facilities

There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed in a lead process,

1 20. Time to be allowed for washing

Before each meal and before the end of the day's work, at least ten minutes, in addition to the regular meal times, shall be allowed for washing to each person who has been employed in the manipulation of raw oxide of lead or in pasting:

Provided that if there be one basin or two feet of trough for each such person, this rule shall not apply.

1 21. Facilities for bathing

Sufficient bath accommodation to the satisfaction of the Chief Inspector shall be provided for all persons engaged in the manipulation of raw oxide of lead or in pasting, and a sufficient supply of soap and clean towels.

1 22. Foods, drinks, etc., prohibited in work-rooms

No food, drink, pan and supari or tobacco shall be consumed or brought by any worker into any work-room in which any lead process is carried on.

SCHEDULE IV GLASS MANUFACTURE

1 1. Exemption

If the Chief Inspector is satisfied in respect of any factory or any class of process that, owing to the special methods of work or the special condition in a factory or otherwise, any of the requirements of this Schedule can be suspended or relaxed without danger to the persons employed therein, or that the application of this Schedule or any part thereof is for any reason impracticable, he may by certificate in writing authorise such suspension or relaxation as may be indicated in the certificate for such period and on such conditions as he may think fit.
2. Definitions (a) "Efficient exhaust draught" means localised ventilation effected by mechanical means, for the removal of gas, vapour, dust or fumes so as to prevent them (as far as practicable under the atmospheric conditions usually prevailing) from escaping into the air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove smoke generated at the point where such gas, vapour, fume, or dust, originate;
(b) "Lead compound" means any compound of lead other than galena which, when treated in the manner described below, yield to an aqueous solution of hydrochloric acid a quantity of soluble lead compound exceeding, when calculated as lead monoxide, five per cent of the dry weight of the portion taken for analysis.

For the purpose of this Schedule,
The method of treatment shall be as follows,
A weight quantity of the material which has been dried at 190 C. and thoroughly mixed shall be continuously, shaken for one hour, at the common temperature with 1,000 times its weight of an aqueous solution of hydrochloric acid containing 0.25 per cent by weight or hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt

contained in the clear filtrate shall then be precipitated as lead sulphide and weighted as lead sulphate.
(c) [103][***]
3. Exhaust draught (a) The mixing of raw materials to form a "batch".
(b) The dry grinding, glazing and polishing of glass or any article of glass.
(c) All processes in which hydrofluoric acid fumes or, ammoniacal vapours are given off.
(d) All processes in the making of furnace moulds or "pots" including the grinding or crushing of used "post".
(e) All processes involving the use of a dry lead compound.

The following processes shall be carried on except under an efficient exhaust draught or under such other conditions as may be approved by the Chief Inspector,
1 4. Prohibition relating to woman and young person

No women or young person shall be employed or permitted to work in any of the operations specified in Paragraph 3 or at any place where such operations are carried on.
5. Floor and work-benches (a) of cement of similar material so as to be smooth and impervious to water;

(b) maintained in sound condition; and
(c) cleansed daily after being thoroughly sprayed with water at a time when no other work is being carried on in the room.

The floor and work-benches of every room in which a dry compound of lead in manipulated or in which any process is carried on giving off silica dust shall be kept moist, and shall comply with the following requirements
The floors shall be,
The work-benches shall
(a) have a smooth surface and be maintained in sound condition, and
(b) be cleansed daily either after being thoroughly damped or by means of a suction cleaning apparatus at a time when no other work is carried on thereat.
6. Use of hydrofluoric acid (a) There shall be inlets and outlets of adequate size so as to secure and maintain efficient ventilation in all parts of the room;
(b) The floor shall be covered with guttaparcha and be tight, and shall slope gently down to a converted drain;

The following provisions shall apply to rooms in which glass is treated with hydrofluoric acid,

(c) The work-places shall be so enclosed in projecting hoods that openings required for bringing in the objects to be treated shall be as small as practicable; and
(d) The efficient exhaust draught shall be so contrived that the gases are exhausted downwards.

1 7. Storage and transport of hydrofluoric acid

Hydroflouric acid shall not be stored or transported except in cylinders or receptacles made of lead or rubber.
1 8. Blow-pipes

Every glass-blower shall be provided with a separate blow pipe bearing the distinguishing mark of the person to whom it is issued and suitable facilities shall be readily available to every glass-blower for sterilising his blow-pipe.
1 9. Food drinks, etc., prohibited in work rooms

No food, drink pan and supari and tobacco shall be brought into or consumed by any worker in any room or work place wherein any process specified in paragraph 3 is carried on.
1 10. Protective clothing

The occupier shall provide, maintain in good repair and keep in a clean condition of the use of all persons employed in the processes specified in paragraph 3 suitable protective clothing,

footwear and goggles according to the nature of the work, and such clothing footwear, etc. shall be worn by the persons concerned.

1 11. Washing facilities (a) a wash place with either: (i) a trough with a smooth impervious surface fitted with a waste pipe, without plug and of sufficient length to allow of at least two feet every five such person employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 2 feet; or

1 (ii) at least one wash basin for every five such persons employed at any one time, fitted, with a waste pipe and plug and having an adequate supply of water laid on or always readily available; and a sufficient supply of clean towels made of suitable material renewed daily with a sufficient supply of soap or other suitable cleaning material and of nail brushes; and

(b) a sufficient number of stand pipes with taps, the number and location of such stand pipes shall be to the satisfaction of the Chief Inspector.

(a) employ a qualified medical practitioner for medical surveillance of the

There shall be provided and maintained in a cleanly state in good repairs for the use of all persons employed in the processes specified in paragraph 3,

1 12. 104[Medical facilities and records of examination and tests

2 (1) The occupier of every factory in which manufacturing processes are carried on shall,

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

workers employed therein whose appointment shall be subject to the approval of the Chief Inspector of Factories; and

1 (2) The records of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

12-A. Medical examination by Certifying Surgeon

1 (1) Every worker employed in processes specified in paragraph 2 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function tests and in suspected cases chest X-ray as well as tests for lead and urine. No workers shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

2 (2) Every worker employed in the said process shall be re-examined by a Certifying Surgeon atleast once in every twelve calendar months. Such re- examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (1).

3 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature

and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 21.

4 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

5 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to health of worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process being unfit for work in that process, shall be provided with alternate placement facilities by factory management unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected shall be suitably rehabilitate.

6 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.]

SCHEDULE V

GRINDING OR GLAZING OF METAL AND PROCESSES INCIDENTIAL THERETO

1. Definitions (a) "grindstone" means a grindstone composed of natural or manufactured sandstone but does not include a metal wheel or cylinder into which blocks of natural or manufactured sandstone are fitted;

(b) "abrasive wheel" means a wheel manufactured of bonded emery or similar abrasive;

(c) "grinding" means the abrasion, by aid of mechanical power, of metal, by means of a grindstone or abrasive wheel;

(d) "glazing" means the abrading, polishing or finishing, by aid of mechanical power of metal, by means of any wheel, buff, mop or similar appliance to which any abrading or polishing substance is attached or applied;

(e) "racing" means the turning up, cutting or dressing of a revolving grindstone before it is brought into use for the first time;

(f) "hacking" means the chipping of the surface of grindstone by a hack or similar tool;

(g) "rodding" means the dressing of the surface of a revolving grind stone by the application of a rod, bar or strip of metal to such surface.

(a) a hood or other appliance so constructed, arranged, placed and maintained as substantially to intercept the dust thrown off; and

(b) a duct of adequate size, air tight and so arranged as to be capable of carrying away the dust, which duct shall be kept free from obstruction, and shall be provided with proper means of access for inspection and cleaning, and where practicable, with a connection at the end remote from the fan to enable the

For the purposes of this Schedule,

1 2. Exceptions

2 (1) Nothing in this Schedule shall apply to any factory in which only repairs are carried on except any part thereof in which one or more persons are wholly or mainly employed in the grinding or glazing of metals.
3 (2) Nothing in this Schedule except paragraph 4 shall apply to grinding or glazing of metals carried on intermittently and at which no person is employed for more than 12 hours in any week.
4 (3) The Chief Inspector may, by certificate in written, subject to such conditions as he may specify therein, relax or suspend any of the provisions of this Schedule in respect of any factory, if, owing to the special methods of work or otherwise, such relaxation or suspension is practicable without danger to the health or safety or the persons employed.
5 3. Equipment for removal of dust

No racing, dry grinding or glazing shall be performed without,

(c) a fan or other sufficient means of producing a draught sufficient to extract the dust

Inspector to attach thereto any instrument necessary for ascertaining the pressure of air in the said duct; and
5Provided that the Chief Inspector may accept any other appliance that is, in his opinion, as effectual for the interception, removal and disposal of dust thrown off as a hood, duct and fan would be.
1 4. Restriction on employment on grinding operations

Not more than one person shall at any time perform the actual process of grinding or glazing upon a grindstone, abrasive wheel or glazing appliance.
Provided that this paragraph shall not prohibit the employment of persons to assist in the manipulation of heavy or bulky article at any such grindstone, abrasive wheel or glazing appliance.
1 5. Glazing

Glazing or other process, except processes incidental to wet grinding upon a grindstone shall not be carried on in any room in which wet grinding upon a grindstone is done.
6. Hacking and rodding (a) an adequate supply of water of laid on at the upper surface of the grindstone, or
(b) adequate appliances for the interception of dust are provided in accordance with the requirements of paragraph 3.
(a) All equipment for the extraction or suppression of dust shall at least once in every six months be examined and tested by a competent person, and any defect disclosed by such examination and test shall be rectified as soon as practicable.
(b) 105[A register containing particulars of such examination and test shall be kept in a Form No. 21-A.]

(a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector of Factories; and
(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

Hacking or rodding shall not be done unless during the process either:
1 7. Examination of dust equipment
2 8. 106[Medical facilities and record of examination and tests
3 (1) The occupier of every factory in which grinding or glazing of metals are carried out, shall:
4 (2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved

by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.]
1 9. 107[Medical examination by Certifying Surgeon
2 (1) Every worker employed in grinding or glazing of metal and processes incidental thereto shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function tests and in suspected cases chest X-rays. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
3 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon atleast once in every twelve calendar months. Such re- examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (1).
4 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 21.
5 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
6 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to health of the worker he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process being unfit for work in that process, shall be provided with alternate placement facilities by factory manage unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected shall be suitably rehabilitated.

7 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.]

SCHEDULE VI

MANUFACTURE AND TREATMENT OF LEAD AND CERTAIN COMPOUNDS OF LEAD

1 1. Exemptions

Where the Chief Inspector is satisfied that all or any of the provisions of this Schedule are not necessary for the protection of the persons employed, he may, by certificate in writing exempt any factory from all or any of such provisions, subject to such

conditions as he may specify therein.

2. Definitions (a) "lead compound" means any compound of lead other than galena which, when treated in the manner described below, yields to an aqueous solution of hydrochloric acid, a quantity of soluble lead compound exceeding, when calculated as lead monoxide, five per cent of the dry weight of the portion taken for analysis. In the case of paints and similar products and other mixtures containing oil or fat the "dry weight" means the dry weight of the material remaining after the substance has been thoroughly mixed and treated with suitable solvents to remove oil, fats, varnish or other media;

(b) "efficient exhaust draught" means localised ventilation affected by heat or mechanical means, for the removal of gas, vapour, dust or fumes so as to prevent them (as far as practicable under the atmospheric conditions usually prevailing) from escaping into the air of any place in work is carried on. No draught shall be deemed efficient which fails to remove smoke generated at the point where such gas, vapour, fumes or dust originate.

(a) Work at a furnace where the reduction or treatment of zinc or lead ores is carried on.

(b) The manipulation, treatment or reduction of ashes containing lead, the desilverising of lead or the melting of scrap lead or zinc.

(c) The manufacture of solder or alloys containing more than ten per cent or lead.

(d) The manufacture of any oxide, carbonate, sulphate, chromate, acetate nitrate or silicate of lead-ethyl.

(e) Handling or mixing of lead tetra-ethyl.

(f) Any other operation involving the use of a lead compound.

(g) The cleaning of work-rooms where any of the operations aforesaid are carried on.

For the purposes of this Schedule,

The Method of treatment shall be as follows:

A weight quantity of the material which has been dried at 100 C and thoroughly mixed shall be continuously shaken for one hour, at the common temperature with 1000 times its weight of an aqueous solution of hydrochloric acid containing 0.25 per cent by weight to hydrogen chloride. This solution shall thereafter be allowed to stand for one hour, and then filtered. The lead salt contained in clear filtrate shall then be precipitated as lead sulphide and weighed as lead sulphate.

1 3. Application

The Schedule shall apply to all factories or parts of factories in which any of the following operations are carried on,

1 4. Prohibition relating to women and young persons

No woman or young person shall be employed or permitted to work in any of the operations specified in paragraph 3.

1 5. Requirements to be observed

No person shall be employed or permitted to work in any process involving the use of lead compounds if the process is such that dust or fume from a lead compound is produced therein or the persons employed therein are liable to be splashed with any lead compound in the course of their employment unless the provisions of paragraphs 6 to 14 are complied with.

1 6. Exhaust draught

Where dust, fume, gas or vapour is produced in the process provision shall be made for removing them by means of an efficient exhaust so draught so contrived as to operate on the dust, fume, gas or vapour as closely as possible to the point of origin.

1 7. [108][Medical facilities and records of examinations and tests

(1) The occupier of every factory to which this schedule applies, shall, (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector of Factories; and

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

8. Medical examination by Certifying Surgeon

(1) Every worker employed in the processes referred to in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests of lead in blood and urine. ALA in urine haemoglobin contents, stippling of cells and steadiness test. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

(2) Every worker employed in the said process shall be re-examined by a Certifying Surgeon atleast once in every three calendar months. Such re- examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (1).

(3) The Certifying Surgeon after examining on a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried including the nature and the results, the tests, shall also be entered by the Certifying Surgeon in a health register in Form 21.

(4) The Certificate of Fitness and the health register be kept readily available for inspection by the Inspector.

1 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to health of the workers, he shall make a record of his findings in the said certificate and the health register. The entry to his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process being unfit for work in that process, shall be provided with alternate placement facilities by factory manage unless he is fully incapacitated in the opinion of the Certifying Surgeon. In that case the person affected shall be suitably rehabilitated.

2 (6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination again certifies him fit for employment in those processes.]

3 9. Food, drinks, etc., prohibited in work-rooms

No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any work-room in which the process in carried on, and no person shall remain in any such room during intervals of meals or rest.

1 10. Protecting clothing

Suitable protective overalls and head coverings shall be provided, maintained and kept clean by the factory occupier and such overalls and head coverings shall be worn on by the persons employed.

1 11. Cleanliness of work-rooms, tools, etc.

The rooms in which the persons are employed and all tools and apparatus used by them shall be kept in a clean state.

1 12. Washing facilities

(1) The occupier shall provide and maintain for the use of all persons employed suitable washing facilities consisting of: (a) a trough with a smooth impervious surface fitted with a waste pipe without plug and of sufficient length to allow at least two feet for every ten persons employed at any one time, and having a constant supply of clean water from taps or jects above the trough at intervals of not more than two feet; or

(b) at least one wash basin for every ten persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of clean water; together with in either case, a sufficient supply of nail brushes, soap or other suitable cleaning material and clean towels.

(2) The facilities so provided shall be placed under the charge of a responsible person and shall be kept clean.

13. Mess-room or canteen

The occupier shall provide and maintain for the use of the persons employed suitable and adequate arrangements for taking their meals. The arrangements shall consist

of the use of a room separate from any work-room which shall be furnished with sufficient tables and benches, and unless a canteen serving hot meals is provided adequate means of warming food shall be provided. The room shall be adequately ventilated by the circulation of fresh air, shall be placed under the charge of a responsible person and shall be kept clean.

1 14. Cloak-room

The occupier shall provide and maintain for the use of persons employed suitable accommodation for clothing not worn during working hours, and for the drying of wet-clothing.

SCHEDULE VII GENERATING PETROL GAS FROM PETROL

1 1. Prohibition relating to women and young persons

No woman or young person shall be employed or permitted to work in or shall be allowed to enter any building in which the generating of petrol gas from petrol is carried on.

1 2. Flame traps

The plant for generating petrol gas from petrol and associated piping and fittings shall be fitted with at least two efficient flame traps so designed and maintained as to prevent a flash back from any burner to the plant. One of these traps shall be fitted as close to the plant as possible. The plant and all pipes and valves shall be installed and maintained free from leaks.

1 3. Generating building or room

All plants for generating petrol gas from petrol erected after the coming into force of the provisions specified in this schedule, shall be erected outside the factory building proper in a separate well ventilated building (hereinafter referred to as the "generating building"). In the case of such plant erected before the coming into force of the provisions specified in this schedule there shall be on direct communication between the room where such plants are erected (hereinafter referred to as "the generating-room"); and the remainder of the factory building. So far as practicable, all such generating rooms shall be constructed of fire resisting materials.

1 4. Fire-extinguishers

An efficient means of extinguishing petrol fires shall be maintained in an easily accessible position near the plant for generating petrol gas from petrol.

1 5. Plant to be approved by Chief Inspector

Petrol gas shall not be manufactured except in a plant for generation petrol gas the design and construction of which has been approved by the Chief Inspector.

1 6. Escape of Petrol

Effective steps shall be taken to prevent petrol from escaping into any drain or sewer.

1 7. Prohibition relating to smoking, etc.

No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in the generating room or building or in the vicinity thereof and a warning notice in the language understood by the majority of the workers shall be posted in the factory prohibiting smoking and the carrying of matches, fire or naked light or other means of producing a naked light or spark into such room or building.

1 8. Access to petrol or container

No unauthorised person shall be access to any petrol or to a vessel containing or having actually contained petrol.

1 9. Electric fittings

All electric fittings shall be of flame- proof construction and all electric conductors shall either be enclosed in mental conduits or be lead-sheathed.

1 10. Construction of doors

All doors in the generating room or building shall be constructed to open outwards or to side and no door shall be locked or obstructed or fastened in such a manner that it cannot be easily and immediately opened from the inside while gas is being generated and any person is working in the generating-room or building.

1 11. Repair of containers

No vessel that has contained petrol shall be repaired in a generating-room or building and no repairs to any such vessel shall be undertaken unless live steam has been blown into the vessel and until the interior in thoroughly steamed out or other equally effective steps have been taken to ensure that it has been rendered free from petrol or inflammable vapour.

1 12. [109][In these Rules Petrol means dangerous petroleum as defined in the Petroleum Act, 1937.]

[110][SCHEDULE VIII

HIGH FLAMMABLE LIQUIDS AND FLAMMABLE COMPRESSED GASES

1 1. Application

This schedule shall apply to all factories where high flammable liquids or flammable compressed gases are manufactured, stored, handled or used.

2. Definition (a) "highly flammable liquid" means the liquid including its solution, an emulsion or suspension which when tested in a manner specified by Sections 14 and 15 of the Petroleum Act, 1934 gives off flammable vapour at a temperature less than 32 degree celsius;

(b) "Flammable compressed gas" means flammable compressed gas defined in Rule 2 of the Static and Mobile Pressure Vessels (Unfired) Rules, 1981 framed under the Explosives Act, 1948 (No. IV of 1948).

For the purpose of this Schedule,

1 3. Storage

1 (1) Every flammable liquid or flammable compressed gas used in every factory shall be stored in suitable fixed storage tank, or in suitable closed vessel located in a safe position under the ground, in the open or in a store room of adequate fire resistant construction.
2 (2) Except as necessary for use, operation or maintenance every vessel or tank which contains or had contained a highly flammable liquid or flammable compressed gas shall be always kept closed and all reasonably practicable steps shall be taken to contain or immediately drain off to a suitable container any spill or leak that may occur.
3 (3) Every container, vessel, tank, cylinder or store room used for storing highly flammable liquid or flammable compressed gas shall be clearly and in bold letters market "Danger-Highly Flammable Liquid" or "Danger-Flammable Compressed Gas."
4 4. Enclosed systems for Conveying Highly Flammable Liquids

Where it is reasonably practicable, highly flammable liquids shall be conveyed within a factory in totally enclosed systems consisting of pipe lines, pumps and similar appliances from the storage tank or vessels to the point of use. Such enclosed systems shall be so designed installed, operated and maintained as to avoid leakage or the risk of spilling.
1 5. Preventing Formation of Flammable Mixture with Air

Where there is possibility for leakage or spill of highly flammable liquid or flammable compressed pressed gas from equipment, pine line, valve joint or other part of a system, all practicable measures shall be taken to contain, drain off or dilute such spills or leakage as to prevent formation of flammable mixture with air.
1 6. Prevention of Ignition
(1) In every room work place or other location where highly flammable liquid or flammable combustible is stored, conveyed, handled or used or where there is danger or fire of explosion from an accumulation of highly flammable liquid or flammable compressed gas in air, all practicable measure shall be taken to exclude the sources of ignition. Such precautions shall include the following: (a) all electrical apparatus shall either be excluded from the area of risk or they shall be of such construction and so installed and maintained as to prevent the danger of there being a source of ignition;
(b) effective measures shall be adopted for prevention of accumulation of static charge to a dangerous extent;
(c) no person shall wear or be allowed to wear any foot wear having iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction;
(d) smoking, lighting or carrying of matches, lighters or smoking materials shall be prohibited;
(e) transmission belts with iron fasteners shall not be used;
(f) all other precautions, as are reasonably practicable, shall be taken to

prevent initiation of ignition from all other possible sources such as open flames, frictional sparks, overheated surfaces of machinery or plant; chemical or physical-chemical reaction and radiant, heat.

1 7. Prohibition of smoking

No person shall smoke in any place where highly flammable liquid or flammable compressed gas is present in circumstances that smoking would give rise to a risk of fire. The occupier shall take all practicable measures to ensure compliance with this requirement including display of a bold notice indicating prohibition of smoking at every place where this requirement applies.

1 8. Fire Fighting

In every factory where highly flammable liquid or flammable compressed gas is manufactured, stored, handled or used an appropriate and adequate means of fighting a fire shall be provided. The adequate and suitability of such means which expression includes the fixed and portable fire extinguishing systems, extinguishing materials, procedures and the process of fire-fighting shall be to the standards and levels prescribed by the stipulations under Rule 72.

1 9. Exemptions

If in respect of any factory the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for protection of the workers in the factory the Chief Inspector may by a certificate in writing, which he may at his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.]

SCHEDULE IX

LIMING AND TANNING OF RAW HIDES AND SKINS AND PROCESSES INCIDENTAL THERETO

1. Cautionary notices (1) Cautionary notices as to anthrax, in the form specified by the Chief Inspector shall be affixed in prominent positions in the factory where they may be easily and conveniently read by the persons employed.

(2) A copy of a warning notice as to anthrax in the form specified by the Chief Inspector shall be given to each person employed when he is engaged, not subsequently it still employed, on the first of each calendar year.

(3) Cautionary notices as to the effects of chrome on the skin shall be affixed in prominent positions in every factory in which chrome solutions are used, as such notices shall be so placed as to be easily and conveniently read by the persons employed.

(4) Notices shall be affixed in prominent places in the factory stating the position of the "First aid" has or cupboard and the name of the person in charge of such box or cupboard.

(5) If any person employed in the factory is illiterate, effective steps shall be taken to explain carefully to such illiterate person the contents of the notices specified in paragraphs 1, 2 and 4, and if chrome solutions are

used in the factory, the contents of the notice specified in paragraph 3.

1 2. 111[Protective Clothing

The occupier shall provide and maintain in good conditions the following articles of protective clothing

(a) Waterproof footwear, leg coverings, aprons and gloves for persons employed in processes involving contact and chrome solutions, including the preparation of such solutions;
(b) Gloves and boots for persons employed in lime yard; and
(c) Protective footwear, aprons and gives of persons employed in processes involving the handling of hides or skins, other than in process specified in clauses (a) and (b): (i) the gloves, aprons, leg coverings, or boots, may be of rubber or leather, but the gloves and boots to be provided under sub-clauses (a) and (b) shall be of rubber;
(ii) the gloves may not be provided to persons flushing by hand or employed in processes in which there is no risk of contact with lime, sodium sulphide or other caustic liquor.]

Provided that,

1 3. Washing facilities, mess-room and cloak-room

There shall be provided and maintained in a clearly state and in good repairs for the use of all persons employed,
(a) a trough with a smooth, impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least two feet for every ten persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than two feet; or
(b) at least one wash basin for every ten such persons employed at any one time, fitted with a waste pipe, and plug and having a constant supply to water; together within, in either case, a sufficient supply of nail brushes, soap or other suitable cleaning material, and clean towels;
(c) a suitable mess-room adequate of the number remaining on the premises during the meal intervals which shall be furnished with (1) sufficient tables and benches, and (2) adequate means for warming good and for boiling water.

The mess-room shall-(1) be separate from any room or shed in which hides or skins are stored, treated or manipulated, (2) be separate from the cloak- room, and (3) placed under the charge of a responsible person;
(d) 112[The occupier shall provide and maintain, for the use of all persons employed, suitable accommodation for clothing put off during working hours and another accommodation of protective clothing and shall also make adequate arrangements for drying up the clothing in both the case, if wet. The accommodation so provided shall be kept clean at all time and place in the charge of a responsible person.]

1 4. Food, drinks, etc., prohibited in work-rooms

No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any work-room or shed in which hides or skins are stored, treated or manipulated.
5. 113[Medical facilities and records of examination and tests (1) The occupier of every factory to which this schedule applies; shall, (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a); and
(c) arrange for inspection of the hands of all the persons keeping in contact with chromium substances to be made twice a week; and
(d) provide and maintain and supply suitable ointment and plaster in a box readily accessible to the workers and solely used for the purpose of keeping the ointment and the plaster.

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.]

1 6. 114[Medical examination by Certifying Surgeon (1) Every worker employed in any of the processes to which this schedule applies shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include skin tests for dermatitis and detection of anthrex bacillus from local losion by gram stain. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
1 (2) Every worker employed in the said process shall be re-examined by a Certifying Surgeon atleast once in every twelve calendar months. Such re- examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (1).
1 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 21.
1 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
1 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve danger to health of the worker, he shall make a record of

(6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.]

his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said process. The person so suspended from the process being unfit for work in that process, shall be provided with alternate placement facilities by factory management unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected shall be suitably rehabilitated.

115[SCHEDULE X

LEAD PROCESSES CARRIED IN PRINTING PRESSES AND TYPE FOUNDRIES

1 1. Exemption

Where the Chief Inspector in satisfied that all or any of the provisions of his schedule are not necessary of the protection of persons employed he may be certificate in writing exempt any factory from all or any such provisions subject to such conditions as he any specify therein. Such certificate may at any time revoked by the Chief Inspector.

2. Definitions (a) the melting of lead or any lead material for casting and mechanical composing;
(b) the recharging of machines with used lead material;
(c) any other work including removal of dross from melting pot cleaning of plungers; and
(d) manipulation, movement or other treatment of lead material; Efficient exhaust draught" means localised ventilation effected by heat or mechanical means, for the removal of gas, vapour, dust or fumes so as to prevent them from escaping into the air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove gas, vapour, fume or dust at the point where they originate.
(a) melting lead material or slugs;
(b) heating lead material so that vapour containing lead in given off; or unless carried on in such a manner as to prevent free escape of gas, vapour, fumes or dust into any place in which work is carried on or unless carried on in electrically heated and thermostatically controlled melting post. Such exhaust draught

For the purpose of this schedule, 'Lead Material' means material containing not less than five per cent of lead. 'Lead Process' means,

1 3. Exhaust draught

None of the following processes shall be carried on except with an efficient exhaust draught,

shall be effected by mechanical means and so contrived as to operate on the dust, fume, gas or vapour given off as closely as may be at its point of origin.

1 4. Prohibition relating to women and young persons

No woman or young person shall be employed or permitted to work in any lead process.

5. Separation of certain process (a) melting of lead or any lead material;
(b) casting go lead ingots;
(c) Mechanical composing.

Each of the following processes shall be carried on in such a manner and under such conditions as to secure effectual separation from one another and from any other material,

1 6. Container for dross

A suitable receptacle with tightly fitting cover shall be provided and used for dross as it is removed from every melting. Such receptacle shall be kept covered while in the workroom near the machine except when the dross is being deposited therein.
7. Floor of workroom (a) of cement or similar material so as to be smooth and impervious to water;
(b) maintained in sound condition; and
(c) shall be cleansed throughout daily after being thoroughly (sic) with water at a time when no other work is being carried on a (sic) the place.

The floor of every workroom where lead process is carried on shall be:
1 8. Mess-room

There shall be provided and maintained for the use of all persons employed in a lead process and remaining on the premises during the meal intervals, a suitable mass room which shall be furnished with sufficient tables and benches.
1 9. Washing facilities (a) wash place with either, (i) a trough with a smooth impervious surface fitted with a wasted pipe without plug, and of sufficient length to allow at least two feet for every five such persons employed at any one time and (sic) having constant supply of water from taps or jets above (sic) trough at intervals of not more than 2 feet; or
1 (ii) at least one wash basin for every five such persons employed an any one time, fitted with a waste pipe and plug and having an adequate supply of water laid on or always readily available and

There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed in a lead process:

(b) a sufficient supply of clean towels made of suitable material renewed daily with a sufficient supply of soap or other suitable cleaning material.
(a) employ a qualified medical practitioner for medical surveillance (sic) the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and
(b) (b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

1 10. [116][Medical facilities and records of examination and tests
2 (1) The occupier of every factory to which this schedule applies, shall
3 (2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept (sic) available for inspection by the Inspector.

10-A. Medical examination by Certifying Surgeon

1 (1) Every worked employed in a lead process shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests of (sic) in urine and blood. ALA in urine haemoglobin, stippling of cells and (sic) tests. No workers shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon

2 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon atleast once in every six calendar months. (sic) examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (1).

3 (3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 21.

4 (4) The Certificate of Fitness and the health register be kept readily available for inspection by the Inspector.

5 (5) If at any time the Certifying Surgeon is of the opinion that worker is no longer fit for employment in the said process on the grounds that continuance therein would involve special danger to the health of the workers he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should include the period for which he considers that the said person is unfit for employment in those processes. The person so suspended from the process being unfit for work in that processes, shall be provided with alternate placement facilities by factory management unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected shall be suitably rehabilitated.

1 (6) No person who has been found unfit to work as said in subparagraph (5) above shall be re-employed of permitted to work in the said processes unless the Certifying Surgeon, after further examination again certifies him fit for employment in those processes.]

2 11. Food, drinks, etc., prohibited in work-room

No food drink, pan and 'Supari" or tobacco shall be consumed or brought by any worker into any work-room in which any lead process in carried on.

117[SCHEDULE XI PART-I

CHEMICAL WORKS

1 1. Application

This schedule shall apply to all manufacture and processes incidental thereto carried on in chemical works.

2. Definitions (a) "Chemical works" means any factory or such part of any factory as are listed, in Appendix 'A' to this schedule;

(b) "efficient exhaust draught" means Localised ventilation effected by mechanical or other means for the removal of gas, vapour, fume or dust to prevent it from escaping into the air of any place in which work is carried on;
(c) "bleaching powder" means the bleaching powder commonly called chloride of lime;
(d) "chlorate" means chlorate or perchlorate;
(e) "caustic" means hydroxide of potassium or sodium;
(f) "chrome process" means the manufacture of chromate or bichromate of potassium or sodium or the manipulation, movement or other treatment of these substances;
(g) "nitro or amino process" means the manufacture of nitro or amino derivatives of phenol and of benzene or its homologuos, and the making of explosives with the use of any of these substances;
(h) "the term 'permit to work' system" means the compliance with the procedures laid down under para 20 of Part II;
(i) "toxic substances" means all those substances which when they enter into the human body, through inhalation or ingestion or absorption through skin, in sufficient quantities cause fatality or exert serious affiction of health or chronic harmful effects on the health of persons exposed to it due to its inherent chemical or biological effects. In respect of substances whose TLV is specified in Rule 124-B exceeding the concentration specified therein would make the substance toxic;
(j) "emergency" means a situation or condition leading to a circumstance or set

For the purpose of this schedule,

(k) "dangerous chemical reactions" means high speed reactions, runaway reactions, delayed reactions, etc. and are characterised by evolution of large quantities of heat, intense release of toxic or flammable gases or vapours, sudden pressure build-up etc.
(l) "manipulation" means mixing, blending, filling, emptying, grinding sieving, drying, packing, sweeping, handling, using etc.
(m) "approved personal protective equipment" means items of personal protective equipment conforming to the relevant ISI specifications or in the absence of it, personal protective equipment approved by the Chief Inspector of Factories;
(n) "appropriate personal protective equipment" means that when the protective equipment is used by the worker, he shall have no risk to his life or health or body; and
(o) "confined space" means any space by reason of its construction as well as in relation to the nature of the work carried therein and hazards to the persons entering into or working inside exist or are likely to develop during working.

of circumstances in which there is danger to the life or health of persons or which could result in big fire or explosion or pollution to the work and outside environment, affecting the workers or neighbourhood in a serious manner, demanding immediate action;

PART-II

GENERAL REQUIREMENTS APPLYING TO ALL THE WORKS IN APPENDIX 'A'

1. Housekeeping (1) Any spillage of materials shall be cleaned up before further processing.
(2) Floors, platforms, stairway, passages and gangways shall be kept free of any obstructions.
(3) There shall be provided easy means of access to all parts of the plant to facilitate cleaning.

2. Improper use of chemicals

No chemicals or solvents or empty containers containing chemicals or solvents shall be permitted to be used by workers for any purposes other than in the processes for which they are supplied.
1 3. Prohibition of the use of food, etc

No food, drink, tabacco, pan or any edible item shall be stored or heated or consumed on or near any part of the plant or equipment.
4. Cautionary Notice and Instructions (1) Cautionary notices in a language understood by the majority of workers shall be prominently displayed in all hazardous areas drawing the attention of all workers about the hazards to health, hazards involving fire and explosion and any other hazard such as consequences of testing of material or substances used in the process or using any contaminated container for drinking or eating,

(2) In addition to the above cautionary notice, arrangement shall be made to instruct and educate all the process including the specific hazards to which they may be exposed to, in the normal course of their work. Such instructions and education should also dealt with the hazards involved in unauthorised and unsafe practices including the properties of substances used in the process under normal conditions as well as abnormal conditions and the precautions to be observed against each and every hazard. Further an undertaking from the workers shall be obtained within 1 month of their employment and for old workers employed, within one month of coming into operation of the rules, to the effect that they have read the contents of the cautionary notices and instructions, understood them and would abide by them. The training and instructions to all workers and all supervisory personnel shall include the significance of different types of symbols and colours used on the labels stuck or painted on the various types of containers and pipe lines.
(1) Before commencing any process or any experimental work, or any new manufacture covered under Appendix 'A', the occupier shall take all possible steps to ascertain definitely all the hazards involved both from the actual operations and the chemical reactions including the dangerous chemical reactions. The properties of the raw materials, used the final products to be made, and any by-products derived during manufacture, shall be carefully studied and provisions shall be made for dealing with any hazards including effects on workers, which may occur during manufacture.
(2) Information in writing giving details of the process, its hazards and the steps taken or proposed to be taken from the design stage to disposal stage for ensuring the safety as in sub-para (1) above should be sent to the Chief Inspector and the Industrial Hygienic laboratory of State Government at the earliest but in no case less than 15 days before commencing

manufacture, handling, or storage of any of items covered under Appendix 'A', whether on experimental basis, or as pilot plant or as trial production, or as large scale manufacture.
(3) The design, construction installation, operation, maintenance and disposal of the buildings, plant and facilities shall take into consideration effective safeguards against all the safety and health hazards so evaluated.
(4) The requirements under the sub-para (1) to (3) shall not act in lieu of or in derogation to, any other provisions contained in any Act governing the work.

to which the worker's attention should be drawn for ensuring their safety and health.

1 5. Evaluation and provision of safeguards before the commencement of process

2 6. Authorised entry

Authorised persons only shall be permitted to enter any section of the factory or plant where any dangerous operations or processes are being carried on or where dangerous chemical reactions are taking place or where hazardous chemicals are stored.

1 7. Examination of instruments and safety devices

(1) All instruments and safety devices used in the process shall be tested before taking into use and after carrying out any repair to them examined once in a month by a competent person. Records of such tests and examinations shall be maintained in a register.
(2) All instruments and safety devices used in the process shall be operated daily or as often as it is necessary, to ensure its effective and efficient working at all times.

1 8. Electrical installations

All electrical installations used in the process covered in Appendix 'A' shall be of an appropriate type to ensure safety against the hazard prevalent in that area such as suitability against dust, dampness, corossion, flammability and explosivity etc. and shall confirm to the relevant ISI specifications governing their construction and use for that area.

1 9. Handling and storage of chemicals (1) The containers for handling and storage of chemicals shall be adequate strength taking into consideration the hazardous nature of the contents. They shall also be provided with adequate labelling and colour coding arrangements to enable identification of the containers and their contents indicating to the respective ISI standards. The instructions given in the label shall be strictly adhered to. Damaged containers shall be handled only under supervision of a knowledgeable and responsible person and spillage shall be rendered innocuous in safe manner using appropriate means.

1 (2) The arrangements for the storage of chemicals including charging of chemicals in reactions vessels and containers shall be such as to prevent any risk of fire or explosion or formation of toxic concentration of substances above the limits specified in Rule 124-B.

1 (3) Without prejudice to the generality of the requirements in sub-para (2) above, the arrangements shall have suitable ventilation facilities and shall enable the maintenance of safe levels in vessels and containers. Such arrangements shall also taken into consideration, the type

of flooring and the capacity of flooring and the compatibility requirements of substances with other chemicals stored nearby.
(4) (a) Storage of chemicals and intermediate product which are highly unstable or reactive or explosive shall be limited to the quantities required for two months' use.
(b) Where the quantities laid down in the above clause (a) are to be exceeded, the permission of the Chief Inspector shall be obtained.
(c) Notwithstanding anything contained in clauses (a) and (b) above, the Chief Inspector of Factories may direct any factory carrying out processes covered in Appendix 'A' to further limit the storage of hazardous substances to quantities less than two months on consideration of safety.

(5) Standby arrangements equal to the biggest container shall always be available to transfer the toxic substances quickly into the stand by storage facility if any defect develops in any of the container resulting in the release of toxic substances.
(6) Any storage facility constructed using non-metallic material such as Fibreglass Reinforced Plastics (FRP) all glass vessels etc., shall have adequate strength to withstand and stress, if any, exerted by the contents and shall be properly anchored, working platforms, access ladders, pipe-lines etc. used in such storage facility shall not have any support on the structure of the storage facility and shall be independently supported.

1 10. Facility for isolation

The plant and equipment shall be so constructed and maintained as to enable quick isolation of plant or part of plant or equipment, with appropriate indication. One copy of the layout plan indicating the isolation facilities shall always be available with the security personnel, the maintenance and the health and safety personnel and these isolating facilities shall be checked for its effectiveness once in a month.
1 11. Personal protective equipment (1) All workers exposed to the hazards in the processes covered by this Schedule shall be provided with appropriate and approved type of personal protective equipment. Such equipment shall be in a clean, sterile and hygienic condition before issue.
1 (2) The occupier shall arrange to inform, educate and supervise all the workers in the use of personal protective equipment while carrying out the job.
1 (3) As regards any doubt regarding the appropriateness of any personal protective equipment, the decision of the Chief Inspector will be final.

1 12. Alarm systems (1) Suitable and effective alarm systems giving audible and visible indications, shall be installed at the control room as well as in all strategic locations where process control arrangements are available so as to enable corrective action to be taken before the operational parameters exceed the predetermined safe levels or lead to conditions

conductive for an outbreak of fire or explosion to occur. Such alarm systems shall be checked daily and tested every month at least once to ensure its performance efficiency at all times.
1 (2) The Chief Inspector of Factories may direct such system to be installed in case of plants or processes where toxic materials are being used and spillage or leakage of which may cause wide spread poisoning in or around the plant.

1 13. Control of escape of substances into the work atmosphere (1) Effective arrangements such as, enclosure, or by pass, or efficient exhaust draught, maintenance of negative pressure etc., shall be provided in all plants, containers, vessels, sewers, drains, flues, ducts, culverts, and spread of substances which are likely to give rise to fire or explosion or toxic hazards during normal working and in the event of accident or emergency.

(2) In the event of the failure of the arrangements for control resulting in the escape of substances in the work atmosphere immediate steps shall be taken to control the process in such a manner, that further escape is brought down to the safe level.
(3) The substances that would have escaped into the work atmosphere before taking immediate steps as required in sub-para (2), shall be rendered innocuous by diluting with air or water or any other suitable agent or by suitable treading the substances.

1 14. Control of dangerous chemical reactions

Suitable provisions, such as automatic and/or remote control arrangement shall be made for controlling the effects of dangerous chemical reactions. In the event of failure of control arrangement shall come into operation.
15. Testing, examination and repair of plant and equipment's (1) All parts of plant, equipment and machinery used in the process which in the likely event of their failure may give rise to an emergent situation shall be tested by a competent person before commencing process and retested at an interval of two years or after carrying out repairs to it. The competent person shall identify the parts of the plant, equipment and machinery required to be tested as aforesaid and evolve a suitable testing procedures. In carrying out the test as mentioned above in respect of pressure vessels or reaction vessels the following precautions shall be observed, namely (a) before the test is carried out, each vessel shall be thoroughly cleaned and examined externally, and as far as practicable, internally also for surface defects, corrossion and foreign matter. During the process of cleaning and removal of sludge, if any, all due precautions shall be taken against fire or explosion, if such sludge is of pyropheric nature or contains spontaneously combustible chemicals;
(b) as soon as the test is completed, the vessel shall be thoroughly dried internally and shall be clearly stamped with the marks and figures indicting the person by whom testing has been done and the date of test; and
(c) any vessel which fails to pass the test of which for any other reason is found to be unsafe for use shall be destroyed or rendered unusable under intimation to the Chief Inspector.

(2) All parts of plant, equipment, machinery which in the likely event of failure may give rise to an emergent situation shall be examined once in a month by the competent person.
(3) Records of testing and examination referred to in paragraphs (1) and (2) shall be maintained as long as that part of the plant, equipment and machinery are in use.
(4) All repair work including alteration, modification and addition to be carried out to the plant, equipment and machinery shall be done under the supervision of a responsible person who shall evolve a procedure to ensure safety and health

of person doing the work. When repairs or modification is done on pipelines, and joints are required to be welded, but welding of joints are required to be welded, the responsible person shall regulate the aforesaid work through a 'permit to work system'.
16. Staging (1) All staging that is erected for the purpose of maintenance work or repair work or for work connected with entry into confined spaces and used in the processes included in Appendix 'A' shall be stable, rigid and constructed out of substantial material of adequate strength. Such staging shall confirm to the respective Indian Standard specifications.
(2) Staging shall not be erected over any closed or open vessel unless the vessel is so constructed and ventilated to prevent exposure or persons working on the stages.
(3) All the staging constructed for the purpose of this work shall have appropriate access which are safe and shall be fitted with proper hand rails to a height of one metre and toeboard.

17. Seating arrangements

The seating arrangements provided for the operating personnel working in processes covered in Appendix 'A' shall be located in a safe manner as to prevent the risk of exposure to toxic, flammable and explosive substances evolved in the work environment in the course of manufacture or repair of maintenance, either due to failure of plant and equipment or due to the substances which are under pressure, escaping into the atmosphere.
18. Entry into or work in confined spaces (1) The occupier of every factory to which the provisions of this schedule apply, shall ensure the observance of the following precautions before permitting any person to enter or work inside the confined spaces, (a) identify all confined spaces and the nature of hazards that are encountered in such spaces, normally, or abnormally, and arrange to develop the most appropriate safeguards for ensuring the safety and health of persons entering into or working inside, the confined spaces;
(b) regulate the entry or work inside the confined spaces through a 'permit to work system' which should include the safeguards so developed as required under sub-clause (a) above;
(c) before testing the confined space for entry into or work, the place shall be rendered safer by washing or cleaning with neutralizing agents or purging with steam or inert gases and making adequate forced ventilation arrangements or such measure which will render the confined space safe;
(d) shall arrange to carry out such tests as are necessary for the purposes by a competent person and ensure that the confined space is safe for the person to enter or work. Such testing shall be carried out as often as is necessary during the course of work to ensure its continued safety;

(e) shall arrange to educate and train the personnel who would be required to work in confined spaces about the hazards involved in the work. He shall also keep in readiness the appropriate and approved personal protective equipment including arrangements for rescue, resuscitation and first aid, and shall arrange supervision of the work at all times by a responsible and knowledgeable person.

(2) The manager shall maintain a log of all entry into a work-in, confined spaces and such record shall contain the details of persons assigned for the work, the location of the work and such other details that would have a bearing on the safety and health of the persons assigned for this work. The log book so maintained shall be retained as long as the concerned workers are in service and produced to the inspector when demanded.
(1) All the work connected with the maintenance of plants and equipment including cleaning of empty containers which have held hazardous substances used in the processes covered in this Schedule, shall be carried out under 'permit to work system' employment trained personnel and under the supervision of responsible person having knowledge of the hazards and precautions required to deal with them.
(2) Maintenance work shall be carried out in such a manner that there is no risk to persons in the vicinity or to persons who pass by. If necessary, the place of such work shall be condoned off or the presence of unconnected persons effectively controlled.

1 19. Maintenance work etc.
2 20. Permit to work system

The permit to work system shall inter alia include the observance of the following precautions while carrying out a specified work to be subjected to the permit to work system:
(a) all work subject to the permit to work system shall be carried out under the supervision of a knowledgeable and responsible person;
(b) all sorts of plant or machinery or equipment on which permit to work system is carried out, shall remain isolated from other parts throughout the period of permit to work and the place of work including the parts of plant, machinery shall be rendered safe by cleaning, purging, washing, etc.;
(c) all work subject to the permit to work system shall have predetermined work procedures which integrate safety with the work. Such procedures shall be reviewed whenever any change occurs in material or equipment so that continued safe/safety is ensured;
(d) persons who are assigned to carry out the permit to work system shall be physically fit in all respects taking into consideration the demands and nature, of the work before entering into the confined space. Such person shall be adequately informed about the correct work procedures as well as the precautions to be observed while carrying out the permit to work system;
(e) adequate rescue arrangements wherever considered necessary and adequate

first aid, rescue and resuscitation arrangements shall be available in good working condition near the place of work while carrying out the permit to work system, for use in emergency;
(f) appropriate and approval personal protective equipment shall be used carrying out the 'permit to work system';
(g) after completion of work subject to the 'permit to work system' the person responsible shall remove all the equipment and tools and restore to the original condition so as to prevent any danger while carrying out regular process.
21. Safety sampling personnel

The occupier shall ensure the safety for persons assigned for collecting sample by instructing them on the safe procedure. Such personnel shall be provided with proper and approval personnel protection equipment, if required.
1 22. Ventilation

Adequate ventilation arrangements shall be provided and maintained at all times in the process area where dangerous or toxic or flammable or explosive substances could be evolved. These arrangements shall ensure that concentrations, which are either harmful could result in explosion, are not permitted to be build up in the work environment.
23. Procedures for meeting emergencies (1) The occupier of every factory carrying out the works covered in Appendix 'A', shall arrange to identify all types of possible emergencies that could occur in the processes during the course of work or while carrying out maintenance work or repair work. The emergencies so identified shall be reviewed every year.
(2) The occupier shall formulate a detailed plant to meet all such identified emergencies including arrangements for summoning outside help for rescue and firefighting and arrangements for making available urgent medical facilities.
(3) The occupier shall send the list of emergencies and the details of procedures and plans formulated to meet the emergencies, to the Chief Inspector of Factories.
(4) The occupier shall arrange to install distinctive and recognizable warning arrangements to caution all persons inside plant as well as the neighbouring community, if necessary, to enable evacuation of persons and to enable the observance of emergency procedures by the persons who are assigned emergency duties. All concerned must be well informed about the warning arrangements and their meaning. The arrangements must be checked for its effectiveness every month.
(5) Alternate power supply arrangements shall be made and interlocked with the normal power supply system so as to ensure constant supply of power to the facilities and equipment meant for compliance with requirements of paragraphs 10, 11, 12, 13, 14, 18, 22 and this paragraph of Part II, Part III, Part IV and Part V of this Schedule.
(6) The occupier shall arrange to suspend the further process work in a place where

(7) All the employees of the factory shall be trained about the action to be taken by them including evacuation procedures during emergencies.

(8) All emergency procedures must be rehearsed every three months and deficiencies, if any, in the achievement of the objectives shall suitably be corrected.
(9) The occupier shall arrange to have ten per cent of the workers trained in the use of First Aid Fire Fighting appliances and in rendering of specific First Aid measure taking into consideration the special hazards of the particular process.
(10) The occupier shall furnish immediately on request the specific chemical identity of the hazardous substance to the treating physician when the information is needed to administer proper emergency or first-aid treatment to exposed.
(1) Adequate precautions shall be taken to prevent the mixing of effluents from different processes and operations which may cause dangerous or poisonous gases to be evolved.
(2) Effluents which contain or give rise in the presence of other effluents to poisonous gases shall be provided with independent drainage system to ensure that they may be trapped and rendered safe.

emergency is established and shall forthwith evacuate all persons in that area except workers who have been assigned emergency duties.
1 24. Danger due to effluents

PART-III
FIRE AND EXPLOSIONS RISKS
1. Sources of ignition including lighting installation (1) No internal combustion engine and no electric motor or other electrical equipment, and fittings and fixtures capable of generating sparks of otherwise causing combustion or any other source of ignition or any naked light shall be installed or permitted to be used in the process area where there could be fire and explosion hazards.
(2) All hot exhaust pipe shall be installed outside a building and other hot pipes or hot surface or surfaces likely to become hot shall be suitably protected.
(3) The classification of work areas in terms of its hazard potential and the selection of electrical equipment or other equipment that could constitute a source of ignition shall be in accordance with the respective Indian Standard.
(4) Where a flammable atmosphere may be, prevalent or could occur, the soles of footwear worn by workers shall have no metal on them, and the wheels of trucks or conveyors shall be conductive type.
(5) All tools and appliances used for work in this area shall be of non-sparking type.
(6) Smoking in process areas where there are risks of fire and explosion shall be prohibited and warning notices in the language understood by majority of workers shall be posted in the factory prohibiting smoking into specified areas.

2. Static electricity (1) All machinery and plant, particularly, pipe lines and belt drives, on which static charge is likely to accumulate, shall be effectively earthed. Receptacles for flammable liquids shall have metallic connections to the earthed supply tanks to prevent static sparking. Where necessary, humidity shall be regulated.

(2) Mobile tanker wagons shall be earthed during filling and discharge, and precautions shall be taken to ensure that earthing is effective before such filling or discharge takes place.

3. Lightening protection

Lightening protection arrangement shall be fitted where necessary, and shall be maintained.
1 4. Process heating

The method of providing heat for a process likely to result in fire and explosion shall be as safe as possible and where the use of naked flame is necessary, the plant shall be so constructed as to prevent any escaping flammable gas, vapour or dust coming into contact with the flame, or exhaust gases, or other sources likely to cause ignition. Wherever possible the heating arrangement shall be automatically controlled at a predetermined temperature below the danger temperature.
5. Leakage of flammable liquids (1) Provision shall be made to confine by means of bund walls, dykes, sumps etc. possible leakages from storage vessels containing flammable liquids.
(2) Waste material in contact with flammable substances shall be disposed off suitably under the supervision of knowledgeable and responsible person.
(3) Adequate and suitable fire-fighting appliances shall be installed in the vicinity of such vessels.

6. Safety valves

Every still and every closed vessel in which gas is evolved or into which gas is passed, and in which the pressure is liable to rise above the atmospheric pressure, shall have attached to it a pressure gauge, and a proper safety valve or other equally efficient means to relieve the pressure. These appliances shall be maintained in good condition.
1 7. Installation of pipe line etc.

All pipe lines carrying flammable or explosive substances shall be protected from mechanical damage and shall be examined by a responsible person once in a week to detect any deterioration or defects, or accumulation or flammable or explosive substances, and record kept of any defects found and repairs made.
8. Firef ighting systems (1) Every factory employing 500 or more persons and carrying out processes listed in Appendix 'A' shall provide (a) Trained and responsible firefighting squad so as to effectively handle the

(b) Squad leaders shall preferably be trained in a recognised government institution and their usefulness enhanced by providing residence on the premises.
(c) Squad personnel shall be provided with clothing and equipment including helmets, boots and belts.

(2) A muster roll showing the duties allocated to each member of the squad shall be prepared and copies supplied to each leader as well as displayed in prominent places so as to be easily available for reference in case of emergency.
(3) The pumpman shall be thoroughly conversant with the location of all appliances. He shall be responsible for maintaining all firef ighting equipment in roper working order. Any defect coming to his notice shall be immediately be brought to the notice of squad leader.
(4) As far as is practicable, the fire pump room and the main gate(s) of the factory be connected to all manufacturing or storing areas through telephone interlinked and placed in a convenient location near such areas.

firefighting and life saving equipment in the event of fire or other emergency. Number of persons in this squad will necessarily depend upon the size or risk involved, but in no case shall be less than 8 such trained persons to be available at any time. The squad shall consist of watch and ward personnel, fire pumpman and departmental supervisors and operators trained in the operation of fire and emergency services.

PART-IV

RISK OF TOXIC SUBSTANCES

1. Leakage (1) All plants shall be so designed and constructed as to prevent the escape of toxic substances. Where necessary, separate buildings, rooms, or protective structures shall be used for the dangerous stages of the process and the buildings shall be so designed as to localise any escape of toxic substances.
(2) Catch pits, bund walls, dykes, or other suitable safeguards shall be provided to restrict the serious effects of such leakages. Catch pits shall be placed below joints in pipelines where there is danger involved to maintenance and other workers from such leakage.

2. Drainage

Adequate drainage shall be provided and shall lead to collection tanks specifically provided for this purpose wherein deleterious material shall be neutralised treated or otherwise rendered safe before it is discharged into public drains or sewers.
3. Covering of vessels (1) Every fixed vessel or structure containing any toxic substance and not so covered as to eliminate all reasonable risk of accidental contract of any portion of the body of a worker, shall be so constructed as to avoid physical contact.

1 (2) Such vessel shall, unless its edge is atleast 90 centimetres above the adjoining ground or platform, be securely fenced to a height of atleast 90 centimetres above such adjoining ground or platform.
(3) Where such vessels adjoin and the space between them, clear of any surrounding brick or other work is either less than 45 centimetres in width or is 45 or more centimetres in width, but is not securely fenced on both sides to a height of atleast 90 centimetres, secure barriers shall be so placed as to prevent passage between them: (a) Saturators used in the manufacture of sulphate of ammonia; and

(b) that part of the sides of brine evaporating pans which require raking, drawing or filling.

(1) Any process evolving toxic vapour, gas, fume and substance shall have efficient continuous exhaust draught. Such arrangement shall be interlocked in the process control wherever possible.
(2) In the event of failure of continuous exhaust arrangement means shall be provided to automatically stop the process.

Provided that sub-paragraph (2) of this paragraph shall not apply to,
1 4. Continuous exhaust arrangement
2 5. Work bench

All the work benches used in processes involving the manipulation of toxic substances, shall be graded properly and shall be made of smooth impervious surface which shall be washed daily after the completion of work.
6. Waste disposal (1) There shall be provided a suitable receptacle made non-absorbable material with a tightly fitting cover for depositing waste material soiled with toxic substances, and the contents or such receptacle shall be destroyed by burning of using other suitable methods under the supervision of a responsible person.
(2) During the course of manufacture, whenever any batch or intermediate products having toxicity is rejected on consideration of quality, sufficient precautions shall be taken to render them innocuous or otherwise treat them or inactive them, before disposal.
(3) The empty containers of toxic substances shall be cleaned thoroughly before disposal under the supervision a responsible person.

PART-V SPECIAL PROVISIONS
1. Special precautions for Nitro or Amino Processes (1) Unless the crystallised nitro or amino substances or any of its liquor is broken or agitated in a completely enclosed process so as not to give rise to dust or fume, such process shall be carried on under an efficient exhaust drought or by adopting any other suitable means in such a manner as to prevent the

(2) No part of the plant or equipment or implements which was in contact with nitro or amino compounds shall be repaired, or handled unless they have been emptied and thoroughly cleaned and decontaminated.
(3) Filling of containers with nitro or amino compounds shall be done only by using a suitable scoop to avoid physical contact and the drying of the containers in the stove shall be done in such a manner that the hot and contaminated air from the stove is not drawn into the work-room.
(4) Processes involving the steaming into or around any vessel containing nitro or amino compounds or its raw materials shall be carried out in such a manner that the steam or vapour is effectively prevented to be blown back into the working atmosphere.

(5) Suitable antidotes such as methylene blue injections shall always be available at designated places of work for use during emergency involving the poisoning with nitro or amino compounds.
(1) Grinding and sieving of raw materials in chrome processes shall be carried on in such a manner and under such condition as to secure effective separation from any other processes and under an efficient exhaust draught.
(2) (2) There shall be washing facilities located very near to places where wet chrome processes such as leaching, acidification, sulphate settling evaporation, crystallisation, centrifugation or packing are carried out, to enable quick washing of affected parts of body with running water.
(3) (3) Weekly inspection of hand and feet of all persons employed in chrome process shall be done by a qualified nurse and record of such inspections shall be maintained in a form approved by the Chief Inspector of Factories.
(4) (4) There shall be always available at designated places of work suitable ointment such as glycerine, Vaseline, etc. and water proof plaster in a separate box readily accessible to the workers so as to protect against perforation of nasal septum.
(1) Processes and chemical reactions such as manufacture of vinyl chloride, benzyl chloride etc. which are required to be carried out in all glass vessels shall have suitable means like substantial wire mesh covering to protect persons working nearby in the event of breakage of glass vessel.
(2) The personal protective equipment like overall, etc. provided for the chlorate workers shall not be taken from the place of work and they shall be thoroughly cleaned daily.
(3) Adequate quantity of water shall be available near the place of chlorate process for use during fire emergency.
(4) Wooden vessel shall not be used for the crystallisation of chlorate or to contain crystallised ground chlorate.

escape of dust or fume in the working atmosphere.
1 2. Special precautions for 'chrome processes'
2 3. Special precautions for processes carried out in all glass vessels

1 (5) Special precautions in the use of plant and equipment made from reinforced plastics
(1) All plants and equipments shall conform to appropriate Indian or any other National Standard.
1 (2) Care shall be taken during storage, transport, handling and installation of plant and equipments to avoid accidental damage.
1 (3) All plants and equipments shall be installed in such a way as to ensure that loads are distributed as intended in design or as per the recommendations of the manufacturers.
1 (4) All pipe work shall be supported so that total loads local to the branches on the vessel or tank do not exceed their design values.
1 (5) After erection all plants and equipments shall be subjected to a pressure test followed by a thorough examination by a competent person. The test and examination shall be as per relevant standard. A certificate of test and examination by competent person shall be obtained and kept available at site.

1 (6) (6) All plants and equipments shall be subjected to periodical test and examination and record maintained as per paragraph 15 in Part II of this Schedule.
1 (7) Plant and equipments during their use shall not be subjected to over filling or over loading beyond rated capacity.

PART-VI MEDICAL REQUIREMENTS
1. Decontamination facilities (a) fully equipped first aid box;
(b) readily accessible means of drenching with water persons, parts of body of persons, and clothing of persons who have been contaminated with such toxic and corrosive substances and such means shall be as shown in the table below.

In all places where toxic substances are used in processes listed in Appendix 'A' the following provisions shall be made to meet an emergency,
TABLE

No. of persons employed at any time	No. of drenching showers
Upto 50 persons	2
Between 51 to 100	3
Between 101 to 200	3 + 1 every 50 persons thereafter
Between 201 to 400	5 + 1 for every 100 persons
Between 401 and above	7 + 1 for every 200 persons

(c) a sufficient number of eye wash bottles filled with distilled water or suitable liquid, kept in boxes or cupboards conveniently situated and clearly indicated by a distinctive sign which shall be visible at all times. 2.

2.
(1) For factories employing up to 50 workers (a) The services of a qualified medical practitioner hereinafter known as Factory Medical Officer, available on a retainer ship basis, in his notified clinic near to the factory for seeking medical help during emergency. He will also carry out the pre-employment and periodical medical examinations as stipulated in paragraph 4 of this Part.
(b) A minimum of five persons trained in first aid procedures, amongst whom at least one shall always be available during the working period.
(c) A fully equipped first aid box.

(2) For factories employing 51 to 200 workers (a) The occupational health centre shall have a room having a minimum floors area of 15 sq. in., with floor and walls made of smooth, hard and impervious surface and shall be adequately illuminated, ventilated and equipped.
(b) A part time Factory Medical Officer will be in overall charge of the Centre who shall visit the factory minimum twice in a week and whose services shall be readily available during emergencies.
(c) There shall be one qualified and trained dresser-cum-compounder on duty throughout the working period.
(d) A fully equipped first aid box.

(3) For factories employing above 200 workers (a) There shall be one full time Factory Medical Officer for factories employing up to 500 workers and one more medical officer for every 1000 workers or part thereof.
(b) The occupational health centre in this case shall have a minimum of 2 rooms each having a minimum floor area of 15 sq. m. with floors and walls made of smooth, hard and impervious surface and shall be adequately illuminated, ventilated and equipped.
(c) There shall be one trained nurse, one dresser-cum-compounder and one sweeper-cum-ward boy throughout the working period.
(d) The Occupational Health Centre in this case shall be suitably equipped to manage medical emergencies.

1 3. Ambulance van (1) In every factory carrying out processes covered in Appendix 'A' there shall be provided and maintained in good condition a suitably constructed and fully equipped ambulance van as per Appendix 'C manned by a full-time driver-cum-

1 (2) The relaxation to procure Ambulance Van from nearby places provided for in sub-para (1) above will not be applicable to factories employing more than 500 workers.
(1) Workers employed in processes covered in Appendix 'A' shall be medically examined by a Factory Medical Officer in the following manner, (a) once before employment, to ascertain physical suitability of the person to do the particular job;
(b) once in a period of 6 months, to ascertain the health status of the worker; and
(c) the details of pre-employment and periodical medical examinations carried out as aforesaid shall be recorded in the prescribed form.

(2) Any finding of the Factory Medical Officer revealing any abnormality or unsuitability of any person employed in the process shall immediately be reported to the Certifying Surgeon who shall in turn, examine the concerned workers and communicate his findings within 30 days. If the Certifying Surgeon is of the opinion that the person so examined is required to be suspended from the process for health protection he will direct the occupier accordingly, who shall not employ the said worker in the same process. However, the person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon in which case the person affected shall be suitably rehabilitated:

(3) No person shall be newly appointed without the Certificate of Fitness granted by the Factory Medical Officer. If the Factory Medical Officer declares a person, unfit for being appointed to work in the process covered in Appendix 'A', such person shall have a right of appeal to the Certifying Surgeon, whose opinion shall be final in this regard.
(4) The worker suspended from the process owing to the circumstances covered in sub-para (2) shall be employed again is the same process only after obtaining the Fitness Certificate from the Certifying Surgeon and after making entries to that effect in the health register.

mechanic and helper trained in the first aid for the purposes of transportation of serious cases of accidents or sickness unless arrangements for procuring such facility at short notice during emergencies have been made with the nearby hospital or other places. The ambulance van shall not be used for any purpose other than the purpose stipulated herein and will always be available near the Occupational Health Centre.
1 4. Medical examination

Provided that the Certifying Surgeon on his own may examine any other worker whom he feels necessary to be examined for ascertaining the suitability of his employment in the process covered in Appendix 'A' or for ascertaining the health status of any other worker and his opinion shall be final.

1. Washing facilities (1) There shall be provided and maintained in every factory for the use of all the workers taps for washing, at the rate of one tap for every 15 persons including liquid soap in a container with tilting arrangement and nail brushes or other suitable means for effective cleaning. Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.
(2) If washing facilities as required above are provided for women, such facilities shall be separate for them and adequate privacy at all times shall be ensured in such facilities.
(1) The occupier of all the factories carrying out, processes covered in Appendix 'A' and employing 50 workers or more, shall provide for all the workers working in a shift mess room facilities which are well ventilated and provided with tables and sitting facilities alongwith the provisions of cold and hygienic drinking water facilities.
(2) Such facilities include suitable arrangement for cleaning and washing and shall be maintained in a clean and hygienic condition.
(1) The occupier of every factory carrying out any process covered in Appendix 'A' shall provide for all the workers employed in the process cloak room facilities with lockers. Each worker shall be provided with two lockers, one for work clothing and another separately for personal clothing and the lockers should be such as to enable the keeping of the clothing in a hanging position.
(2) The cloak room facilities so provided in pursuance of sub-para (1) shall be located as far as possible near to the facilities provided for washing in pursuance of para 1 (1). If it is not possible to locate the washing facilities the cloak room facilities shall have adequate and suitable arrangements for cleaning and washing.

(1) The occupier of any factory carrying out the process covered under Appendix 'B' shall be provided special bathing facilities for all the workers employed and such facilities shall be provided at the rate of 1 for 25 workers and part thereof, and shall be maintained in a clean and hygienic condition.
(2) The occupier shall insist all the workers employed in the processes covered in Appendix 'B' to take bath after the completion of the day's or shift work using the bathing facilities so provided and shall also effectively prevent such if those workers taking bath in any place other than the bathing facilities.
(3) Notwithstanding anything contained in sub-para (1) above, the Chief Inspector may require in writing the occupier of any factory carrying out any other process for which in his opinion bathing facilities are essential from the health point of

PART-VII ADDITIONAL WELFARE AMENITIES

1	2. Mess room facilities
2	3. Cloak room facilities
3	4. Special bathing facilities

view, to provide special bathing facilities.

PART-VIII

1. Duties of workers (1) Every worker employed in the processes covered in Appendix 'A' and Appendix 'B' not make any safety device or appliance or any guarding or fencing arrangement, in operative or defective and shall report the defective condition of the aforesaid arrangement as soon as he is aware of any such defect.
(2) Before commencing any work, all workers employed in processes covered in Appendix 'A' shall check their work place as well as the machinery, equipment or appliance used in the processes and report any mal-function or defect immediately to the supervisor or any responsible person of the management.
(3) All workers shall co-operate in all respects with the management while carrying out any work or any emergency duty assigned to them in pursuance of this schedule and shall always use all the personal protective equipments issued to them in a careful manner.
(4) All workers employed in the processes covered in Appendix 'A' or Appendix 'B' shall not smoke in the process area or storage area. If special facilities are provided by the management only such facilities should be used.
(5) All workers employed in the processes covered in Appendix 'A' shall not remain in unauthorised place or carry out unauthorised work or improvise any arrangement or adopt short cut method or misuse any of the facilities provided in pursuance of the Schedule, in such a manner as to cause risk to themselves as well as or to others employed.
(6) The workers shall not refuse undergoing medical examination as required under these rules.

PART-IX

Restriction on the employment of young persons under 18 years of age and women.

1 (1) The Chief Inspector of Factories may by an order in writing, restrict or prohibit the employment of women and young persons under the age of 18, in any of the processes covered in Appendix 'A' of the Schedule on consideration of health and safety of women and young persons.
2 (2) Such persons who are restricted or prohibited from working in the process due to the order issued in pursuance of sub-para (1) above shall be provided with alternate work which is not detrimental to their health or safety.

PART-X EXEMPTIONS
1 1. Power of exemption

The State Government or subject to the control of the State Government, the Chief Inspector may exempt from the compliance with any of the requirements of this Schedule partly or fully, any factory carrying out processes covered in Appendix

1 (a) The manufacture, manipulation or recovery of any of the following is carried on: (i) sodium, potassium, iron, aluminium, cobalt, nickel, copper, arsenic, antimony, chromium, zinc, selenium, magnesium, cadmium, mercury, beryllium and their organic and inorganic salts, alloys, oxides and hydroxides;
1 (ii) ammonia, ammonium hydroxide and salts of ammonium;
1 (iii) the organic or inorganic compounds or sulphurous, sulphuric, nitric, nitrous, hydrochloric, hydroflouric, hydroiodic, hydrosulphuric, hydrobromil boric;
1 (iv) cyanogen compounds, cyanide compounds, cyanate compounds;
1 (v) phosphorous and its compounds other than organo-phosphorous insecticides;
1 (vi) chlorine.

(b) hydrogen sulphide is evolved by the decomposition or metallic sulphides, or hydrogen sulphide is used in the production of such sulphides;
(c) bleaching powder is manufactured or chlorine gas is produced in chloralkali plants;
1 (d) (i) gas tar or coal tar or bitumen or shale oil asphalt of any residue of such tar is distilled or is used in any process of chemical manufacture;
1 (ii) tar based synthetic colouring matters or their intermediates are produced;

(e) nitric acid is used in the manufacture of nitro compounds;
(f) explosives are produced with the use of nitro compounds;
(g) aliphatic or aromatic compounds or their metallic and non-metallic derivatives or substituted derivatives, such as chloroform, ethylene glycol, formaldehyde, benzyle chloride, phenol, methyl ethyl ketone peroxide, cobalt, carbonyl, tungsten carbide etc. are manufactured or recovered.

'A' if it is clearly and satisfactorily established by the occupier that the compliance with any of the requirement is not necessary to ensure the safety and health of persons employed as

suitable and effective alternate arrangements are available to any of the requirements covered in this schedule.

Appendix 'A'

Any works or that part of works in which,

Appendix 'B'

Concerning Special Bathing Accommodation in pursuance of para 4 of Part IV

1 (1) Nitro or amino processes.

2 (2) All chrome processes.

1 (3) Processes of distilling gas or coal tar or processes of chemical manufacture in which tar is used.

2 (4) Processes involving manufacture, manipulation, handling or recovery of cyanogen compound, cyanide compound, cyanate compounds.

3 (5) Processes involving manufacture of bleaching powder or production of chlorine gas in chloralkali plants.

4 (6) Manufacture, manipulation or recovery of nickel and its compounds.

5 (7) All processes involving the manufacture, manipulation or recovery of aliphatic or aromatic compounds or their derivatives or substituted derivatives.

Appendix 'C'

Ambulance:

Ambulance should have the following equipments

General:

A wheeled stretcher with folding and adjusting devices;

Head of the stretcher must be capable of being titled upward; Fixed oxygen supply with equipments

Fixed oxygen supply with equipments; Pillow with cases;

Sheets; Blankets; Towels;

Emosis bag; Bed pan; Urinal; Glass.

Safety equipment:

Flares with life of 30 minutes; Flood lights;

Flash lights;

Fire extinguisher dry powder type; Insulated guantlets.

Emergency care equipment's:

Resuscitation:

Portable suction unit; Portable oxygen unit;

Bag-valve-mask, hand operated artificial ventilation unit;

Airways; Mouth gage;

Tracheostomy adaptors; Short spine board;

I.V. Fluids with administration unit;

B.P. manometer; Cugg; Stetheoscope. **Immobilization:**

Long and short padded boards; Wire ladder splints;

Triangular bandage;

Long and short spine board. Dressings:
Gauze pads 4" + 4";
Universal dressing 10" X 36"; Roll of aluminium foils;
Soft roller bandages 6" x 5 yards; Adhesive tape in 3" roll;
Safety pins; Bandage sheets; Bandage sheet; Poisoning:
Syrup of Ipecac; Activated charcoal; Pre packeted in doses Snake bite left; Drinking water.

Emergency Medicines:

As per requirement (under the advice of Medical Officer only)

SCHEDULE XII MANUFACTURE OF POTTERY

1. Definitions (a) "Pottery" includes, earthenware, stoneware, porcelain, china, tiles and any

(b) "Efficient exhaust draught" means localised ventilation effected by mechanical or other means for the removal of dust or fume so as to prevent it from escaping into the air of any place in which work in carried on. No draught shall be deemed efficient which fails to remove effectively dust or fume generated at the point where dust or fume originates.
(c) "Fettling" includes scalloping towing, sand papering, and sticking, brushing or any other process of cleaning of pottery where in which dust is given off.
(d) "Leadless glaze" means a glaze which does not contain more than one percent of its dry weight of a lead compound calculated as lead monoxide.
(e) "Low solubility glaze" means a glaze which does not yield to dilute hydrochloric acid more than five percent of its dry weight of a soluble lead compound calculated as lead monoxide when determined in the manner described below
(f) Ground or ordered faint or quartz does not include natural sands.
(g) "Potter's shop" includes all places where pottery is formed by pressing or by any other process and all places where shaping, fettling or other treatment of pottery articles prior to placing or the biscuit fire is carried on.

other articles made from clay or from mixture containing clay and other materials such as quartz, flint feldspars and gypsum.
A weighed quantity of the material which has been dried at 100øC and thoroughly mixed shall be continuously shaken for one hour, at the common temperature with 1000 times of weight of an aqueous solution of hydrochloric acid containing 0.25 percent by weight of hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt contained in the clear filtrate shall then be precipitated as lead sulphide and weighted as lead sulphate.
1 2. Efficient exhaust draught

The following processes shall not be carried on without the use of an efficient exhaust draught:

Operations (1)	**Locations (2)**

(i)	All processes involving the manipulation or use of dry and unfitted lead compound.	Preparing mix for frit.
(ii)	The fettling operations of any kind, whether on greenware or Biscuit, provided that this shall not apply to the wet fettling, and to the occasional finishing of pottery articles without the aid of mechanical power.	Finishing on wheels (of fettling machine) Hand finishing, Blowing of dust before glazing pipe, turning and polishing. Finishing of Biscuits. Rubbing before glazing.
(iii)	The shifting of clay dust or any	Making body for Toggle press and Tile

other material for making tiles or other articles by pressure, except where:	press.	
(a) This is done in a machine so enclosed as to effectually prevent the escape of dust, or		
(b) The material to be shifted is so damp that no dust can be given off.		
(iv)	The pressing of tiles from clay dust, an exhaust opening being connected with each press, this clause shall also apply to the pressing from clay dust of articles other than tiles, unless the material is so damp that no dust is given off.	Tiles press, Toggle press or Dye-press.
(v)	The fettling of tiles made from clay dust by pressure, except where the fettling is done wholly on or with damp material, this clause shall also apply to the fettling of other articles made from clay dust, unless the material is so damp that no dust is given off.	Hand finishing.

(vi)	The process of loading and unloading of saggers where handling and manipulation of ground and powdered flint, quartz, alumina, or other materials are involved.	Loading of saggers, doubling unloading of saggers.
(vii)	The brushing of earthenware biscuits, unless the process is carried on in a room provided with efficient general mechanical ventilation or other ventilation which is certified by the Inspector of Factories as adequate having regard to all the circumstances of the case.	Hand Finishing of Biscuits.
(viii)	Felling of Biscuits were, which has been fired in powdered flint or quartz except where this is	Finishing Biscuits.

done in machines so enclosed as to effectually prevent the escape of dust.		
(ix)	Ware cleaning after the application of glaze by dipping or other process.	Glazing and dusting.
(x)	Crushing and dry grinding of materials for potter bodies, and saggers, unless carried on in machines, so enclosed as to effectually prevent the escape of dust or is so damp that no dust can be given off.	Low crushing of quartz, feldspars etc. Edge runner of pebble mill grinding. Grinding for tile body. Grog disintegrator.
(xi)	Sieving or manipulation of powdered flint, quartz, clay grog or mixture of these materials unless it is so damp that no dust can be given off.	Fire clay disintegrator. Hand sieving of grog and Fire Clay. Filling bags with mix for sagger. Charging of tanks and mixing the Materials.

(xii)	Grinding of tiles on power driven wheel unless an efficient water spray is used on the wheels.	
(xiii)	Lifting and conveying of materials by elevators and conveyers unless they are effectively enclosed and so arranged as to prevent escape of dust into the air in or near to any place in which persons are employed.	Jaw crushing of quartz, feldspar etc. Edge runner or pebble mill grinding. Grinding for tile body. Note. -- Elevators were close to the crushers and grinders.
(xiv)	The preparation or weighing out of flow material, lawning of dry colours, colour dusting and colour blowing.	Spary glazing. Glazing and dusting.
(xv)	In mould making unless the bins or s i m i l a r r ec epta c l es used f o r holding plaster of Paris are provided with suitable covers.	Mould making.
(xvi)	The manipulation of calcined material unless the materials have been made and remains so wet that no dust is given off.	Calcining gypsum. Sieving Plaster of Paris.

(xvii)	Protective Equipment.	Weighing of raw materials charging the blunder charging the ball mill. Filling bags with mix for sagger. Charging of the tanks and mixing the materials.

3. Each of the following processes shall be carried on in such manner and under such conditions so as to secure effectual separation from one another and from other processes, (a) Crushing and dry grinding or sieving of materials, fettling, pressing of tiles, drying of clay and greenware, loading and unloading of saggers.
(b) All processes involving the use of a dry lead compound.

4. No glaze which is not leadless glaze or a low solubility glaze shall be used in a factory in which pottery is manufactured.
5. No woman or young person shall be employed or permitted to work any of the operation specified in clause 2. or at any place where such operations are carried on.

6. The potter's wheel (Jolly and Jigger) shall be provided with screens or so constructed as to prevent clay scappins being thrown off beyond the wheel.

7.
1 (1) All practical measure shall be taken by damping or otherwise to prevent dust arising during cleaning of floors.
2 (2) Damp saw dust or other suitable material shall be used to render the moist method effective in preventing dust rising into the air during the cleaning process which shall be carried out after work has ceased.
3 8. The floors of potter shops, slip houses, dipping houses and ware cleaning rooms shall be hard, smooth and impervious and shall be thoroughly cleaned daily by a moist method by an Adult male.
9. [118][Medical facilities and records of examination and test (1) The occupier of every factory in which a manufacturing of pottery is carried on, shall: (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and
(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories which shall be kept readily available for inspection by the Inspector.]

3 10. [119][Medical examination by Certifying Surgeon (1) Every worker employed in any process mentioned under paragraph 3, shall be examined by Certifying Surgeon within 15 days of his first employment. Such

(2) All persons employed in any of the process included under item (i) to (iv) shall be examined by a Certifying Surgeon once in every 3 calendar months. Those employed in any other processes in every twelve calendar months. Such examinations in respect of all the workers shall include all the tests as specified in sub-paragraph (1) except chest X-ray which will be once in 3 years.
(3) The Certifying Surgeon after examining a worker shall issue Certificate of Fitness in Form 32. The record of examination and re-examination carried out shall be entered in the Certificate and the certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 21.
(4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
(5) If at any time the Certifying Surgeon is of opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of worker he shall make a record of his findings in the said

certificate and the health register. The entry of his finding in those documents should also include the period for which he considers that the said person is unfit for work in the said process. The person so suspended from the process being unfit for work in that process, shall be provided with alternate placement facilities by the factory management unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected be suitable rehabilitated.
(6) No person who has been found unfit to work as said in subparagraph (5) above, shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.]
(1) The occupier shall provide and maintain suitable overalls and head coverings for all persons employed in process included under clause 2.
(2) The occupier shall provide and maintain suitable aprons of a water proof or similar material, which can be sponged daily, for the use of the dippers, assistants, throwers, jolly workers, casters, mound makers and filter press and pug mill workers
(3) Aprons provided in pursuance of clause 11 (2) shall be thoroughly cleaned daily by the weavers by sponging or other wet process. All overalls and head covering shall be washed, cleaned and mended at least once a week and this washing, cleaning or mending shall be provided for by the occupier.

examination shall include tests for lead in urine and blood. ALA in urine, haemoglobin content, stippling of cells and pulmonary function test and chest X- ray for workers engaged in processes mentioned in items (i) to (iv) of paragraphs 2 and pulmonary function tests and chest X-rays for the others. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
1 11. Protective equipment

(4) No person shall be allowed to work in emptying specks of dusty materials, weighing out and mixing of dusty materials and charging of ball mills and Hungers without wearing a suitable and efficient dust respirator.
(1) The occupier shall provide and maintain, in a cleanly state and in good repair for the use of all persons employed in any of the processes specified in clause 2, a wash place under cover, with either:
(2) A sufficient supply of clean towels made of suitable material changed daily, with sufficient supply of nail brusher and soap.

1 12. Washing Facilities
2 (i) a trough with smooth impervious surface fitted with a waste pipe, without plug, and of sufficient length to allow at least two feet for every five such persons employed at any one time, and having constant supply of clean water from taps or jets above the through at intervals of not more than two feet, or

3 (ii) at least one tap or stand pipe for every five such persons employed at any one time, and having a constant supply of clean water, the tap or stand pipe being spaced not less than 4 feet apart; and
4 13. Time allowed for washing

Before each meal and before the end of the days work, at least ten minutes, in addition to the regular meal times, shall be allowed for washing to each person employed in any of the processes mentioned in clause 2.
1 14. Mess-room (1) There shall be provided and maintained for use of all persons remaining within the premises during the rest intervals, a suitable mess-room, providing accommodation of 10 square feet per head and furnished with,

(i) a sufficient number of tables and chairs or benches with back rest;
(ii) arrangements for washing utensils:
(iii) adequate means for warming food;
1 (iv) adequate quantity of drinking water. (2) The room shall be adequately ventilated by the circulation of fresh air and placed under the charge of responsible person and shall be kept clean.

15. Food, drinks, etc., prohibited in work-rooms

No food, drinks, pan and supari, or tobacco shall be brought into or consumed by any worker in any work-room in which any of the processes mentioned in clause 2 are carried on and no person shall remain in any such room during intervals for meals or rest.
1 16. Cloak-room etc.

There shall be provided and maintained for the use of all persons employed in any of the processes mentioned in clause 2

(a) a cloak-room for clothing put off during working hours and such accommodation shall be separate from any mess room;
(b) Separate and suitable arrangements for the storage of protective equipment provided under clause II.
17. These regulations shall not apply to a factory in which any of the following articles, but no other pottery, are made:
(a) unglazed or salt brick and tiles, and
(b) architectural terra cotton made from plastic clay and either unglazed or glazed with a leadless glaze only.
18. Exemptions (1) The room in which electrolyser plant is installed shall be separate from the plant for storing and compressing the oxygen and hydrogen.
(2) The purity of oxygen and hydrogen shall be tested by a competent person at hourly intervals at the following points,
(3) The oxygen and hydrogen gases shall not be compressed, if their purity as determined under clause 2 above falls below 98 per cent at any time.

(4) There shall be at least two gas holders for each kind of gas and the gas holders for same gas shall not be fitted with inter-locked valves or levers and three way cocks at the junction of their outlets in such a way that no gas holder is connected to the compressor and to the electrolyser at the same time, and only one gas holder is connected to the compressor, line at any one time.
(5) The bell of any gas holder shall not be permitted to go within 30 cm. (12 in.) of its lowest position when empty, a visual and an audible warning signal shall be fitted to the gas holder to indicate that this limit is reached.

If in respect of any factory the Chief Inspector of Factories is satisfied that all or any of the provisions of this Schedule are not necessary for the protection of the persons employed in such factory, he may by a certificate in writing exempt such factory from all or any such provisions, subject to such conditions as he may specify therein, such certificate may at any time be revoked by the Chief Inspector without assigning any reasons.

SCHEDULE XIII

COMPRESSION OF OXYGEN AND HYDROGEN PRODUCED BY THE ECLECTROLYSIS WATER

i (i) in the electrolyser room;

ii (ii) at the gas holder inlet; and

iii (iii) at the section end of the compressor.

The purity figure shall be entered and signed by the person carrying out such tests in the register:

Provided, however, that if the electrolyser plant is fitted with automatic recorder of purity of oxygen and hydrogen with alarm lights, it shall be sufficient if the purity of the gases is tested at hourly intervals at the suction end of the compressor only.

(6) The water and caustic soda used for making shall be chemically pure within pharmaceutical limits.
(7) Electrical connections at the electrolyser cells and at the generator terminals shall be constructed as to preclude the possibility of wrong connections leading to the reversal of polarity.
(8) Oxygen and hydrogen gas pipes shall be painted with distinguishing colours and in the event of leakage at the joints of the hydrogen gas pipe, the pipe after reconnection shall be purged of all air before drawing in hydrogen gas.
(9) All electrical wiring and apparatus in the electrolyser room shall be of flame- proof construction or enclosed in flame-proof fitting and no naked light or flame shall be taken either in the electrolyser room or where compression and filling of the gases is carried on and such warning notices shall be exhibited in prominent places.
(10) No part of the electrolyser plant and the gas holders and compressor shall be subjected to welding, brazing, soldering or cutting until steps have been taken to remove any explosive substance from that part and render the part safe for such operations and after the completion of such operations no explosive substance shall be allowed to enter that part until the metal has cooled sufficient to prevent risk of explosion.

(11) No work of operation, repair or maintenance shall be undertaken except under the direct supervision of a person who, by his training, experience and knowledge of the necessary precautions against risk of explosion is competent to supervise such work.

[120]**[SCHEDULE XIV**
CLEANING OR SMOOTHENING, ROUGHENING, ETC., OF ARTICLES BY A JET OF SAND, METAL SHORT, OR GRIT, OR OTHER ABRASIVE PROPELLED BY A BLAST OF COMPRESSED AIR OR STEAM
Blasting regulations
1 1. Definitions

For the purposes of this Schedule,
"Blasting" means cleaning, smoothening, roughening, or removing of any part of the surface of any article by the use as an abrasive of a jet of sand, metal shot or grit or other material, propelled by a blast of compressed air or steam.
"Blasting enclosure" means a chamber, barrel, cabinet or any other enclosure designed for the performance of blasting therein.
"Blasting chamber" means a blasting enclosure in which, any person may enter at any time in connection with any work or otherwise.
"Cleaning of castings" where done as an incidental or supplemental process in connection with the making of metal castings means the freeing of the casting from adherent sand or other substance and includes the removal of cores and the general smoothing of a casting, but does not include the free treatment.

1 2. Prohibition of Sand Blasting

Sand or any other substance containing free silica shall not be introduced as an abrasive into any business apparatus and shall not be used for blasting:
Provided that this clause shall come into force two years after the coming into operation of the Schedule:
Provided further that no woman or young person shall be employed or permitted to work at any operation of sand blasting.
3. Precautions in connection with Blasting Operations (1) Blasting to be done in blasting enclosure
(2) Maintenance of blasting enclosure
(3) Provision of separating apparatus
(4) Provision of ventilating plant
(5) Operation of ventilating plant

Blasting shall not be done except in a blasting enclosure and no work other than blasting any work immediately incidental thereto and clearing and repairing of the enclosure including the plants and appliances situated therein, shall be performed in a blasting enclosure. Every door,

aperture and joint of blasting enclosure, shall be kept closed and air tight while blasting is being done therein.
Blasting enclosure shall always be maintained in good condition and effective measures shall be taken to prevent dust escaping from such enclosure, and from apparatus connected therewith, into air of any room.
There shall be provided and maintained for and in connection with every blasting enclosure, efficient apparatus for separating, so far as practicable abrasive which has been used for blasting and which is to be used again as an abrasive from dust or particles of other materials arising from blasting; and no such abrasive shall be introduced into any blasting apparatus and used for blasting until it has been so separated:
Provided that this clause shall not apply, except in the case of blasting chambers, to blasting enclosures constructed or installed before the coming into force of this Schedule, if the Chief Inspector is of opinion that it is not reasonable practicable to provided such separating apparatus.
There shall be provided and maintained in connection with every blasting enclosure efficient ventilating plant to extract by exhaust drought effected by mechanical means, dust produced in the enclosure. The dust extracted and removed shall be disposed of by such method and in such manner that it shall not escape into the air of any room; and every other filtering or settling device situated in a room in which persons are employed, other than persons attending to such bag or other filtering or settling device, shall be completely separated from the general air of that room in an enclosure ventilated to the open air.
The ventilating plant provided for the purpose of sub-paragraph (4) shall be kept in continuous operation whenever the blasting enclosure is in use whether

nor not blasting is actually taking place therein, and in the case of blasting chamber, it shall be in operation even when any person is inside the chamber for the purpose of cleaning.
1 4. Inspection and Examination (1) Every blasting enclosure shall be specially inspected by a competent person at least once in every week in which it is used for blasting. Every blasting enclosure, the apparatus connected therewith and the ventilating plant, shall be thoroughly examined and in the case of ventilating plant, tested by a competent person at least once in every month.
1 (2) Particulars of the result of every such inspection, examination and test shall forthwith be entered in a register, which shall be kept in a form approved by the Chief Inspector and shall be available for inspection by any workman employed in or in connection with blasting in the factory. Any defect found on any such inspection, examination or test shall be immediately reported by the person carrying out the inspection, examination or test to the Occupier, Manager or other appropriate person and without prejudice to the foregoing requirements of this Schedule, shall be removed without avoidable delay.

1 5. Provision of protective helmets, gauntlets and overalls (1) There shall be provided and maintained for the use of all persons who are employed in a blasting chamber, whether in blasting or in any work connected therewith or in cleaning such a chamber, protective helmets of a type approved by a certificate of the Chief Inspector and every such person shall wear the

helmet provided for this use whilst he is in the chamber and shall not remove it until he is outside the chamber.

1 (2) Each protective helmet shall carry a distinguishing mark indicating the person by whom it is intended to be used and no person shall be allowed or required to wear a helmet not carrying his mark or a helmet which has been worn by another person and has not since been thoroughly disinfected.

1 (3) Each protective helmet when in use shall be supplied with clean and not unreasonably cold air at a rate of not less than six cubic feet per minute.

1 (4) Suitable gauntlets and overalls shall be provided for the use of all persons while performing blasting or assisting at blasting, and every such person shall while so engaged wear the gauntlet and overall provided.

1 6. Precautions in connection with cleaning and other work (1) Where any person is engaged upon cleaning of any blasting apparatus or blasting enclosure or of any apparatus or ventilating plant connected therewith or the surroundings thereof or upon any other work in connection with any blasting apparatus or blasting enclosure or with any apparatus or ventilating plant connected therewith so that he is exposed to the risk of inhaling dust which has arisen from blasting. All practicable measures shall be taken to prevent such inhalation.

1 (2) In connection with any cleaning operation referred to in clause 5, and with the removal of dust from filtering or settling devices all practicable measures shall

be taken to dispose of the dust in such a manner that it dose not enter the air of any room. Vacuum cleaners shall be provided and used where practicable for such cleaning operations.

1 7. Storage accommodation for protective wear

Adequate and suitable storage accommodation for the helmets, gauntlets and overalls required to be provided by clause 5 shall be provided outside and conveniently near to every blasting enclosure and such accommodation shall be kept clean. Helmets, gauntlets and overalls when not in an actual use shall be kept in this accommodation.

1 8. Maintenance and cleaning of protective wear

All helmets, gauntlets, overalls and other protective devices or clothing's provided and worn for the purposes of this Schedule, shall be kept in good condition and so far as is reasonably practicable shall be cleaned on every week day in which they are used, Where dust arising from the cleaning of such protective clothing or devices is likely to be inhaled; all practicable measures shall be taken to prevent such inhalation. Vacuum cleaners shall wherever practicable, be used for removing dust from such clothing and compressed air shall not be used for removing dust from any clothing.

1 9. Maintenance of vacuum cleaning plant

Vacuum cleaning plant used for the purpose of this Schedule shall be properly maintained.

1 10. Restrictions in employment of young persons (1) No person under 18 years of age shall be employed in blasting or assisting at blasting or in any blasting chamber or in the

cleaning of any blasting apparatus or any blasting enclosure or any apparatus or ventilating plant connected therewith or be employed on maintenance or repair work at such apparatus, enclosure or plant.

1 (2) No person under 18 years of age shall be employed to work regularly within twenty feet of any blasting enclosure unless the enclosure is in a room and he is outside that room where he is effectively separated from any dust coming from the enclosure.

1 11. Power to exempt or relax (1) If the Chief Inspector is satisfied that in any factory or any class of factory, the use of sand or other substance containing free silica as an abrasive in blasting in necessary for a particular manufacture or process (other than the process incidental or supplemental to making of metal castings) and that the manufacture or process cannot be carried on without the use of such abrasive or, that owing to the special conditions, or special method of work or otherwise any requirement of this schedule can be suspended either temporarily or permanently or can be related without endangering the health of the persons employed or that application of any of such requirements is for any reason impracticable or inappropriate, he may, with the previous sanction of the State Government, by an order in writing exempt the said factory or class of factory from such provisions of this Schedule, to such an extent and subject to such

1 (2) Where an exemption has been granted under sub-clause (1), a copy of the order shall be displayed at a notice board at a prominent place at the main entrance or entrances to the factory and also at the place where the blasting is carried on.]

(1) The occupier of every factory to which schedule applies, shall: (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.]

(1) Every worker employed in any of the processes to which this schedule applied shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function test and chest X-ray. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

(2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every 12 calendar months and such re- examination shall, wherever to the Certifying Surgeon considers appropriate include pulmonary function test and chest X-ray once is every three years.

(3) The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 32. The record of examination and re-examination carried out shall be kept in the custody of the manager of the factory. The record of each examination carried under sub-paragraphs (1)

and (2) including the nature and the results of the tests shall also be entered by the Certifying Surgeon in a health register in Form 21.
(4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.
(5) If at any time the Certifying Surgeon is of opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process being unfit for work in that processes, shall be provided with

conditions and for such period as may be specified in the said order.
1 12. [121][Medical facilities and records of examination and tests
2 13. [122][Medical examination by Certifying Surgeon

(6) No person who has been found unfit to work in the said processes as said in sub- paragraph (5) above, shall be re-employed or permitted to work unless the Certifying Surgeon, after further examination again certified him fit for employment in those processes.]

alternate placement facilities by the factory management unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected shall be suitably rehabilitated.

123[SCHEDULE XV

HANDLING AND PROCESSING OF ASBESTOS MANUFACTURE OF ANY ARTICLE OF ASBESTOS ANY OTHER PROCESS OF MANUFACTURE OR OTHERWISE IN WHICH ASBESTOS IS USED IN ANY FORM

1. Application (a) breaking, crushing, disintegrating, opening, grinding, mixing or seiving of asbestos and any other processes involving handling and manipulation of asbestos incidental thereto;
(b) all processes in the manufacture of asbestos textiles including preparatory and finishing processes;
(c) making of insulation slabs or sections, composed wholly or partly of asbestos, and processes incidental thereto;
(d) making or repairing of insulating mattresses composed wholly or partly of asbestos, and processes incidental thereto;
(e) manufacture of asbestos cardboard and paper;
(f) manufacture of asbestos cement goods;
(g) application of asbestos by sprays methods;
(h) sawing, grinding, turning, abrading and polishing in dry state of articles composed wholly or partly of asbestos;

(i) cleaning of any room vessel, chamber, fixture of appliance for the collection of asbestos dust; and
(j) any other processes in which asbestos dust is given off into the work environment.
(a) "asbestos" means any fibrous silicate mineral and any admixture containing actionlite, amosite anthophylite, chrysolite crocidolite, tremolite or any mixture thereof, whether crude, crushed or opened;
(b) "asbestos textiles" means yarn or cloth composed of asbestos or asbestos mixed with any other material;

This schedule shall apply to all factories or parts of factories in which any of the following processes in carried on:
1 2. Definitions

For the purpose of this schedule

(c) "approved" means approved for the time being in writing by the Chief Inspector;
(d) "breathing apparatus" means a helmet or face piece with necessary connection by means of which a person using it breathes air free from dust or any other approved apparatus;
(e) "efficient exhaust draught" means localised ventilation by mechanical means for the removal of dust so as to prevent dust from escaping into air of any place in which work is carried on, draught shall be deemed to be efficient which fails to control dust produced at the point where such dust originates.
(f) "preparing" means crushing, disintegrating, and any other processes in or incidental to the opening of asbestos;
(g) "protective clothing" means overalls and head covering, which (in either case) will when exclude asbestos dust.

1 3. Tools and Equipment

Any tools or equipment used in processes to which this schedule applied shall be such that they do not create asbestos dust above the permissible limit or are equipped with efficient exhaust draught.
1 4. Exhaust draught
1 (1) An efficient exhaust draught shall be provided and maintained to control dust from the following processes and machines: (a) manufacture and conveying machinery namely, (i) preparing grinding or dry mixing machines;
1 (ii) carding, card waste and ring spinning machines, and looms;
1 (iii) machines or other plant fed with asbestos; and
1 (iv) machines used for the sawing, grinding, turning, drilling, abrading or polishing; in the dry state of articles composed wholly or partly of asbestos;

(b) cleaning, and grinding of the cylinders or other parts of a carding machines;

(c) chambers, hoppers or other structures into which loose asbestos is delivered or passes;
(d) work-benches for asbestos waste sorting or for other manipulation of asbestos by hand;
(e) workplaces at which filling or emptying of sacks, skips or other portable containers, weighing or other process incidental thereto which is effected by hand, is carried on;
(f) sack cleaning machines;
(g) mixing and blending of asbestos by hand; and (h) any other process in which dust is given off into the work environment.

(2) Exhaust ventilation equipment provided in accordance with subparagraph (1) shall, while any work of maintenance or repair to the machinery, apparatus or

other plant or equipment in connection with which it is provided is being carried on, be kept in use so as to produce an exhaust draught which prevents the entry of asbestos dust into the air of any work place.

1 (3) Arrangements shall be made to prevent asbestos dust discharged from exhaust apparatus being drawn into the air of any workroom.

2 (4) The asbestos bearing dust removed from any workroom by the exhaust system shall be collected in suitable receptacles or filter bagas which shall be isolated from all work areas.

3 5. Testing and examination of ventilating systems

4 (1) All ventilating systems used for the purpose of extracting or suppressing dust as required by this schedule shall be examined and inspected once in every week by a responsible person. It shall be thoroughly examined and tested by a competent person once in every period of 12 months. Any defects found by such examinations or test shall be rectified forthwith.

5 (2) A register containing particulars of such examination and tests and the state of the plant and the repairs or alternations (if any) found to be necessary shall be kept and shall be available for inspection by an Inspector.

6 6. Segregation in case of certain process

Mixing of blending by the hand of asbestos, or making or repairing of insulating mattresses composed wholly or partly of asbestos shall not be carried on in any room in which any other work is done.

1 7. Storage and distribution of loose asbestos

(1) All loose asbestos shall while not in use, be kept in suitable closed receptacles which prevent the escape of asbestos dust therefrom such asbestos shall not be distributed within a factory except in such receptacles or in a totally enclosed system of conveyance.

1 8. Asbestos sacks

2 (1) All sack used as receptacle for the purpose of transport of asbestos within the factory shall be constructed of impermeable materials and shall be kept in good repair.

3 (2) A sack which has contained asbestos shall not be cleaned by hand beating but by a machine, complying with paragraph 3.

4 9. Maintenance of floors and workplaces

(1) In every room in which any of the requirements of this schedule apply: (a) the floors, work-benches, machinery and plant shall be kept in a clean state and free from asbestos debris and

suitable arrangements shall be made for the storage of asbestos not immediately required for use; and
(b) the floors shall be kept free from any materials, plant or other articles not immediately required for the work carried on in the room, which would obstruct the proper cleaning of the floor.

1 (2) The cleaning as mentioned in sub-rule (1) shall so far as is practicable, as carried out by means of vacuum cleaning equipment so designed and constructed and so used that asbestos dust neither escape nor is discharged into the air of any work place.
2 (3) When the clearing is done by any method other than that mentioned in sub-paragraph (2), the persons doing cleaning work and any other person employed in that room shall be provided with respiratory protective equipment and protective clothing.
3 (4) The vacuum cleaning equipment used in accordance with provisions of sub-paragraph (2) shall be properly maintained and after each cleaning operation, its surfaces kept in a clean state and free from asbestos waste and dust.
4 (5) Asbestos waste shall not be permitted to remain on the floors or other surfaces at the work place at the end of the working shift and shall be transferred without delay to suitable receptacles. Any spillage of asbestos waste occurring during the course of the work at any time shall be removed and transferred to the receptacles maintained for the purpose without delay.
5 10. Breathing apparatus and protective Clothing
(1) An approved breathing apparatus and protective clothing shall be provided and maintained in good conditions for use for every person employed: (a) in chambers containing loose, asbestos;
(b) in cleaning, dust settling or filtering chambers or apparatus;
(c) in cleaning the cylinders, including the doffer cylinders, or other parts of a carding machine by means of hand-strickers; and
(d) in filling, beating or leveling in the manufacture or repair of insulating mattresses; and
(e) in any other operation of circumstances in which it is impracticable to adopt technical means to control asbestos dust in the work environment within the permissible limit.

(2) Suitable accommodation in conveniently accessible position shall be provided for the use of persons when putting on or taking off breathing apparatus and protective clothing provided in accordance with this rule and for the storage of such apparatus and clothing when not in use.
(3) All breathing apparatus and protective clothing when not in use shall be stored in the accommodation provided in accordance with sub-rule (2) above.
(4) All protective clothing in use shall be deducted under an efficient exhaust draught or by vacuum cleaning and shall be washed at suitable intervals. The cleaning schedule and procedure should be such as to ensure the efficiency in protecting the weaver.
(5) All breathing apparatus shall be cleaned and disinfected at suitable intervals and thoroughly inspected once every month by a responsible person.
(6) A record of the cleaning and maintenance and of the condition of the

breathing apparatus shall be maintained in a register provided for that purpose which shall be readily available for inspection by an Inspector.

1 (7) No person shall be employed to perform any work specified in sub-paragraph (1) for which breathing apparatus is necessary to be provided under that sub- paragraph unless he has been fully instructed in the proper use of that equipment.

2 (8) So breathing apparatus provided in persuance of sub- paragraph (1) which has been worn by a person shall be worn by another person unless it has been thoroughly cleaned and disinfected since last being worn and the person has been fully instructed in the proper use of that equipment.

3 11. Separate accommodation for personal clothing

A separate accommodation shall be provided in a conveniently accessible position for all persons employed in operations to which this schedule applied for storing of personal clothing. This should be separated from the accommodation provided under sub-paragraph (2) to prevent contamination of personal clothing.

1 12. Washing and bathing facilities

2 (1) There shall be provided and maintained in a clean stage and in good repair for the use of all workers employed in the processes covered by the schedule, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 15 persons employed.

3 (2) The washing places shall have standpipes placed at intervals of not less than one metre.

4 (3) Not less than one half of the total number of washing places shall be provided with bathroom.

5 (4) Sufficient supply of clean towels made of suitable material shall be provided: Provided that such towels shall be supplied individually for each worker if so order by the Inspector.

6 (5) Sufficient supply of soap and nail brushes shall be provided.

7 13. Mess-room

(1) There shall be provided and maintained for the use of all workers employed in the factory covered by this schedule, remaining on the premises during the rest intervals, a suitable mess-room which shall be furnished with, (a) sufficient tables and benches with back rest; and
(b) adequate means for warming food.

(2) The mess-room shall be placed under the charge of a responsible person and shall be kept clean.

14. Prohibition of employment of young persons

No young person shall be employed in any of the process covered by this schedule.

1 15. Prohibition relating to smoking

No person shall smoke in any area where processes covered by this schedule are carried on. A notice in the language understood by majority of the workers shall be posted in the plant prohibiting smoking at such areas.

1 16. Cautionary Notices
(1) Cautionary notices shall be displayed at the approaches and along the perimeter of every asbestos processing area to warn all persons regarding, (a) hazards to health from asbestos dust;
(b) need to use appropriate protective equipment;
(c) Prohibition of entry to unauthorised person, or authorised persons but without protective equipment.

(2) Such notices shall be in the language understood by the majority of the workers.
17. Air Monitoring

To ensure the effectiveness of the control measures, monitoring of asbestos fibre in air shall be carried out once atleast in every shift and the record of the results so obtained shall be entered in a register specially maintained for the purpose.
1 18. Medical facilities and records of medical examinations and tests
(1) The occupier of every factory or part of the factory to which the schedule applies shall, (a) employ a qualified medical practitioner for medical surveillance of the workers covered by this schedule whose employment shall be subject to the approval of the Chief Inspector of Factories;
(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.
19. Medical examination by Certifying Surgeon
(1) Every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function tests, tests for detecting asbestos fibres in sputum and chest X-ray. No worker shall be allowed to work after

15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
1 (2) Every worker employed in the process referred to sub-paragraph (1) shall be re-examined by a Certifying Surgeon atleast once in every twelve calendar months. Such examinations shall wherever the Certifying Surgeon considers appropriate, include all the tests specified in sub-paragraph (1) except chest X-ray which will be carried out once in 3 years.
2 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of

Fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in health register in Form 21.

1 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by Inspector.
2 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings those documents should also include the period for which he considers that the said person is unfit to work in the said processes. The person so suspended from the process being unfit for work in that processes shall be provided with alternate placement facilities by the factory management unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected shall be suitably rehabilitated.
3 (6) No person has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.
4 20. Exemptions

If in respect of any factory the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for protection of the workers in the factory, the Chief Inspector may by a certificate in writing, which he may at his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any as he may specify therein.]

[124][SCHEDULE XVI

HANDING AND MANIPULATION OF CORROSIVE

1. Definitions: For the purpose of this Schedule (a) "Corrosive operation" means an operation of manufacturing, storing handing, processing, packing, or using any corrosive substance in a factory.
(b) "Corrosive substance" includes sulphuric acid, nitric acid hydrochloric acid, hydrofluoric acid, carbolic acid, phosphoric acid, liquid chlorine, liquid bromine, ammonia, sodium hydroxide and potassium hydroxide and a mixture thereof and any other substance which the State Government by notification in the Official Gazette specify to be a corrosive substance.

2. Flooring: The floor of every work-room of a factory in which corrosive operation is carried on shall be made of impervious, corrosion and fire resistant material and shall be so constructed as to prevent collection of any corrosive substance. The surface of such flooring shall be smooth and cleaned as to often as necessary and maintained in sound condition.

3. Protective equipment (a) The Occupier shall provide for the use of all persons employed in any corrosive operation suitable protective wear for hands and feet, suitable aprons, face shields, chemical safety goggles, and respirators. The equipments shall be maintained in good order and shall be kept in clean and hygienic condition by suitable treating to get rid of the ill effects of any absorbed chemicals and by disinfecting. The Occupier shall also provide suitable protective creams and other preparations wherever necessary.

(b) The protective equipment and preparations provided shall be used by the person employed in any corrosive operation.

4. Water facilities: Where any corrosive operation is carried on, there shall be provided as the close to the place of such operation as possible, a source of clean water at a height of 210 cms. (7 ft.) from a pipe of 1.25 cm. (1/2") diameter and fitted with a quick acting valve so that in case of injury to the worker by any corrosive substance, the injured part can be thoroughly flooded with water, Wherever necessary, in order to ensure continuous water supply, a storage tank having a minimum length, breadth and height of 210 cm., 120 cm. and 60 cm. respectively or such dimensions as are approved by the Chief Inspector shall be provided as the source of clean water.
5. Cautionary Notice: A cautionary notice in the following form and printed in the language which majority of the workers employed understand, shall be displayed prominently close to the place where any of the operations mentioned in paragraph 2 above is carried out and where it can be easily and conveniently read by the workers. If any worker is illiterate effective steps shall be taken to explain carefully to him the contents of the notice so displayed.

CAUTIONARY NOTICE DANGER
Corrosive substances cause severe burns and vapors thereof may be extremely, hazardous. In case of contact, immediately flood the part effected with plenty of water for at least 15 minutes.
Get medical attention quickly.
6. Transport (a) Corrosive substances shall not be filled moved, or carried except in containers and when they are to be transported, they shall be included in crates of sound construction and sufficient strength.
(b) A container with a capacity of (11.5 litres) (2 1/2 gallons) or more of a corrosive substances shall be placed in a receptacles or crate and then carried by more than one person, at a height below the waist line unless a suitable rubber wheeled truck is used for the purpose.
(c) Containers for corrosive substances shall be plainly labeled.

7. Devices for handling Corrosives

(a) Suitable tiling or lifting device shall be used for emptying jars, carboys and other containers of corrosives.
(b) Corrosive substance shall not be handled by hands but by means of a suitable scoop or other devices.
(a) In cleaning out or removing residues from stills or other large chamber used for holding any corrosive substance, suitable implements, made of wood or other material shall be used to prevent production of arseniuretted hydrogen (Arsine).
(b) Whenever it is necessary for the purpose of cleaning or other maintenance work for any worker to enter chamber tank, vat, pit or other confined space where a corrosive substance had been stored, all possible precautions required under Section 36 of the Factories Act, 1948, shall be taken to ensure the worker's safety.

(c) Wherever possible, before repairs are undertaken to any part of equipment in which a corrosive substance was handled, such equipment or part thereof shall be freed of any adhering corrosive substance by adopting suitable methods.
(a) Corrosive substances shall not be stored in the same room with other chemicals, such as turpentine, carbides, metallic powders and combustible materials the accidental mixing with which may cause a reaction which is either violent or gives rise to toxic fumes and gases.
(b) Pumping or filling overhead tanks, receptacles, vats or other containers storing corrosive substances shall be so arranged that there is no possibility of any corrosive substance over flowing and causing injury to any person.
(c) Every container having capacity of twenty liters or more and every pipe line, valves and fitting used for storing or carrying corrosive substances shall be thoroughly examined every year for finding out any defects, and defects shall be removed forthwith. A register shall be maintained of every such examination made and shall be produced before the Inspector whenever required.

1 8. Opening valves: Valves fitted to containers holding a corrosive substance shall be opened with great care. If they do not work freely, they shall not be forced open. They shall be opened by a worker suitably trained for the purpose.
2 9. Cleaning tanks, stills, etc
3 10. Storage
4 11. Fire extinguishers and fir fighting equipment: An adequate number of suitable type of fire extinguishers or other firefighting equipment, depending on the nature of chemicals stored, shall be provided. Such extinguishers or other equipment shall be regularly tested and refilled. Clear instructions as to how the extinguishers or other equipment should be used printed in the language which majority of the workers employed understand, shall be affixed near each extinguisher or other equipment.

1 12. Exemption: If in respect of any factory on an application made by the manager, the Chief Inspector is satisfied that owing to the exceptional circumstances, or the infrequency of the process or for any other reason to be recorded by him in writing, all or any of the provisions of this Schedule are not necessary for the protection of the persons employed therein, he may by a certificate in writing, which he may at any time revoke, exempt the factory from such of the provisions and subject to such conditions as he may specify therein.]

125[SCHEDULE XVII

MANIPULATION OF STORE OR ANY OTHER MATERIAL CONTAINING FREE SILICA

1 1. Application: This schedule shall apply to all factories or parts of Factories in which manipulation of stone or any other material containing free silica is carried on.
2. Definitions: For the purpose of this Schedule: (a) ”manipulation" means crushing breaking, chip-ping, dressing, grinding, sieving, mixing, grinding or handling of stone or any other material containing free silica or any other operation involving such stone or material;
(b) "stone or any other material containing free silica" means a stone or any other solid material containing not less than 5% by weight of free silica.

3. Precautions in manipulation (a) dampening the stone or other material being processed,
(b) providing water spray,
(c) enclosing the process,
(d) isolating the process, and
(e) providing localised exhaust ventilation:

No manipulation shall be carried out in a factory or part of a factory unless one or more of the following measures, namely:
Provided that such measures as above said are not necessary if the process operation itself is such that the level of dust created and prevailing does not exceed the permissible level referred to.

1 4. Maintenance of floors

2 (1) All floors or places fine dust is likely to settle on and whereon any person has to work or pass shall be of impervious material and maintained in such condition that they can be thoroughly cleaned by a moist method or any other method which would prevent dust being airborne in the process of cleaning.

3 (2) The surface of every floor of every workroom or place where any work is carried on or where any person has to pass during the course of his work, shall be cleaned of dust once at least during each shift after being sprayed with water or by any other suitable method so as to prevent dust being airborne on the process of cleaning.

1 5. Prohibition relating young persons: No young person shall be employed or permitted to work in any of the operations involving manipulation or at any place where such operations are carried out.

2 6. Medical facilities and records of examinations and tests

(1) The occupier of every factory to which the schedule applies, shall (a) employ a qualified medical officer for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and
(b) provide to the said medical officer all the necessary facilities for purpose referred to in clause (a).

(2) The record of medical examination and appropriate tests carried out by the said medical officer shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

7. Medical examination by Certifying Surgeon

(1) Every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such medical examination shall include pulmonary function tests and chest X-ray. No worker shall be allowed to work after 15 days of his first employment unless he is certified fit for such employment by the Certifying Surgeon.
(2) Every worker employed in the said processes shall be examined by a Certifying Surgeon at least once in every twelve months. Such examination shall, wherever the Certifying Surgeon

considers appropriate, include all the tests as specified in sub-paragraph (1) except chest X-ray which will be once in 3 years.
(3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of re-examinations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the Manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests shall also be entered by the Certifying Surgeon in health register in Form 21.
(4) The Certificate of Fitness and the health register shall be kept readily available for inspection by Inspector.
(5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in these documents should also include the period for which he considers that the said person is unfit to work in the said processes. The person so suspended from the process being unfit for that processes shall be provided with alternate placement

facilities by the factory management unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected shall be suitably rehabilitated.
1 (6) No person who has been found unfit to work as said in subparagraph (5) shall be re-employed for permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in these processes.
2 8. Exemption: If in respect of any factory the Chief Inspector is satisfied that owing to the except exceptional circumstances or in frequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for protection of the workers in the factory, the Chief Inspector may by a certificate in writing, which he may in his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any he may specify therein.

[126][SCHEDULE XVIII
[Solvent extraction Plants]
PROCESS OF EXTRACTING OILS AND FATS FROM VEGETABLE AND ANIMAL I SOURCES IN SOLVENT EXTRACTION PLANTS
1. Definitions (a) "Solvent Extraction Plant" means a plant in which the process of extracting oils and fats from vegetable and animal sources by use of solvents is carried on.
(b) "Solvent" means an inflammable liquid such as pentane hexane and heptane used for the extraction of vegetable oils.
(c) "Flame roof enclosure as applied to electrical machinery or apparatus means an enclosure that will withstand, when covers or other access doors are properly secured, an internal explosion of the flammable gas or vapour which may enter, or which may be originally inside the enclosure without suffering damage and without communicating internal inflammation for explosion to the external flammable gas or vapour.

(d) "Competent Person" for the purpose of this schedule shall be at least Member of the Institution of Engineers (India) or an Associate Member of the said instruction with 10 years' experience in a responsible position as may be approved; by the Chief Inspector

In this schedule unless the context otherwise requires,
Provided that a graduate in Mechanical Engineering or Chemical Technology with specialised knowledge of oils and fats and with a minimum experience of 5 years in a solvent extraction plant shall also be considered to be competent person
Provided further that the Chief Inspector may accept any other person having suitable qualification and experience as a competent person for purposes of this Schedule.

2. Location and Lay-out (a) No solvent extraction plant shall be constructed or extended to within a distance of 30 meters from the nearest residential locality.
(b) A 1.5 metre high continuing fencing shall be provided around the solvent extraction plant up to minimum distance of 15 meters from the plant.
(c) No person shall be allowed to carry any matches or an open flame or fire inside the area bound by the fencing.
(d) Boiler house and other building where open flame process are carried on shall be located at least 30 metres away from the solvent extraction plant.
(e) If godowns and preparatory processes are at less than 30 metres distance from the solvent extraction plant, there shall be atleast 15 metres distance from the plant, and a continuous barrier wall of non-combustible material

1.5 metres high from the solvent extraction plant so that it extends to atleast 30 meters of vapour travel around its ends from the Plant to the possible sources of ignition.
3. Electrical Installation (a) All electrical motors and wiring and other electrical equipment installed or housed in Solvent Extraction Plant shall be of flame proof construction.
(b) All metal parts of the plant and building including various tanks and containers where Solvents are stored or are present and all parts of electrical equipment not required to be energised shall be properly bounded together and connected to the earth so as to avoid accidental rise on the electrical potential of such part above the earth potential.

4. Restriction on Smoking: Smoking shall be strictly prohibited within 15 metres distance from Solvent Extraction Plant. For this purpose 'No Smoking' signs shall be permanently displayed in the areas.
5. Precaution against friction (a) All tolls and equipments including ladders, chains, and other lifting tackle required to be used in Solvent Extraction Plant shall be of non-sparking type.
(b) No machinery or equipment in Solvent Extraction Plant shall be belt driven unless the belt is made of conductive material.
(c) No person shall be allowed to enter in the Solvent Extraction Plant if wearing clothes made of Nylon or such other Fibre that can generate static electrical charge, or wearing foot wear which is likely to cause sparks by friction.

6. Fire-fighting apparatus (a) Adequate number of portable fire extinguisher suitable for use against flammable liquid fire shall be provided in the Solvent Extraction Plant.

(b) An automatic water sprinkler system overhead deluge system with sufficient supply of storage water shall be provided over Solvent Extraction Plant and throughout the building housing such plant.
(a) Provision shall be made for the automatic cutting off of steam in the event of power failure and also.
(b) For emergency over-head water supply for feeding water by gravity to condensers which shall come into play automatically with the power failure.
(a) Tanks containing solvents shall be protected with emergency venting to relieve excessive internal pressure in the event of fire.
(b) All emergency relief vents shall be terminated at least 6 metres above the ground and be so located that vapours will not re-enter the building in which solvent extraction plant is located.
(a) Solvent shall be stored in an area covered by Solvent Extraction Plant except in small quantity which shall be stored in approved safety cans.
(b) Waste materials such as oily-rage, other waste and absorbents used to wipe off solvent and paints and oils shall be deposited in approved containers and removed from the premises atleast once a day.
(c) Space within the Solvent Extraction Plant and within 15 metres from the Plant shall be kept free from any combustible materials and any spills of oil or solvent, shall be cleared up immediately.
(a) The Solvent Extraction Plant shall be examined by the competent person to determine any weakness or corrosion and wear, once in every 12 months. Report of such examinations shall be supplied to the Inspector with his observations as to whether or not the Plant is in safe condition to work.
(b) No repairs shall be carried out to the Machinery or Plant except under the direct supervision of the competent person.

1 7. Precaution against power failure
2 8. Magnetic Separators: The material under extraction shall be fed to the extractor by a conveyer through a hopper and a magnetic separator shall be provided to remove any piece of iron during its transfer.
3 9. Venting
4 10. Waste water: Process waste water shall be passed through a flash evaporator to remove any solvent before it is discharged into a sump which should be located within the fenced area, but not closer than 8 m. to the fence.
5 11. Ventilation: The Solvent Extraction Plant shall be well ventilated and if the Plant is housed in a building the building shall be provided with mechanical ventilation with provision for atleast six air changes per hour.
6 12. House keeping

7 13. Examination and Repairs

(c) [127][Facility shall be provided for purging the plant with inert gas or steam before opening for cleaning or repairs and before introducing solvent after repairs.]

1 14. Operating personnel: The operation of the plant and machinery in the Solvent Extraction Plant shall be in the charge of such duly qualified and trained persons as are certified by the competent persons to be fit for the purpose and no other person shall be allowed to operate the plant Machinery.
2 15. Employment of woman and young persons: No woman or young persons shall be employed in the solvent extraction plant.
3 16. Vapour Detection: A suitable type of the flame proof and portable combustible gas indicator shall be provided and maintained in good working order and a schedule of routine sampling of atmosphere at various locations as approved by the Chief Inspector shall be drawn out and entered in a Register maintained for the purpose.
4 17. Log Book: A log book of plant operation shall be maintained in a proforma approved by the Inspector.]

[128][SCHEDULE XIX (CARBON DISULPHIDE PLANTS)

1 1. Application: This Schedule shall apply to all electric furnaces in which carbon-disulphide is generated and all other Plants where carbon disulphide after generation is condensed, refined and stored. These Rules are in addition to and not in derogation of any of the provisions of the Act and Rules made thereunder.
2. Construction, Installation and Operations (a) The buildings in which electric furnaces are installed and carbon disulphide after generation is condensed and refined shall be segregated from other parts of the factory and shall be open type to ensure optimum ventilation and the plant layout shall be such that only a minimum number of workers are exposed to the risk of any fire or explosion at any one time.
(b) Every electric furnace and every Plant in which carbon disulphide is condensed, refined and stored with all their fittings and attachments shall be of good construction sound material and of adequate strength maintained in good order to sustain the internal pressure to which the furnace or the plant may be subjected and shall be so designed that carbon disulphide liquid and gas are in closed system during their normal working.
(c) The Electric furnace supports shall be firmly grounded about 2 feet in concrete or by other effective means.
(d) Every electric furnace shall be installed and operated according to manufacturer's instructions and these instructions shall be clearly imparted to the personnel in charge of construction and operation.
(e) The instructions regarding observations of correct furnace temperature sulphurdoze, admissible current/power consumption and periodical

checking of charcoal level shall be strictly complied with. These instructions shall be exhibited at conspicuous place near the furnace.
3. Electrodes (a) Where upper ring electrode(s) or straight electrodes made of steel are used in the electric furnace, they shall be of steamless tube constructed and shall have arrangement for being connected to cooling water system through a siphon-built in the electrodes or through positive pressure water pump.
(b) The arrangement for cooling water referred to in clause (a) shall be connected with automatic alarm system which will actuated in the event of interruption of cooling water in the electrodes and given visible and audible alarm signals in the control room and simultaneously stop power supply for the furnace operation and to stop the further supply of water. The alarm system and the actuating device shall be checked every day.

4. Rapture Discs and Safety Seal (a) At least two rapture discs of adequate size which shall blow off at a pressure twice the maximum operating pressure shall be provided on each furnace and shall either be mounted directly on the top of the furnace or each through an independent pipe as close as possible to the furnace.
(b) A safety water shall be provided and tapped from a point between the charcoal separator and the sulphur separator.

5. Pyrometer and Manometers (a) Each electric furnace shall be fitted with adequate number of pyrometers to give an indication of the temperature as correctly as reasonably practicable at various points in the furnace. The dials for reading the temperature shall be located in this control room.
1 (b) Manometers or any other suitable devices shall be provided for indicating pressure:
(i) In the off take pipe before and after the sulphur separator; and
1 (ii) In primary and secondary condensers.

1 6. Check Valves: All piping carrying carbon disulphide shall be fitted with check valves at suitable position so as to prevent gas from flowing back into any electric furnace in the event it is shut down. (a) Every electric furnace shall be inspected internally by a competent person: (i) Before being placed in service after installation;
1 (ii) Before being placed in service after reconstruction or repairs; and
1 (iii) Periodically every time the furnace is opened for cleaning and dashing or for replacing electrodes.

Inspection and Maintenance of Electric Furnace
7.

1 (b) When an electric furnace shut down for cleaning and deashing, (i) The brick lining shall be checked for continuity and any part found defective be removed.

1 (ii) After removal of any part of the lining referred to in (a) the condition of the shell shall be closely inspected; and
1 (iii) Any plates forming shell found corroded to the extent that safety of the furnace is endangered shall be replaced.

(i) Manometer reading at the points specified in (5) (b) (i) and (ii).
(ii) Gas temperature indicated by pyrometers and all other vital points near the sulphur separator and primary and second condensers.
(iii) Water temperature and flow of water through the siphon in the electrodes.
(iv) Primary and secondary voltages and energy consumed.

1 8. Maintenance of Records: The following hourly records shall be maintained in a log book,
2 9. Electrical Apparatus-Wiring and Fittings: All buildings in which carbon disulphide is refined or stored shall be provided with electrical apparatus, wiring and fittings which shall afford adequate protection from fire and explosion.
3 10. Prohibition relating to Smoking: No person shall smoke or carry matches fire or naked light of other means of producing a naked light or spark in buildings in which carbon disulphide is refined or stored and a notice in the language understood by a majority of the workers shall be pasted in the Plant prohibiting smoking and carrying of, matches, fire or naked light or spark into such rooms.
4 11. Means of Escape: Adequate means of escape shall be provided and maintained to enable persons to move to a safe place as quickly as possible in case of an emergency. At least two independent staircases of not less than 110 cm. in width and making an angle of not more than 45 from the horizontal shall be provided in every building housing the furnaces at reasonable intervals at opposite ends. These shall always be kept clear of all obstructions and so designed as to afford easy passage.
5 12. Warning in case of fire: There shall be adequate arrangements for giving warnings in case of fire or explosion which shall operate on electricity and in case of failure of electricity by some mechanical means.
6 13. Firefighting equipments
7 (a) Adequate number of suitable fire extinguishers or other firefighting equipment shall be kept in constant readiness for dealing with risks involved and depending on the amount and nature of material stored.
8 (b) Clear instructions as to how the extinguishers or other equipment should be used printed in the language which the majority of the workers employed understand shall be affixed to each extinguisher or other equipments.

(c) Adequate number of persons shall be trained in the use of firefighting equipments.
14. Bulk Sulphur
(a) Open or semi-enclosed spaces for storage of bulk sulphur shall be sited with due regard to the dangers which may arise from sparks given by locomotives etc. and precautions shall be

taken to see that flames, smoking and matches, and other sources of ignition do not come in contact with the clouds of dust arising during handing of bulk sulphur.
(b) All enclosures for bulk sulphur shall be of non-combustible construction, adequately ventilated and so designed as to provide a minimum of ledges on which dust may lodge.
(c) The bulk sulphur in the enclosure shall be handled in such manner as to minimise the formation of dust clouds and no flame, smoking and matches or other sources of ignition shall be allowed and non-sparking tools shall be used whenever sulphur is shoveled.
(d) No repairs involving flames, heat or use of hand or power tools shall be made in the enclosure were bulk sulphur is stored.
15. Liquid Sulphur: Open flames, electric sparks and other sources of ignition including smoking and matches, shall be excluded from the vicinity of melten sulphur.
16. Training and Supervision
(1) All electric furnaces and all Plants in which carbon disulphide is condensed, refined or stored shall be under adequate supervision at all times while the furnaces and plants are in operation.
(2) Workers in charge of operation and maintenance of electric furnaces and the plants shall be properly qualified and adequately trained.
17. Washing facilities: The occupier shall provide and maintain in a clean state and in good repair for the use of all persons employed wash place under cover with atleast one tap or standpipe having a constant supply of clean water for every five such person, the taps or stand-pipes being space not less 120 cm. apart with sufficient supply of soap and clean towels.

All the workers employed in the sulphur storage, handling and melting operations shall be provided with nail brush.
1 18. Personal Protective Equipment
(a) Suitable goggled and protective clothing consisting of overalls without pockets, gloves and foot wear shall be provided for the use of operators: (i) When operating valves or cooks controlling fluids etc.
(ii) Drawing off of melten sulphur from pots; and
(iii) Handling charcoal or sulphur.

(b) Suitable respiratory protective equipment shall be provided and stored in the appropriate place for use during abnormal conditions or in an emergency.
(c) Arrangements shall be made for the proper and efficient cleaning of all such protective equipment.
19. Cloak-Rooms: There shall be provided and maintained for the use of all persons employed in the process a suitable cloak-room for clothing put off during work hours and a suitable place separate from the cloak-room of that storage of overalls or working clothes. The accommodation so provided shall be placed in the charge of responsible person and shall be kept clean.
20. Unauthorised Persons

(a) Only maintenance and repair personnel, person directly connected with plant operating and those accompanied by authorised person shall be admitted into the plant.]

129[SCHEDULE XX

(MANUFACTURE MANIPULATION OF “MANGANESE” AND ITS COMPOUND)

1. Definitions: For the purpose of this schedule (a) "Manganese Process" means processing manufacture of manipulation of manganese or any compound of manganese or any area of any mixture containing manganese.

(b) "First employment" means first employment in any manganese process and includes also re-employment in any manganese process following any cessation of employment for a continuous period exceeding 3 calendar months.

(c) "Manipulation" means mixing, blending, filling, emptying, grinding, sewing, drying, packing, sweeping or otherwise handling of manganese of a compound of manganese, or an ore of mixture containing manganese.

(d) “Efficient Exhaust Ventilation" means localized ventilation effected by mechanical means for the removal of dust or fume or mist at its source of origin so as to prevent it from escaping into the atmosphere of any place where any work is carried on. No draught shall be deemed to be efficient which fails to remove the dust or mist at the point where it is generated and fails to prevent it from escaping into and spreading into the atmosphere of a work place.

2. Application: This Schedule shall apply to every factory in which or in any part of which any manganese process is carried on.

3. Exemption: If in respect of any factory, the Chief Inspector is satisfied that owing to any exceptional circumstances, or infrequency of the process or for any other reason application of all or any of the provisions of this schedule is not necessary for the protection of the persons employed in such factory he may, by an order in writing which he may at his discretion revoke, exempt such factory from all or any of the provisions of such conductions and for such period as he may specify

in the said order.

1 4. Isolation of process: Every manganese process which may give rise to dust, vapour or mist containing manganese, shall be carried on in a totally enclosed system or otherwise effectively isolated from other processes so that other plants and process and other parts of the factory and persons employed on other work of process may not be affected by the same.

2 5. Ventilation of process: No process in which any dust, vapour or mist containing manganese is generated, shall be carried but except under an efficient exhaust ventilation which shall be applied as near to the point of generation as practicable. 4

3 6. 130[Medical facilities and records of examination and tests

(1) The occupier of every factory to which this Schedule applies, shall (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examination and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.]

[131][6-A. Medical examination by Certifying Surgeon

1 (1) Every worker employed in any manganese processes shall be medically examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for detection of a serum calcium, serum phosphate and manganese in blood and urine and also include steadiness tests other neuromuscular coordination tests. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified for such employment by the Certifying Surgeon.

2 (2) Every worker employed in manganese process shall be re-examined by a Certifying Surgeon at least once in every three Calendar months and such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests in sub-paragraph (1).

3 (3) The Certifying Surgeon after examining a worker shall issue a certificate of fitness in Form 32. The record of examination and re-examination carried out shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2) including the nature and the results of these tests, shall also be entered by the Certifying Surgeon in a health register in Form 21.

4 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

5 (5) If at any time the Certifying Surgeon is of the opinion that the worker is no

longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings those documents should also include the period for which he considers that the said person is unfit to work in the said process. The person so suspended from the process being unfit for work in that process shall be provided with alternate placement facilities by the factory management unless he is fully incapacitated in the opinion of the Certifying Surgeon. In that case the person affected shall be suitably rehabilitated.

1 (6) No person has been found unfit to work as said in sub-paragraph (5) shall be employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in these processes.]

2 7. Personal Protective Equipment

3 (1) The Occupier and Manager of the Factory shall provide and maintain in good and clean condition suitable overalls and head coverings for all persons employed in any manganese process and such overalls and head coverings shall be worn by the persons while working on a manganese process.

4 (2) The occupier and Manager of the factory shall provide suitable respiratory protective equipment for use by workers in emergency to prevent inhalation of dust fumes. Sufficient number of complete sets of such equipment shall always be kept near the work place and the same shall be properly maintained and kept always in a condition to be used readily.

5 (3) The Occupier and Manager shall provide and maintain for the use of all persons employed suitable accommodation for the storage and make adequate arrangements for cleaning and maintenance of personal protective equipment.

6 8. Prohibition relating to women and young persons: No women or young person shall be employed or permitted to work in any manganese process.
7 9. Food, drinks prohibited in the work-rooms: No food, drink, pan and supari or tobacco shall be allowed to be brought into or consumed by any worker in any work-room in which any manganese process carried on.
8 10. Mess Room: There shall be provided and maintained for the use of the persons employed in a manganese process a suitable mess room which shall be furnished with sufficient tables and benches and adequate means for warming of food. The mess room shall be placed under the charge of a responsible person and shall be kept clean.
9 11. Washing Facilities: There shall be provided and maintained in a clean state and in good condition, for the use of persons employed in manganese process a wash place under cover, with either,
10 (1) A trough with a smooth impervious surface fitted with a waste pipe

without plug. The trough shall be of sufficient length to allow atleast to 60 centimeters for every ten such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimetres; or atleast one wash basin for every five such persons at any one time, fitted with a wasted pipe and plug and having a constant supply of water; and
1 (2) Sufficient supply of soap or other suitable cleaning material and nail brushes and clean towels.
2 12. Cloak Room: If the Chief Inspector so requires there shall be provided and maintained for the use of persons employed in manganese process a cloak-room for clothing put off during working hours with adequate arrangement for drying the clothing.
3 13. Cautionary Playcard and instructions: Cautionary notice in the following form and printed in the language of the majority of the workers employed shall be affixed in prominent places in the factory where they can be easily and conveniently read by the workers and arrangement shall be made by the manager or occupier to instruct periodically all workers employed in a manganese process regarding the health hazards connected with their duties and the best preventive measure and methods and to protect themselves. The notice shall always be maintained in a legible condition.

CAUTIONARY NOTICE
Managanese and Manganese compound
1 1. Dust fumes and mists of Manganese and compounds are toxic when inhaled or when injected.
2 2. Do not consume food or drink near the work place.
3 3. Take a good wash before taking meals.
4 4. Keep the working area clean.
5 5. Use the protective clothing and equipments provided.
6 6. When required to work in situations where dust, fumes or mists are likely to be inhaled, use respiratory protective equipment provided for the purpose.

7 7. If you get severe headaches, prolonged sleeplessness or abnormal sensations on the body, report to the Manager who would make arrangements for your examination and treatment.]

132[SCHEDULE XXI

1 1. This Schedule shall apply to factories in which benzene or substances containing benzene are manufactured, handled or used.

2. Definitions: For the purposes of this Schedule (a) "Substance containing benzene" means substance wherein benzene content exceeds one percent by volume;

(b) "Substitute" means a Chemical which is harmless or less harmful than

(c) "enclosed system" means a system which will not allow escape of benzene vapours to the working atmosphere;

(d) "efficient exhaust draught" means localised ventilation effected by mechanical means for the removal of gases, vapours and dusts or fumes so as to prevent them from escaping into the air of any work-room and no draught shall be deemed to be efficient if it fails to remove smoke/generated at the point where such gases, vapours, fumes or dust originates.

1 (a) 133[use of Benzene and substances containing Benzene is prohibited in the following processes: (i) Manufacture of Varnishes, paints and thinners; and

1 (ii) Cleaning and degreasing operations.]

(b) Benzene or substances containing benzene shall not be used as a solvent or diluent unless the process in which it is used is carried on in an enclosed system or unless the process is carried on in a manner which is considered equally safe as if it were carried out in an enclosed system.

(c) Where suitable substitutes are available, they shall be used instead of benzene or substances containing benzene. This provision, however, shall not apply to the processes specified in Appendix A.

(d) The Chief Inspector may, subject to confirmation by the State Government, permit, exemptions from the percentage laid down in clause 2(a) and also from the provisions of sub-clause (b) temporarily under conditions and within limits of time to be determined after consultation with the employers and workers concerned.

(a) The process involving the use of benzene or substances containing benzene shall, as far as practicable be carried out in an enclosed system.

(b) Where, it is not practicable to carry out the process in an enclosed system, the workroom in which benzene or substances containing the benzene are used shall be equipped with an efficient exhaust draught or other means for the removal of benzene vapours to prevent their escape into the air of the workroom so that the concentration of benzene in the air does not exceed 25 parts per million by volume or 80 mg/m.

(c) Air analysis of or the measurement of concentration of benzene vapours in air shall be carried out every 8 hours or at such intervals as may be directed by the Chief Inspector at places where process involving use of benzene is carried on and the result of such analysis shall be recorded in a register specially maintained for this purpose. If the concentration of benzene

vapours in air and measured by air analysis, exceeds 25 parts per million by volume or 80 mg./m. the Manager shall forthwith report the

benzene and can be used in place of benzene;

1 3. Prohibition and substitution

2 4. Protection against inhalation

(d) Workers who for special reasons are likely to be exposed to concentration of benzene in the air of the work-room exceeding the maximum referred to in clause (b) shall be provided with suitable respirators of face mask. The duration of such exposure shall be limited as far as possible.

(a) Workers who are likely to come in contact with liquid benzene or liquid substances containing benzene shall be provided with suitable gloves, aprons, boots where necessary vapour tight chemical goggles, made of material not affected by benzene or its vapours.

(b) The protective were referred to in sub-clause (a) shall be maintained in good conditions and inspected regularly.

(a) The use of benzene or substance containing benzene by workers for cleaning their hands or their work clothing shall be prohibited.

(b) Workers shall be instructed on the possible dangers arising from such misuse, and written acknowledgment from every workers who having regard to nature of his work is likely to come in contact with liquid benzene or liquid substances containing benzene, shall be obtained that he has fully understood the import of the instructions.

concentration to the Chief Inspector stating the reasons for such increase.

1 5. Measures against skin contact

2 6. Prohibition relating to employment of women and adolescent: No women of adolescent shall be employed or permitted to work in any work- room involving exposure to benzene or substances containing benzene.

3 7. Labelling: Every container holding benzene or substances containing benzene shall have the word "Benzene" and approved danger symbols clearly visible on it and shall also display information on benzene content, warning about toxicity and warning about inflamability of the chemical.

4 8. Improper use of benzene

5 9. Prohibition of consuming food, etc., in workrooms: No workers shall be allowed to store or consume food or drink in the workroom in which benzene or substance containing benzene are manufactured, handled or used. Smoking and chewing tobacco or pan betel nut shall be prohibited in such workrooms.

6 10. Instructions as regards risks: Every worker on his first employment shall be fully instructed on the properties of benzene or substances containing benzene which he has to handle and of the dangers involved. Workers shall also be instructed on the measures to be taken to deal with in an emergency.

7 11. Cautionary notices: Cautionary notices in the form specified in Appendix B and presented in the language easily read and understood by the majority of the workers shall be displayed in prominent places in the work-rooms where banzene or substance containing benzene are manufactured, handled or used.

8 12. Washing facilities, cloak room and mess room: In factories in which benzene or substances containing benzene are manufactured, handled or used, the occupier shall provide and maintain in clean state and in good repair:

(a) Washing facilities under cover of the standard of at least one tap for every 10 persons having supply of water with soap and a clean towel provided individually to each worker.
(b) A cloak room with lockers for each worker, having two compartments one for street clothing and one for work clothing.
(c) A mess room furnished with tables and benches with arrangement for warming food provided that where a canteen or other proper arrangements exist for the workers to take their meals, the requirements of messroom shall be dispensed with.
(a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and
(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

1 13. [134][Medical facilities and records of examinations and tests
2 (1) The occupier of every factory to which the Schedule applies, shall:
3 (2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.]

4 14. [135][Medical examination by Certifying Surgeon
5 (1) Every worker employed in processes mentioned in paragraph 1, shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for detection of phenol in urine and determination of urinary sulphideration and CNS and hamotological tests. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
6 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon atleast once in every twelve calendar months and such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests specified in sub-paragraph (1). Further, every worker shall also be examined once in every three calendar months by the factory medical officer.
7 (3) The Certifying Surgeon after examining a worker shall issue a certificate of fitness in Form 32. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of these tests, shall also be entered by the certifying surgeon in a health register in Form 21.

8 (4) The Certificate of Fitness and the health register shall be kept readily

available for inspection by the Inspector.

1 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings these documents should also include the period for which he considers that the said person is unfit to work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected shall be suitably rehabilitated.

2 (6) No person has been found unfit to work as said in sub-paragraph (5) shall be employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in these processes.]

APPENDIX A

[Clause 3 (b)]

1 (1) Production benzene.

2 (2) Process where benzene is used for chemical synthesis.

2 (3) Motor spirits (used as fuel). (a) The hazards (i) Benzene and substances containing benzene are harmful.

2 (ii) Prolonged or repeated breathing of benzene vapours may result in acute or chronic poisoning.

2 (iii) Benzene can also be absorbed through skin which may cause skin and other diseases.

2 (b) The preventive measures to be taken (i) Avoid breathing of benzene vapours.

2 (ii) Avoid prolonged or repeated contact of benzene with skin.

2 (iii) Remove benzene soaked or wet clothing promptly.

2 (iv) If any time you are exposed to high concentration of benzene vapours and exhibit the sign and symptoms such as dizziness, difficulty in breathing over excitement of consciousness, immediately inform your Factory Manager.

2 (v) Keep all the containers of benzene closed.

2 (vi) Handle, use and process benzene and substances containing benzene carefully in order to prevent their spillage on floor.

2 (vii) Maintain good housekeeping.

APPENDIX B

(Clause 11)

1 (c) The protective equipment to be used, (i) Use respiratory protective equipment in a place where benzene vapours are present in high concentration.

1 (ii) In emergency, use self-generating oxygen mask or oxygen or air cylinder masks,
1 (iii) Wear hand gloves, aprons, goggles and gum boots to avoid contact of benzene with your skin and body parts.

1 (d) The first-aid measures to be taken in case of acute benzene poisoning, (i) Remove the clothing immediately if it is wet with benzene.
1 (ii) If liquid benzene enters eyes, flush roughly for at least 15 minutes with clean running water and immediately secure medical attention.
(iii) In case of unusual exposure to benzene vapour call a physician immediately. Until he arrives do the following: (A) Move him to fresh air in open.
(B) Lie him down without a pillow and keep him quiet and warm. If the exposed person is unconscious,

If the exposed person is conscious,
(A) Lie him down preferably on the left side with the head low.
(B) Remove any false teeth, chewing gum, tobacco or other foreign objects which may be in his mouth.
(C) Provide him artificial respiration in case difficulty is being experienced in breathing.
(D) In case of hollow breathing or cyanosis (blueness of skin, lips, ears, finger nail-beds), he should be provided with medical oxygen or oxygen carbondioxide mixture. If needed he should be given artificial respiration. Oxygen should be administered by a trained person only]

SCHEDULE XXII MANUFACTURE OF SLATE PENCILS
1. Definitions: For the purposes of this Schedule (a) Manufacture of slate pencils means cutting of stone with the aid of circular saw 136[or any other means] for the manufacture of slate pencils and includes incidental processes, such as, handling and slicing of stone separating the pencils at the grooves cut by saws and incidental processes, such as, counting, packing, pointing and sorting of pencils.
(b) "Efficient exhaust draught" means localised ventilations by mechanical means for the removal of dust so as to prevent the dust from escaping into the air of any place in which work in carried on and no draught shall be deemed to be efficient which fails to remove the dust produced at the point where such dust originates.

2.
(a) No process of cutting the stones or making a groove in the stone with the help of saw shall be carried out unless the cutting or grooving equipment is fitted with such an efficient exhaust draught, which exhausts the dust from the place where the dust originates and carries it away from the place of work.
(b) Where the exhaust fan and the cutting or grooving equipment are driven by separate motors, these motors shall be electrically so interlocked that unless the motor of the exhaust

fan is working, it shall not be possible to start the motor used for driving the cutting or grooving equipment.

3.
(a) No women or adolescents shall be required or allowed to work in the machines used for cutting the stones or making grooves on the stones.
(b) The work such as packing, repacking, pointing or sorting of pencil, breaking open the grooves or similar other operations, shall not be carried out in the same shed in which the operations or cutting of stone or making grooves on them are carried out.

4.
(a) No worker shall be employed on the manufacture of slate pencils, unless he has been medically and radiologically examined by a certifying surgeon, and declared fit for such employment by grant of certificate of fitness in Form No. 32.
(b) Every workers employed on the manufacture of slate pencil on the date on which this Schedule comes in force shall be medically and radiologically examined by a certifying surgeon within 3 months of the said date. 14
(c) 137[Every worker employed on the manufacture of slate pencil manufacturing shall be medically examined by a certifying surgeon at a interval of not more than six months after the first examination conducted under the said sub-clauses (a) and (b) and shall be radiologically examined at an interval as may be directed by the Certifying Surgeon.]
(d) Worker already in employment and declared unfit by a certifying surgeon shall not be allowed to work on the manufacture of slate pencils, unless he is examined again and granted a certificate of fitness.
(e) The certifying surgeon may direct that a worker may be got radiologically examined or they may be subjected to further examination, clinical, pathological or otherwise, or that he may undergo specified treatment, and it shall be the responsibility of the occupier and the manager to arrange for the specified examination and treatment, and to bear all expenses thereof and in connection therewith.
(f) The certifying surgeon shall, after each examination grant a certificate in Form No. 32.

(g) The manager shall maintain the details of every examination in a register in Form No. 21, and shall produce the register of Form No. 21 before the Inspector whenever demanded.
(h) The manager shall maintain all certificates in Form 32 in a proper file and shall produce all the certificates before the Inspector whenever demanded.

5. No worker shall be required or allowed to work on cutting, groove making machine or any other equipment generating dust from the stone used for manufacturing slate pencils, unless he is wearing dust mask.

138[SCHEDULE XXIII

MANUFACTURE OF MANIPULATION OF DANGEROUS PESTICIDES

1 1. Application: This schedule shall apply in respect of all factories or any part thereof in which the process of manufacture or manipulation of dangerous pesticide hereinafter referred to as the said manufacturing process is carried on.

2. Definitions: For the purpose of this Schedule: (a) "dangerous pesticides" means any product proposed or used for controlling, destroying or repelling any pest or for preventing growth or mitigating effects of such growth including any of its formulations which is considered toxic under and is covered by the Insecticides Act, 1968 and the rules made thereunder and other product, as may be notified from time to time by the State Government;
(b) "manipulation" includes mixing, blending, formulation, filling, emptying, packing or otherwise handling;
(c) "efficient exhaust draught" means localised mechanical ventilation for removal of smoke, gas, vapour, dust, fume or mist so as to prevent them from escaping into the air of any work room in which work is carried on. No exhaust draught shall be considered efficient if it fails to remove smoke generated at the point where such gas, fume, dust, vapour, or mist originates from the process;
(d) "first employment" shall mean first employment in any manufacturing process to which this schedule applies and shall also include re- employment in the said manufacturing process following any ceasation of employment for a continuous period exceeding three calendar months; and
(e) "suspension" means suspension from employment in any process wherein a dangerous pesticide is manipulated, by written certificate the health register in Form 21 signed by the Certifying Surgeon who shall be competent to suspend all persons employed in such process.

3. Instruction to workers: Every worker on his first employment shall be fully instructed on the properties including dangerous properties of the chemicals handled in the said manufacturing process and the hazards involved. The employees shall also be instructed in the measures to be taken to deal with any emergency. Such instructions shall be repeated periodically.

1 4. Cautionary notice and placards: Cautionary notices and placards in the form specified in appendix to this schedule and printed in the language of the majority of the workers shall be displayed in all work places in which said manufacturing process is carried on so that they can be easily and conveniently read by the workers. Arrangements shall be made by the occupier and the manager of the factory to periodically instruct the workers regarding the health hazards arising in the said manufacturing process and method of protection. Such notices shall include brief instructions regarding the periodical clinical tests required to be undertaken for protecting health of the workers.
2 5. Prohibition relating to employment of women or young persons: No woman or young person shall be employed or permitted to work in any room in which the said manufacturing process is carried on or in any room in which dangerous pesticide is stored.
3 6. Food, drinks and smoking prohibited
4 (1) No food, drink, tobacco, pan or supari shall be brought into or consumed by any worker in any workroom in which the said manufacturing process is carried out.
5 (2) Smoking shall be prohibited in any workroom in which the said manufacturing process is carried out.
6 7. Protective clothing and protective equipment
(1) Protective clothing consisting of long pants and shirt or over all with long sleeves and head covering shall be provided for all workers employed in the said manufacturing process. (a)

Protective equipment consisting of rubber gloves, gum boots, rubber aprons, chemical safety goggles and respirators shall be provided for all workers employed in the said manufacturing process.
(b) Gloves, boots, aprons shall be made from synthetic rubber where a pesticide contains oil.

(2)
1 (3) Protective clothing' and equipment shall be worn by the workers supplied with such clothing and equipment.
2 (4) Protective clothing and equipment shall be washed daily from inside and outside if the workers handle pesticides containing nicotine or phosphorus and shall be washed frequency to handling other pesticides.
3 (5) Protective clothing and equipment shall be maintained in good repair.
4 8. Floors and work-benches
5 (1) Floors in every workroom where dangerous pesticides are manipulated shall be of cement or other impervious material giving a smooth surface.
6 (2) Floors shall be maintained in good repair, provides with adequate slope leading to a drain and thoroughly washed once a day with hose pipe.

1 (3) Work-benches where dangerous pesticides are manipulated shall be made of smooth, non-absorbing material preferably stainless steel and shall be cleaned atleast once daily.
2 9. Spillage and waste
3 (1) If a dangerous pesticide during its manipulation splashes or spills on the work-bench, floor or on the protective clothing worn by a worker, immediate action shall be taken for thorough decontamination of such areas or articles.
4 (2) Cloth, rags, paper or other material soaked or soiled with a dangerous pesticide shall be deposited in a suitable receptacle with tight fitting cover. Contaminated waste shall be destroyed by burning atleast once a week.
5 (3) Suitable deactivating, where available, shall be kept in a readily accessible place for use while attending to a spillage.
6 (4) Easy means for access shall be provided to all parts of the plant for cleaning, maintenance and repairs.
7 10. Empty containers used for dangerous pesticides: Containers used for dangerous pesticides shall be thoroughly cleaned of their contents and treated with an inactivating agent before being discarded or destroyed.
8 11. Manual handling
9 (1) A dangerous pesticide shall not be required or allowed to be manipulated by hand except by means of a long handled scoop.
10 (2) Direct contact of any part of the body with a dangerous pesticide during its manipulation shall be avoided.
11 12. Ventilation
12 (1) In every workroom or area where a dangerous pesticide is manipulated, adequate ventilation shall be provided at all times by the circulation of fresh air.

(2) Unless process is completely enclosed, the following operations during manipulation of a dangerous pesticide shall not be undertaken without an efficient exhaust draught: (a) emptying container holding a dangerous pesticide;
(b) blending a dangerous pesticide;
(c) preparing a liquid or powder formulation containing a dangerous pesticide; and
(d) changing or filling a dangerous pesticide into a container, tank hopper or machine or small sized containers.

(3) In the event of a failure of the exhaust draught provided on the above operation, the said operations shall be stopped forthwith.
13. Time allowed for washing
(1) Before each meal and before the end of the day's work atleast ten minutes

in addition to the regular rest interval shall be allowed for washing to each worker engaged in the manipulation of dangerous pesticide.
1 (2) Every worker engaged in the manipulation of dangerous pesticide shall have a through wash before consuming any food and also at the end of the day's work.
2 14. Washing and bathing facilities
3 (1) There shall be provided and maintained in a clean state and in good repair for the use of all workers employed in the factory where the said manufacturing process is carried on, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 5 persons employed.
4 (2) The washing place shall have stand pipes placed at intervals of not less than one metre.
5 (3) Not less than one half of the total number of washing places shall be provided with bathrooms.
6 (4) Sufficient supply of clean towels made of suitable material shall be provided: Provided that such towels shall be supplied individually for each worker if so ordered by the Inspector.
7 (5) Sufficient supply of soap and nail brushes shall be provided.
15. Cloak-room: There shall be provided and maintained for the use of all workers employed in the factory where the said manufacturing process is carried on, (a) a cloak-room for clothing put off during working hours with adequate arrangements for drying clothing, if wet; and
(b) separate and suitable arrangements for the storage of protective clothing provided under paragraph 7.

16. Messroom
(1) There shall be provided and maintained for the use of all workers employed in the factory in which the said manufacturing process is carried on and remaining on the premises, during the rest intervals, a suitable messroom which shall be furnished with: (a) sufficient tables and benches with back-rest; and
(b) adequate means for warming food

(2) The messroom shall be placed under the charge of a responsible person and shall be kept clean.
17. Manipulation not to be undertaken: Manufacture or manipulation of a pesticides shall not be undertaken in any factory unless a certificate regarding its dangerous nature or otherwise is obtained from the Chief Inspector.
18. Medical examination
(1) Every worker employed in the said manufacturing process shall be examined by the Certifying Surgeon within seven days of the first

employment and no worker shall be allowed to work unless certified fit by a certificate of fitness in Form 32 for such employment by the Certifying Surgeon.
1 (2) Every worker employed in the said manufacturing process shall be re- examined by a Certifying Surgeon atleast once in 6 calendar months.
2 (3) Due notice shall be given to the Certifying Surgeon and the concerned workers regarding the arrangements for examination of workers employed in the said manufacturing process after obtaining the consent regarding the arrangement from the Certifying Surgeon.
3 (4) Health register in Form 21 containing name of all workers employed in the said manufacturing process shall be maintained.
4 (5) No worker after suspension shall be employed without written sanction from the Certifying Surgeon entered in or attached to the health register. The person so suspended from the process being unfit for work in that process shall be provided with alternate placement facilities by factory management unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected shall be suitably rehabilitates.
5 19. Medical facilities
6 (1) The occupier shall engage a qualified medical practitioner approved by the Chief Inspector who shall examine and when necessary treat on the premises of the factory, all workers who are employed in the said manufacturing process, for effect of excessive absorption of the dangerous pesticide atleast once a week.
7 (2) The occupier shall make necessary arrangements to ensure quick availability of qualified medical practitioner in emergency.
8 (3) The occupier shall provide medicines and antidotes and other equipment required for treatment of excessive absorption of dangerous pesticides.
9 (4) Records of such examinations and treatments and tests shall be maintained in a form approved by the Chief Inspector and shall be made available to Inspector.
10 (5) The Chief Inspector may order suitable clinical test or tests to be carried out at specified intervals in respect of workers in any factory where such manufacturing process is carried on. Charges for such test or tests shall be borne by the employed.
11 (6) Every worker in any factory where the said manufacturing process is carried on, shall undergo the prescribed examinations, tests and treatments.
12 20. Exemption: If in respect of any factory the Chief Inspector is satisfied that owing to the exceptional circumstances or the infrequency of the said manufacturing process or for any other reason which he shall record in writing all or any of the provision of this schedule are not necessary for the protection of the workers employed in the factory, he may by a certificate in writing exempt such factory,

from all or any of the provisions on such condition as he may specify therein. Such certificate may, at any time, be revoked by the Chief Inspector after recording his reasons therefor.

APPENDIX

Cautionary Notice

1 1. Chemicals handled in this plant are poisonous substances.

2 2. Smoking, eating food or drinking, chewing tobacco in this area is prohibited. No food stuff or drink shall be brought in this area.

3 3. Some of these chemicals may be absorbed through skin and may cause poisoning.

4 4. A good wash shall be taken before meals.

5 5. A good bath shall be taken at the end of the shift.

6 6. Protective clothing and equipment supplied shall be used while, working in this area.

7 7. Containers of pesticides shall not be used for keeping food stuffs.

8 8. Spillage of the chemicals on any part of the body or on the floor or work-bench shall be immediately washed away with water.

9 9. Clothing contaminated due to splashing shall be removed immediately.

10 10. Scrupulous cleanliness shall be maintained in this area.

11 11. Do not handle pesticides with bare hands, use scoops provided with handle

12 12. In case of sickness like nausea, vomitting, giddingness, the manager should be informed who will make necessary arrangements for treatment.

13 13. All workers shall report for the prescribed medical tests regularly to protect their own health.]

139[SCHEDULE XXIV

MANUFACTURE OR MANIPULATION OF CARCINOGENIC DYE INTERMEDIATES

1 1. Application: This schedule shall apply in respect of all factories or any part thereof where processes in which the substances mentioned in paragraphs 3 and 4 formed, manufactured, handled, or used and the processes incidental thereto in the course of which these substances are formed, are carried on. The processes indicated in this paragraph shall be referred to hereinafter as "the said processes", and such a reference shall mean any or all the processes described in this paragraph.

2. Definitions: For the purpose of this schedule (a) "controlled substances" means chemical substances mentioned in paragraph 4 of this schedule;

(b) "first employment" means first employment in the said processes and also or employment in such processes following any cessation of employment for a continuous period exceeding three calendar months;

(c) "efficient exhaust draught" means localised ventilation effected by mechanical means for the removal of gas, vapour, dust or fume so as to prevent them from escaping into the air of any place in which work is carried on. No draught shall be deemed to be efficient which fails to remove smoke generated at the point where such gas, vapour, fume or dust originates; and

(d) ”Prohibited substances" means chemical substances mentioned in

paragraph 3 of this schedule.
3. Prohibited substances: For the purpose of this schedule, the following chemical substances shall be classified as "prohibited substances" except when these substances are present or are formed as a by-product of a chemical reaction in total concentration and exceeding one per cent, (a) beta-naphthylamine and its salts;
(b) benzidine and its salts;
(c) 4-amino diphenyl and its salts;
(d) 4-nitro diphenyl and its salts; and
(e) any substances containing any of these compounds.

4. Controlled substances: For the purpose of this schedule, the following chemical substances shall be classified as "controlled substances", (a) Alpha-naphthylamine oralpha-naphthylamine containing not more than one per cent of betanaphthylamine either as a by-product if chemical reaction or otherwise and its salts;
(b) ortha-tolidine and its salts;
(c) dianisidine and its salts;
(d) dichlorobenzidine and its salts;
(e) auramine; and
(f) magnets.

5. Prohibition of employment: No person shall be employed in the said processes in any factory in which any prohibited substance is formed, manufactured, processed, handled, or used except as exempted by the Chief Inspector as stipulated in paragraph 23.
6. Requirements for processing or handling controlled substances
(1) Wherever any of the controlled substances referred to in paragraph 4 are formed, manufactured, processed, handled, or used, all practical steps shall be taken to prevent inhalation, ingestion or absorption of the said controlled substance by the workers while engaged in processing that substance, and its storage or transport within the plant, or in cleaning or maintenance of the concerned equipment, plant, machinery and storage areas.
(2) As far as possible all operations shall be carried out in a totally closed

system. Wherever such enclosure is not possible, efficient, exhaust draught shall be applied at the point where the controlled substances are likely to escape into the atmosphere during the process.
1 (3) The controlled substances shall be received in the factory in tightly closed containers and shall be kept so except when these substances are in process or in use. The controlled substance shall leave the factory only in tightly closed containers of appropriate type. All the containers shall be plainly labelled to indicate the contents.
2 7. Personal protective equipment
(1) The following item to personal protective equipment shall be provided and issued to every worker employed in the said processes, (a) long trousers and shirts or overall with full sleaves and head cover in the shirt or overall shall cover the neck completely; and
(b) rubber gum-boots.

(2) The following item of personal protective equipment shall be provided in sufficient numbers for use by workers employed in the said processes when there is danger or injury during the performance of normal duties or in the event of emergency, (a) rubber hand gloves;
(b) rubber aprons; and
(c) Airline respirators or other suitable respiratory protective equipment.

(3) It shall be the responsibilities of the manager to maintain all item of personal protective equipment in a clean and hygenic conditions and in good repair.
8. Prohibition relating to employment of women and young person: No women or young person shall be employed or permitted to work in any room in which the said processes are carried on.
9. Floors of work-room: The floor of every work-room in which the said processes are carried on shall be, (a) smooth and impervious to water provided that asphalt or tar shall not be used in the composition of the floor;
(b) maintained in a state of good repair;
(c) with suitable slope for easy cleaning and provided with gutters; and
(d) thoroughly washed daily with the drain water being led into a sewer through a closed channel.

10. Disposal of empty containers: Empty containers used for holding controlled substances shall be thoroughly cleaned of their contents and treated with an inactivating agent before being discharged.
11. Mannual handling: Controlled substances shall not be allowed to be mixed,

filled, emptied or handled except by means of a scoop with a handle. Such scoop shall be thoroughly cleaned daily.
1 12. Instructions regarding risk: Every worker on his first employment in the said processes shall be fully instructed or the properties of the toxic chemicals to which he is likely to be exposed to of the dangers involved and the precautions to be taken. Workers shall also be instructed on the measures to be taken to deal with an emergency.
2 13. Cautionary placards: Cautionary placards in the form specified in appendix attached to this schedule and printed in the language of the majority of the workers employed in the said processes shall be affixed in prominent places in the factory, where the placards can be easily and conveniently read. Arrangements shall be made by the manager to instruct periodically all such workers regarding the precautions contained in the cautionary placards.
3 14. Obligations of the workers: It shall be the duty of the persons employed in the said processes to present themselves for the medical examination including exfoliative cytology of urine by the Certifying Surgeon or the qualified medical practitioner as provided for under these rules.
4 15. Washing and bathing facilities
(1) The following washing and bathing facilities shall be provided and maintained in a clean state and in good repairs for the use of all workers employed in the said processes: (a) A wash

place under cover having constant supply of water and provided with clean towels, soap and nail brushes and with atleast one stand pipe, for every five such workers;
(b) 50 per cent of the stand pipes provided under clause (a) shall be located in bath-rooms where both hot and cool water shall be made available during the working hours of the factory and for one hour thereafter.
(c) the washing and bathing facilities shall be in closed proximity of the area housing the said processes;
(d) clean towels shall be provided individually to each worker; and
(e) in addition to the taps mentioned under clause (a), one stand pipe, in which warm water is made available, shall be provided on each floor.

(2) Arrangement shall be made to wash factory uniforms and other work clothes every day.
16. Food, drinks, etc. prohibited in workroom: No worker shall consume food, drink, pan, supari or tobacco or shall smoke in any workroom in which the said processes are carried on and no worker shall remain in any such room during intervals for meals or rest.
17. Cloak-room: There shall be provided and maintained in clean state and in good repair for the use of the workers employed in the said processes:

(a) a cloak-room with lockers having two compartments one for street clothes and the other for work clothes, and
(b) a place separate from the locker room and the messroom, for the storage of protective equipment provided shall be under the care of a responsible person and shall be kept clean.
(1) and (2) including the nature and the results of the tests shall be entered by the Certifying Surgeon in a health register in Form 21.

1 18. Messroom: There shall be provided and maintained for the use of the workers employed in the said processes who remain on the premises during the meal intervals, a messroom which shall be furnished with tables and benches and provided with suitable means for warming food.
2 19. Time allowed for washing: Before the end of each shift 30 minutes shall be allowed for bathing for each worker who is employed in the said processes. Further, atleast 10 minutes shall be allowed for washing before each meal in addition to the regular time allowed for meals.
3 20. Restriction on age of persons employed: No worker under the age of 40 years shall be engaged in the factory in the said processes for the first time after the date on which the schedule comes into force.
4 21. Medical examinations
5 (1) Every worker employed in the said processes shall be examined by a Certifying Surgeon within 14 days of his first employment. Such examination shall include tests which the Certifying Surgeon may consider appropriate and shall include ex-foliative cytology of the urine. No worker shall be allowed to work after 14 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
6 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon atleast once in every six calendar months. Such examination shall include tests which

the Certifying Surgeon may consider appropriate but shall include ex-foliative cytology of the urine.

7 (3) A person medically examined under sub-paragraph (1) shall be granted by the Certifying Surgeon Certificate of fitness in Form 32 record of each re- examination carried out under sub-paragraph (2) shall be entered in the Certificate. The certificate shall be kept in the custody of the manager of the factory.

8 (4) The record of each examination carried out as referred to in subparagraphs

9 (5) The certificate of the fitness and the health register shall be kept readily available for inspection by any Inspector.

10 (6) If at any time the Certifying Surgeon is of the opinion that a person is no longer fit for employment in the said process or in any other work on the ground that continuance therein would involve damage to his health, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person in unfit for work in

the said processes or in any work as the case may be. The person so suspended from the process being unfit for work in that process shall be provided with alternate placement facilities by factory managements unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected shall be suitably rehabilitated.

1 (7) No person who has been found fit to work as said in sub-paragraph (6) shall be re-employed or permitted to work unless the Certifying Surgeon, after further examination, again certifies him to be fit for employment.

2 22. Medical facilities

3 (1) The occupier of every factory in which the said processes are carried on shall engage a qualified medical practitioner for medical surveillance of the workers employed in such processes. His appointment shall be subject to approval of the Chief Inspector of Factories.

4 (2) The occupier shall provide to him all the necessary facilities for the purposes referred to in sub-paragraph (1).

5 (3) A record of medical examinations and appropriate test carried out by the qualified medical practitioner shall be maintained in a form approved by the Chief Inspector.

6 23. Exemptions Prohibited substances

7 (1) The Chief Inspector may by a certificate in writing (which he may at his discretion revoke at any time), subject to such conditions, if any, as may be specified therein, exempt any process in the course of which any of the prohibited substances is formed, processed, manufactured, handled, or used, from the provisions of paragraph 5 if he is satisfied that the process is carried out in a totally enclosed and hermetically sealed system in such a manner that the prohibited substance is not removed from the system except in quantities no greater than that required for the purpose of control of the process or such purposes as is necessary to ensure that the product is free from any of the prohibited substances.

8 (2) The Chief Inspector may allow the manufacture, handling or use of benzidine hydrochlorine provided that all the processes in connection with it are carried out in a totally enclosed system in such a manner that no prohibited substance other than benzidine hydrochloride is removed therefrom except in quantities no greater than that required for the purpose of control of the processes or such purposes as is necessary to ensure that the product

is free from prohibited substances and that adequate steps are taken to ensure that benzidine hydrochloride is except while not less than one part of water to two parts of benzidine hydrochloride at all times.

9 24. Exemptions general: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or in frequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for the protection of the workers in the factory, the Chief Inspector may by a certificate in writing (which he may in his discretion revoke at any time), exempt

such factory from all or any of such provisions subject to such conditions, if any as he may specify therein.]

[140][SCHEDULE XXV OPERATIONS INVOLVING HIGH NOISE LEVELS

1 1. Application: This schedule shall apply to all operations in any manufacturing process having high noise level.

2. Definitions: For the purpose of this Schedule (a) "Noise" means any unwanted sound;

(b) "High noise level" means any noise level measured on the A-weighted scale is 90dB above;

(c) "Decibel" means one-tenth of "Bel" which is the fundamental division, of a logarithmic scale used to express the ratio of two specific or implied quantities, the number of "Bels" denoting such a ratio being the logarithm to the base of 10 of this ratio. The noise level or the sound pressure level corresponds to a reference pressure of 20 x 10"6 newtons per square metre or 0.0002 dynes per square centimetre which is the threshold of hearing, this is, the lowest sound pressure level necessary to produce the sensation of hearing in average healthy listener. The decibel in abbreviated form in dB;

(d) "Frequency" means the rate of pressure variations expressed in cycles per second or hertz;

(e) "dBA" refers to sound level in decibels as measured on a sound level metre operating on the A-weighting net work with slow metre response.

(f) "A-weighting" means making graded adjustments in the intensities of sound of various frequencies for the purpose of noise measurements, so that the sound pressure level measured by an instrument reflects the actual response of the human ear to the sound measured.

3. Protection against noise

(1) In every factory suitable engineering control or administrative measure shall be taken to ensure, so far as reasonably practicable that no worker is exposed to sound levels exceeding the maximum permissible noise exposure levels specified in Tables 1 and 2 below:

TABLE 1

Total time of exposure (continuous or number of short term exposures per day, in hours	Sound pressure level in dBA.
(1)	(2)
8	90
6	92

4	95

3	97
2	100
1-1/2	102
1	105
3/4	107
1/2	110
1/4	115

Note: No exposure in excess of 115 dBA is to be permitted.

1 (2) For any period of exposure falling in between any figure and the next high or lower figure as indicated in column 1 the permissible sound pressure level is to be determined by extrapolation on a proportionate basis.

TABLE 2

Permissible Exposure levels for Impulsive or Impact Noise

Peak sound pressure level in dB	Permitted number of impulses or impact per day
(1)	(2)
140	100
135	315
130	1000
125	3160
120	10000

Note:

1 (1) No exposure in excess of 140 dB peak sound pressure level is permitted.

2 (2) For any peak sound pressure level falling in between any figure and the next higher or lower figure as indicated in column 1, the permitted number of impulses or impact per day is to be determined by extrapolation on a proportionate basis.

3 (3) For the purpose of this schedule, if the variations in the noise level involve maxima at intervals of one second or less, the noise is to be considered as a continuous one and the criteria; given in Table 1 would apply. In other cases, the noise is to be considered as impulsive or impact noise and the criteria given in Table 2 would apply.

4 (4) When the daily noise-exposure is composed of two or more periods of noise exposure at different levels their combined effect should be considered, rather than the individual effect of each. The mixed exposure should be considered to exceed the limit value if the sum of functions C1+/T1 + C2+/T2 +CN+/TN exceeds unity: Where the C1, C2, etc. indicate

the total time of actual exposure at a specified noise level and T1, T2, etc. denote the time of exposure permissible at that level. Noise exposure of less than 90 dBA may be ignored in the above calculation.

1 (5) Where it is not possible to reduce the noise exposure to the levels specified in sub-paragraph (1) by reasonably practicable engineering control or administrative measures, the noise exposure shall be reduced to the greatest extent feasible by such control measures, and each worker so exposed shall be provided with suitable ear protectors so as to reduce the exposure to noise to the levels specified in sub-paragraph (1).

2 (6) Where the ear protectors provided in accordance with sub-paragraph (4), and worn by a worker cannot still attenuate the noise reaching near his ear, as determined by subtracting the attenuation value in dBA of the ear protectors concerned from the measured should pressure level, to a level permissible under Table 1 or Table 2 as the case.]

141[SCHEDULE XXVI MANUFACTURE OF RAYON BY VISCOSE PROCESS

1. Definitions: For the purpose of this Schedule (a) "approved" means approved for the time being in writing by the Chief Inspector;

(b) "breathing apparatus" means a helmet or face piece with necessary connections by means of which the person using it in a poisonous, asphyxisting or irritant atmosphere breathes unpolluted air, or any other approved apparatus;

(c) "churn" means the vessel in which alkali cellulose pulp is treated with carbon-di-sulphide;

(d) "dumping" means transfer of cellulose xanthate from a dry churn to a dissolver;

(e) "efficient exhaust draught" means localised ventilation by mechanical means for the removal of any gas or vapour, so as to prevent if from escaping into the air of any place in which work is carried on. No draught shall be deemed to be efficient if it fails to control effectively any gas or vapour generated at the point where such gas or fume originates;

(f) "fume process" means any process in which carbon disulphide or hydrogen sulphide is produced, used or given off;

(g) "life belt" means belt made of leather or other suitable material which can be securely fastened round the body with a suitable length of rope attached to it, each of which is sufficiently strong to sustain the weight of man;

(h) "protective equipment" means apron, goggles, face shields, foot wear, gloves and overalls made of suitable materials.

2. Ventilation

1 (1) In all workrooms where a fume process is carried on, adequate ventilation by natural or mechanical means shall be provided so as to control in association with other control measures, the concentration of Carbon-di- sulphide and hydrogen sulphide in the air of every work environment within the permissible limits.

(2) Notwithstanding the requirements in sub-paragraph (1) an efficient exhaust draught shall be provided and maintained to control the concentration of carbon- di-sulphide and hydrogen sulphide in the air at the following location: (a) dumping hoppers of dry churns;
(b) spinning machines;
(c) trio rollers and cutters used in staple fibre spinning;
(d) hydro-extractors for yarn cakes;
(e) after treatment processes, and
(f) spin baths.

(3) In so far as the spinning machines and trio rollers and cutters used in staple fibre spinning are concerned, they shall be, for the purpose of ensuring the effectiveness of the exhaust draft to be provided as required in sub- paragraph (1), enclosed as fully as practicable and provided with suitable shutters in sections to enable the required operations to be carried out without giving rise to undue quantities of Carbon-di-sulphide and hydrogen sulphide escaping to the work environment.
(4) No dry churn shall be opened after completion of reaction without initially exhausting the residual vapours of carbon-di-sulphide by operation of suitable and efficient arrangement for exhausting the vapours which shall be continued to be operated as long as the churn is kept opened.
(5) Whenever any ventilation apparatus normally required for the purpose of meeting the requirements in sub-paragraphs (2), (3) and (4) is ineffective, fails, or is stopped for any purpose whatsoever, all persons shall be required to leave the work areas where the equipment or processes specified in the above said sub- paragraphs are in use, as soon as possible, and in any case not later than 15 minutes after such an occurrence.
(6)
(i) All ventilating system provided for the purposes as required in sub- paragraphs (2), (3) and (4) shall be examined and inspected once every week by a responsible person. It shall be thoroughly examined and tested by a competent person once in every period of 12 months. Any defects found by such examinations or test shall be rectified forthwith.
(ii) A register containing particulars of such examination and tests, and the state of the systems and the repairs of alterations (if any) found to be necessary shall be kept and shall be available for inspection by

an Inspector.
1 3. Waste from spinning machines: Waste yarn from the spinning machines shall be deposited in suitable containers provided with close fitting covers. Such waste shall be disposed off as quickly as possible after deconta-mination.
2 4. Lining of Dry Churns: The inside surface of all dry churns shall be coated with a non-stickly paint so that cellulose xanthate will not stick to the surface of the churn. Such coating shall be maintained in good condition.
3 5. Air monitoring
4 (1) To ensure the effectiveness of the control measures, monitoring of carbon- di-sulphide and hydrogen sulphide in air shall be carried out once atleast in every shift and the

record of the results so obtained shall be entered in a register specially maintained for the purposes.

5 (2) For the purpose of the requirement in sub-paragraph (1), instantaneous gas detector tubes shall not be used. Samples shall be collected over a duration of not less than 10 minutes and analysed by an approved method. The locations where such monitoring is to be done shall be as directed by the Inspector.

6 (3) If the concentration of either carbon-di-sulphide or hydrogen sulphide exceeds the permissible limits for such vapour or gas as laid down in Rule 124-B suitable steps shall be taken for controlling the concentrations in air of such contamination. A report of such occurrence shall be sent to the Chief Inspector forthwith.

7 6. Prohibition to remain in fume process room: No person during his intervals for meal, or rest shall remain in any room wherein fume process is carried on.

8 7. Prohibition relating to employment of young persons: No young person shall be employed or permitted to work in any fume process or in any room in which any such process is carried on.

9 8. Protective equipment

10 (1) To occupier shall provide and maintained in good condition protective equipment as specified in the table for use of persons employed in the processes referred to therein.

TABLE

Process	Protective Equipment
(1)	(2)
1. Dumping	Overalls**,** face-shields, gloves and footwear all made of suitable materials.
2. Spinning	Suitable aprons, gloves and footwear.
3. Process involving or likely to involve contact with viscose solution	Suitable gloves and footwear.
4. Handling of sulphur	Suitable chemical goggles.
5. Any other process involving contact with hazardous chemicals	Protective equipment as may be directed by the inspector by an order in writing.

1 (2) A suitable room, rooms or lockers shall be provided exclusively for the storage of all the protective equipment supplied to workers and no such equipment shall be stored at any place other than the room, rooms or lockers so provided.

2 9. Breathing apparatus

(1) There shall be provided in every factory where fume process is carried on, sufficient supply of: (a) breathing apparatus;
(b) oxygen and a suitable appliances for it administration; and
(c) life belts.

(2)
(i) The breathing apparatus and other appliances referred to in sub- paragraph (1) shall be maintained in good condition and kept in appropriate locations so as to be readily available.
(ii) The breathing apparatus and other appliances referred to in clauses (a) and (b) of sub-paragraph (1) shall be cleaned and disinfected at suitable intervals and thoroughly inspected once every month by a responsible persons.

(iii) A record of the maintenance or the condition of the breathing apparatus and other appliances referred to in sub-clause (1) shall be entered in a register provided for that purposes which shall be readily available for inspection by an Inspector.
(3) Sufficient number of workers shall be trained and periodically retrained in the use of breathing apparatus and administering artificial respiration so that atleast 2 such trained persons would be available during all the working hours in each room in which fume process is carried on.
(4) Breathing apparatus shall be kept properly labelled in clean, dry, light- proof cabinets and if liable to be affected by fumes, shall be protected by placing them in suitable containers.
(5) No person shall be employed to perform any work specified in sub- paragraph (1) for which breathing apparatus is necessary to be provided under the sub- paragraph unless he has been fully instructed in the proper use of the equipment.
(6) No breathing apparatus provided in pursuance of sub-paragraph (1) which has been worn by a person shall be worn by another person unless it has been thoroughly cleaned and disinfected since last being worn and the

person has been fully instructed in the proper use of that equipment.
1 10. Electric fitting: All electric fitting in any room in which carbon-di-sulphide is produced, used or given off or is likely to be given off into the work environment, other than a spinning room, shall be of flame proof construction and all electric conductors shall either be enclosed in metal conduits or be lead-sheathed.
2 11. Prohibition relating to smoking, etc: No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in a room in which fume process is carried on. A notice in the language understood by the majority of the workers shall be posted prominent locations in the plant prohibiting smoking and carrying of matches, fire or naked light or other means of producing naked light or spark into such rooms:

Provided that fire, naked light or other means of producing a naked light of spark may be carried on in such room only when required for the purposes of the process itself under the direction of responsible person.
1 12. Washing and bathing facilities

2 (1) There shall be provided and maintained in a clean state and in good repair for the use of all workers employed in the process covered by the schedule, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 25 persons employed.
3 (2) The washing places shall have standpipes places at intervals of not less than one meter.
4 (3) Not less than one half of the total number of washing places shall be provided with bathrooms.
5 (4) Sufficient supply of clean towels made of suitable material shall be provided:

Provided that such towels shall be supplied individually for each worker if so ordered by the Inspector.
1 (5) Sufficient supply of soap and nail brushes shall be provided.
2 13. Rest room
3 (1) A rest room shall be provided for the workers engaged in doffing operations of filament yarn spinning process.
4 (2) Such rest room shall be provided with fresh air supply and adequate seating arrangement.
5 14. Cautionary notice and instructions
(1) The following cautionary notice shall be prominently displayed in each fume process rooms.
1. Carbon-di-sulphide (CS2) and Hydrogen Sulphide (H2S) which may be present in this room are hazardous to health.
2. Follow safety instructions.

"Cautionary Notice:

3. Use protective equipment and breathing apparatus as and when required.
4. Smoking is strictly prohibited in this area."

This notice shall be in a language understood by the majority of the workers and displayed where it can be easily and conveniently read. If any worker is illiterate, effective steps shall be taken to explain carefully to him the contents of the notice so displayed.
1 (2) Arrangements shall be made to instruct each worker employed in any room in which a fume process is carried on regarding the health hazards, connected with their work and the preventive measures and method to protect themselves. Such instructions shall be given on his first employment and repeated periodically.
2 (3) Simply and special instructions shall be framed to ensure that effective measures will be carried out in case of emergency involving escape of carbon-di- sulphide and hydrogen sulphide. Those instructions shall be displayed in the concerned areas and workers shall be instructed and trained in the actions to be taken in such emergencies.
3 15. Medical facilities and records of examinations and tests

(1) The occupier of each factory to which this schedule applies, shall: (a) employ a qualified medical officer for medical surveillance of the workers employed in the fume process whose employment shall be subject to the approval of the Chief Inspector of Factories; and
(b) provide to the said medical officer all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examination and appropriate tests carried out by the said medical officer shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.
16. Medical Examination by the Certifying Surgeon
(1) Every worker employed in the fume process shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for estimation of exposure co-efficient (iodine azide test on urine), and cholestorol, as well as electro-cardiogramme (ECG) and Central Nervous System (CNS) tests. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
(2) Every worker employed in the fume process shall be re-examined by a Certifying Surgeon atleast once in every twelve calendar months. Such examination shall, wherever the Certifying Surgeon considers an appropriate, include all the tests as specified in sub-paragraph (1).
(3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of re-examinations carried out shall be

entered in the Certificate and the Certificate shall be kept in the custody of the Manager of the Factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 21.
1 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by Inspector.
2 (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said process or in any other work on the grounds that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in these documents should also include the period for which he considers that the said person is unfit for work in the fume process. The person so suspended from the process being unfit for work in that process shall be provided with alternate placement facilities by the factory management unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected shall be suitably rehabilitated.
3 (6) No person has been found unfit to work as said in sub-paragraph (5) above, shall be re-employed or permitted to work in the fume process unless the Certifying Surgeon, after further examination again certifies him fit for employment in those processes.
4 17. Exemptions: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for protection of the workers in the factory, the Chief Inspector may by a certificate in writing, which he may at his discretion

revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any he may specify therein.]

[142][SCHEDULE XXVII OPERATIONS IN FOUNDRIES

1. Application: Provisions of this schedule shall apply to all parts of factories where any of the following operations or processes are carried on, (a) the production of iron castings or, as the case may be, steel castings by casting in mould, made of sand, loam, moulding composition or other mixture of materials, or by shall moulding, or by centrifugal casting and any process incidental to such production;
(b) the production of non-ferrous castings by casting metal in moulds made of sand, loam, metal, moulding composition or other material or mixture of materials, or by shell mouldings, die-casting (including pressure diecasting), centrifugal casting or continuous casting and any process incidental to such production; and

(c) the melting and casting of non-ferrous metal for the production of ingots, billets, slabs or other similar products, and the stripping thereof; (a) any process with respect to the smelting and manufacture of lead and the Electric Accumulators
(b) any process for the purposes of a printing worker; or
(c) any melting process in which metal is obtained by a reducing operation or any process incidental such operation; or
(d) the production of steel in the form of ingots; or
(e) any process in the course of the manufacture of solder or any process incidental to such manufacture; or
(f) the melting and casting of lead or any lead based alloy for the production of ingots, billets, slabs or other similar products or the stripping thereof, or any process incidental to such melting, casting or stripping.

(a) approved respirator" means a respirator of a type approved by the Chief Inspector
(b) (b)"cupola or furnace" includes a receiver associated therewith;
(c) "dressing or fettling operations" includes stripping and other removal of adherents and cores, runners, risers, flash and other surplus metal from a casting and the production of reasonably clean and smooth surface, but does not include--(a) the removal of metal from a casting when performed incidentally in connection with the machining or assembling of castings after they have been dressed or fettled, or (b) any operation which is a knock-out operation within the meaning of this schedule;
(d) "foundry" means those parts of a factory in which the production of iron or steel or non-ferrous castings (not being the production of pig iron or the production of steel in the form of ingots) is carried on by casting in moulds made of sand, loam, moulding composition or other mixture of materials, or by shell moulding or by centrifugal casting in metal moulds lined with sand, or die casting including pressure die castings, together with any part of the factory in which any of the following processes are carried on as incidental processes in connection with and in the course of, such production, namely, the preparation and mixing of materials used in

foundry process, the preparation of moulds and cores knock out operations and dressing or fetting operations;
(e) "knock-out operations" means all methods of removing castings from moulds and the following operations, when done in connection therewith, namely, stripping, coring-out and the removal of runners and risers;

but shall not apply with respect to:
1 2. Definitions

For the purpose of this schedule

(f) "pouring aisle" means an aisle leading from a main gangway or directly from a cupola or furnace to where metal is poured into moulds.
(a) Zirconium silicate (Zirocon)
(b) Calcined china clay
(c) Calcined aluminous fireclay
(d) Sillimanite
(e) Calcined or fused alumina
(f) Olivine
(g) Natural sand.
(a) moulding boxes, loam plates, ladles, patterns, pattern plates, frames, boards, box weights, and other heavy articles shall be so arranged and placed as to enable work to be carried on without unnecessary risk;
(b) suitable and conveniently accessible racks, bins, or other receptacles shall be provided and used for the storage of other gear and tools
(c) where there is bulk storage of sand, fuel, metal scrap or other materials or residues, suitable bins bunkers or other receptacles shall be provided for the purposes of such storage.

1 3. Prohibition of use of certain materials as parting materials
2 (1) A material shall not be used as a parting material if it is a material containing compounds o silicon calculated as silica to the extent more than 5 per cent by weight of the dry materials

Provided that this prohibition shall not prevent the following being used as a parting material if the material does not contain an admixture of any other silica,
1 (2) Dust or other matter deposited from a fettling or blasting process shall not be used as a parting materials or as a constituent in a parting material.
2 4. Arrangement and storage

For the purposes of prompting safety and cleanliness in workrooms the following requirements shall be observed
1 5. Construction of floors

2 (1) Floors of indoor work places in which the processes are carried on, other than parts which are of sand shall have an even surface of hard material.
3 (2) No part of the floor of any such indoor workplace shall be of sand except where this is necessary by reason of the work-done.
4 (3) All parts of the surface of the floor of any such indoor workplace which are of sand shall, so far as practicable, be maintained in an even and firm condition.
5 6. Cleanliness of indoor workplaces

1 (1) All accessible parts of the walls of every indoor workplace in which the processes are carried on and of everything affixed to those walls shall be effectively cleaned by a suitable method to a height of not less than 4.2 metres from the floor atleast once in every period of fourteen months. A record of the carrying out of every such effective cleaning in pursuance of this paragraph including the date (which shall be not less than five months nor more than nine months after the last immediately proceeding washing, cleaning or other treatment).
2 (2) Effective cleaning by a suitable method shall be carried out atleast once every working day of all accessible parts of the floor of every indoor workplace in which the processes are carried on, other than parts which are of sand, and the parts which are of sand shall be kept in good order.
3 7. Manual operations involving molten metal
(1) There shall be provided and properly maintained for all persons employed on manual operations, involving molten metal with which they are liable to be splashed, a working space for that operation, (a) which is adequate for the safe performance of the work; and
(b) which, so far as reasonably practicable, is kept free from obstruction.

(2) Any operation involving the carrying by hand of a container holding molten metal shall be performed on a floor and parts of which where any person walks, while engaged in the operations shall be on the same level:

Provided that, where necessary to enable the operation to be performed without undue risk, nothing in this paragraph shall prevent the occasional or exceptional use of a working space on a different level from the floor, being a space provided with a safe means of access from the floor for any person while engaged in the operation.
1 8. Gangways and pouring aisels
(1) In every workroom to which this paragraph applies constructed, reconstructed or converted for use as such after the making of this Schedule and, so far as reasonably practicable, in every other workroom to which this paragraph applies, sufficient and clearly defined main gangways shall be provided and properly maintained which: (a) shall have an even surface of hard material and shall, in particular, not be of sand or have on them more sand than is necessary to avoid risk of flying metal from accidental spillage
(b) shall be kept, so far as reasonably practicable, free from obstruction;
1 (c) if not used for carrying molten metal, shall be atleast 920 millimetres in width; (d) if used for carrying molten metal shall be: (i) where truck ladles are used exclusively, atleast 600 millimetres wider than the overall width of the ladle;

1 (ii) where hand shanks are carried by not more than two men, atleast 920 millimetres in width;
1 (iii) where hand shanks are carried by more than two men, atleast
1 (iv) where used for simultaneous travel in both directions by mean carrying hand shanks, atleast 1.8 metres in width.

(a) shall have an even surface of hard material and shall, in particular, not be of sand or have on them more sand than is necessary to avoid risk of flying metal from accidental spillage
(b) shall be kept so far as reasonable practicable free from obstruction;
(c) if molten metal is carried in hand ladles or bull ladles by not more than two men per ladles, shall be atleast 460 millimetres wide, but where any moulds alongside the aisle are more than 510 millimetres above the floor of the aisle, the aisle shall be not less than 600 millimetres wide
(d) if molten metal is carried in hand ladles or bull ladles by more than two men per ladle, shall be atleast 769 millimetres wide;
(e) if molten metal is carried in crane, trolley or truck ladles, shall be of width adequate for the safe performance of the work.

1.2 metres in width; and
1 (2) In workroom to which this paragraph applies constructed, reconstructed or converted for use as such after the making of this Schedule, sufficient and clearly defined pouring aisles shall be provided and properly maintained which:
2 (3) Requirements of sub-paragraphs (1) and (2) shall not apply to any workroom or part of a workroom if, by reason of the nature of the work done therein, the floor of that workroom or, as the case may be, that part of a workroom has to be of sand.
3 (4) In this paragraph "workroom to which this paragraph applies" means a part of a ferrous or non-ferrous foundry in which molten metal is transported or used, and a workroom to which this paragraph applies shall be deemed, for the purposes of this paragraph to have been constructed, reconstructed or converted for use as such after the making of this schedule if the construction, reconstruction, or conversion thereof was begun after the making of this schedule.
4 9. Work near cupolas and furnaces

No person shall carry out any work within a distance of 4 metres from a vertical line passing through the delivery and of any spout of a cupola or furnace, being a spout used for delivering molten metal, or within a distance of 2.4 metres from a vertical line passing through the nearest part of any ladle which is in position at the end of such a spout, except, in either case, where it is necessary for the proper use of maintenance of a cupola or furnace that work should be carried out with in that distance of that work is being carried out at such a time

and under such conditions that there is no danger to the person carrying it out from molten metal which is being obtained from the cupola or furnace or is in a ladle in position at the end of the spout.

1 10. Dust and fumes

2 (1) Open coal, coke or wood fires shall not be used for heating or drying ladles inside a workroom unless adequate measures are taken to prevent, so far as practicable, fumes or other impurities from entering into or remaining in the atmosphere of the workroom.

3 (2) No open coal, coke or wood fires shall be used for dying moulds except in circumstances in which the use of such fires is unavoidable.

4 (3) Mould stoves, core stoves and annealing furnaces shall be so designed constructed, maintained and worked as to prevent, so far as practicable, offensive or injurious fumes from entering into any workroom during any period when a person is employed therein.

(4) All knock out operations shall be carried out; (a) in a separate part of the foundry suitably partitioned off, being a room or part in which, so far as reasonably practicable, effective and suitable local exhaust ventilation and a high standard of general ventilation are provided; or

(b) in an area of the foundry in which, so far as reasonably practicable, effective and suitable local exhaust ventilation is provided, or where compliance with this requirement is not reasonably practicable, a high standard of general ventilation is provided.

(5) All dressing or fettling operations shall be carried out, (a) in a separate room or in a separate part of the foundry suitably partitioned off; or

(b) in an area of the foundry set apart for the purpose; and shall, so far as reasonably practicable, be carried out with effective and suitable local exhaust ventilation or other equally effective means of suppressing dust, operating as near as possible to the point of origin of the dust.

11. Maintenance and examination of exhaust plant

(1) All ventilation plant used for the purpose of extracting, suppressing or controlling dust or fumes shall be properly maintained.

(2) All ventilating plant used for the purpose of extracting, suppressing or controlling dust or fumes shall have examined and inspected once every week by a responsible person. It shall be thoroughly examined and tested by a competent person atleast once in every period of twelve months; and particulars of the results of every such examination and test shall be entered in an approved register which shall be available for inspection by an Inspector. Any defect found on any such examination and test shall be immediately reported in writing by the person carrying out the

examination and test of the occupier or manager of the factory.

1 12. Protective equipment

(1) The occupier shall provide and maintain suitable portable equipment specified for the protection of workers (a) suitable gloves or other protection for the hands for workers engaged in handling any hot material likely to cause damage to the hands by burn, scald or scar, or in handling pig iron, rough castings, or other articles likely to cause damage to the hands by cut or abrasion:

(b) approved respirators for workers carrying out any operations creating a heavy dust concentration which cannot be dispelled quickly and effectively by the existing ventilation arrangements.

(2) No respirator provided for the purposes of clause (1) has been worn by a person shall be worn by another person if it has not since been thoroughly cleaned and disinfected.
(3) Persons who for any of their time (a) work at a spout of or attend to, a cupola or furnace in such circumstances that material therefrom may come into contact with the body being material at such a temperature that its contact with the body would cause a burn; or
(b) are engaged in, or in assisting with, the pouring of molten metal; or
(c) carry by hand or move by manual power any ladle or mould containing molten that; or
(d) are engaged in knocking out operations involving material at such a temperature that its contact with the body would cause a burn; shall be provided with suitable footwear and gaiters which worn by them prevent, so far as reasonably practicable, risk of burns to his feet and ankles.

(4) Where appropriate, suitable screens shall be provided for protection against flying (including splashes of molten metal and sparks and chips thrown off in the course of any process).
(5) The occupier, shall provide and maintain suitable accommodation for the storage and make adequate arrangement for cleaning maintaining of the protective equipment supplied in pursuance of this paragraph.
(6) Every person shall make full and proper use of the equipment provided for his protection in pursuance of sub-paragraphs (1) and (4) and shall without delay report to the occupier, manager of other appropriate person any defect in, or loss of, the same.
13. Washing and bathing facilities
(1) There shall be provided and maintained in clean state and good repair for the use of all workers employed in the founder

1 (a) a wash place under cover with either (i) a trough with impervious surface fitted with a waste pipe without plug, and of sufficient length to allow atleast 60 centimetres for every 10 such persons employed at any one time and having a constant supply of clean water from taps or jets above the trough at intervals of not more than 60 centimetres; or
1 (ii) atleast one tap or stand pipe for every 10 such persons employed at any one time, and having a constant supply of clean water, the tap or stand pipe being spaced not less than
1 (iii) apart; and

(b) not less than one half of the total number of washing places provided under clause (a) shall be in the form of bath rooms.
(c) a sufficient supply of clean towels made of suitable material changed daily, with sufficient supply of nail brushes and soap

1.2 metres

1 (2) The facilities provided for the purposes of sub-paragraph (1) shall be placed in charge of a responsible person or persons and maintained in a clean and orderly condition.

2 14. Disposal of dross and skimmings

Dross and skimmings removed from molten metal or taken from a furnace shall be placed forthwith in suitable receptacles.

1 15. Disposal of waste

Appropriate measures shall be taken for the disposal of all waste products from shell moulding (including waste burnt sand) as soon as reasonably practicable after the castings have been knocked-out.

1 16. Material and equipment left out of doors

All material and equipment left out of doors (including material) and equipment so left only temporarily or occasionally shall be so arranged and placed as to avoid unnecessary risk. There shall be safe means of access to all such material and equipment and, so far as reasonably practicable, such access shall be by roadways or pathways which shall have a firm and even surface and shall, so far as reasonably practicable be kept free from obstruction.

1 17. Medical facilities and records of examinations and tests

(1) The occupier of every factory to which the Schedule applies, shall (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

(b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).

1 18. Medical examination by Certifying Surgeon

2 (1) Every worker employed in a foundry shall be examined by a Certifying Surgeon within 15 days of his first employment such medical examination shall include pulmonary function test and chest X-ray. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

3 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon atleast once in every 12 months. Such examination shall wherever, the Certifying Surgeon considers appropriate include all the tests as specified in sub-paragraph (1) except chest X-ray which will be once in 3 years.

4 (3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 32. The record of examination and re-examination carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried under sub- paragraphs (1) and (2) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 21.

5 (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

6 (5) If at any time the Certifying Surgeon is of opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in that case the person affected shall be suitably rehabilitated.

7 (6) No person who has been found unfit to work as said in subparagraph (5) above, shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.

19. Exemptions (1) When any accident which results in the death of any person or which result in

If in respect of any factory the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for protection of the workers in the factory, the Chief Inspector may by a certificate in writing, exempt such factory from all or any of such provisions subject to such condition, if any, he may specify therein.]

108. [143]**[Notification of accident and dangerous occurrences**

(2) When any accident or any dangerous occurrence specified in the Schedule, which result in the death of any person or which result in such bodily injury to any person as is likely to cause his death, takes place in a factory, notice as mentioned in sub-rule (1) shall be sent also to, (a) The District Magistrate or Sub-Divisional Officer;

(b) The officer in charge of the nearest Police Station; and

(c) The relatives of injured or deceased person, as notified by him to the Manager.

(3) The notice so given shall be confirmed by the manager of the factory to the above mentioned authorities within 12 hours of the occurrence by sending to them a written report in the prescribed Form No. 22 in case of a bodily injury, in Form No. 23, if it is a case of fire or explosion and in Form No. 24 if it is any dangerous occurrence. Report in Form Nos. 23 and 24 shall be submitted in addition to Form No. 22 if there are bodily injuries. Report in Form No. 22 shall be submitted separately for each person injured.

(4) When any accident or dangerous occurrence specified in the Schedule takes place in a factory and it causes bodily injury to any person as to prevent the person injured from working for a period of 48 hours or more immediately following the accident or the dangerous occurrence, as the case may be, the Manager of the factory shall send a report thereof to the Inspector in Form No. 22 within 24 hours after the expiry of 48 hours from the time of the accident or the dangerous occurrence:

such bodily injury to any person as is likely to cause his death, or any dangerous occurrence specified in the Schedule takes place in a factory the manager of the factory shall forthwith send a notice thereof by telephone, special messenger or telegram to the Inspector and the Chief Inspector.
Provided that if in the case of an accident or dangerous occurrence, death occurred of any person injured by accident or dangerous occurrence, after the notices and reports referred to in the foregoing sub-rules have been sent the manager of the factory shall forthwith send a notice thereof by telephone special messenger or telegram to the authorities and persons mentioned in sub- rules (1) and (2) and also have this information confirmed in writing 12 hours of the death:
Provided further that, if the period of disability from working for 48 hours or more referred to in sub-rule (4) does not occur immediately following the accident, or the dangerous occurrence but later on, or occurs in more than one spell, the report referred to shall be sent to the Inspector in the prescribed Form No. 22 within 24 hours immediately following the occurrence when the actual total period of disability from working resulting from the accident or the dangerous occurrence becomes 48 hours.
SCHEDULE
The following classes of dangerous occurrences, whether or not they are attended by personal injury

(a) Bursting of a Plant used for contained or supplying steam under pressure greater than atmospheric pressure:
(b) Collapse or failure of crane, drick, which hoist or other appliances used in raising or lowering persons or goods, or any part thereof, or the overturning of a crane:
(c) Explosions, fire, bursting out of plant machinery or equipment causing leakage or escape of any molten metal, or hot liquor or gas, injury any to person or damage to any room or place in which persons are employed, or fire in room of cotton pressing factories where cotton opener is in use.
(d) Explosions of receiver or container used for the storage at a pressure greater than atmospheric pressure of any gases (including air) or any liquid or solid resulting from the compression of gas.
(e) Collapse or subsidence of any floor, gallery roof, bridge, tunnel chimney, wall building or any other structure.]

(1) The State Government may by order appoint the officer working in their Industrial Hygiene Laboratory as Government analyst for the purpose of the analysis work as desired under the Act and the Rules thereunder.
(2) The Government Industrial Hygiene Laboratory may systematically survey and inspect factories assess the various parameters affecting the working conditions thereat as well as check the compliance of various standards laid down by the Act and the Rules, thereunder and also conduct safety and occupational health surveys as directed by the Chief Inspector.]

109. Notice of poisoning or disease

A notice in Form No. 25 should be sent forthwith both to the Chief inspector and to the Certifying Surgeon, by the manager of a factory in which there occurs a case of lead, phosphorus, mercury, manganese, arsenic, carbon bisulphate or benzene poisoning; or poisoning by nitrous fumes, or by halogens or halogen derivatives of the hydrocarbons of the aliphatic series; or of chrome ulceration, anthrax, silicosis, toxic anaemia, toxic jaundice, primary epitheliomatous cancer of the skin, or pathological manifestations due to radium or other radio-active substances or X-rays.

109-A. Rule prescribed under Section 91 and Section 91-A, Government Analyst

CHAPTER X SUPPLEMENTAL

110. Procedure in 1 appeals (1) An appeal presented under Section 107 shall lie to the Chief Inspector; or in cases where the order appealed against is an order passed by that officer, the State Government or to such authority as the State Government may appoint in this behalf, and shall be in the form of a memorandum setting forth concisely the grounds of objection to the order and bearing court fee stamp in accordance with Article 11 of Schedule II to the Court Fees Act, 1870, and shall be accompanied by a copy of the order appealed against.

(2) Appointment of assessors: On receipt of the memorandum of appeal the appellate authority shall, if it thinks fit or if the appellant has requested that

(3) The appellant shall state in the memorandum presented under sub-rule (1) whether he is a member of one or more of the following bodies. The body empowered to appoint the assessor shall, (a) if the appellant is a member of one of such bodies, be that body:

(b) if he is a member of two such bodies, be the body which the appellant desires should appoint such assessor; and

(c) If the appellant is not a member of any of the aforesaid bodies or if he does not state in the memorandum which of such bodies he desires should appoint the assessor, be the body which the appellate authority as the best fitted to represent the industry concerned

(4) Remuneration of assessors

(1) Annual and half-yearly return specified in column (2) of the Schedule hereto annexed shall be furnished to the Chief Inspector in forms specified in column

appeal should be heard with the aid of assessors call upon the body declared under sub-rule (3) to be representative of the industry concerned, to appoint an assessor within a period of 14 days, if an assessor is nominated by such body, the appellate authority shall appoint a second successor itself. It shall then fix a date for the hearing of the appeal and shall give the notice of such date to the appellant and to the Inspector whose order is appealed against, and shall call upon the two assessors to appear upon such date to assist in the hearing of the appeal.

(1) .....

(2) .....

(3) .....

(4) .....

An assessor appointed in accordance with the provisions of sub-rules (2) and (3) shall receive for the hearing of the appeal a fee to be fixed by the appellant authority, subject to a maximum of fifty rupees per diem. He shall also receive the actual travelling expenses. The fees and travelling expenses shall be paid to the assessor by Government, but where assessors have been appointed at the request of the appellant and the appeal has been decided wholly or partly against him, the appellate authority may direct that the fees and travelling expenses of the assessor shall be paid in whole or in part by the appellant. Rule prescribed under Section 108 Toc

111. Display of notices

The abstract of the Act and of the Rules required to be displayed in every factory shall be in Form No. 26.

112. Returns

(3) by class or description of factories specified in column (4) on or before the date mentioned in column (6) of the said Schedule:

SCHEDULE

(2) Holidays-Annual Return (a) which regulary observe Sundays as holidays, or
(b) which regulary observed a fixed day in the week as a holiday or
(c) which observe holidays according a list approved by the Chief Inspector:

(1) The occupier, owner or manager of a factory shall furnish any information that an Inspector may require for the purpose of satisfying himself whether any provision of the Act has been complied with or whether any order of an Inspector has been duly carried out. Any demand by an Inspector for any such

Serial No.	Name of return	Prescribed Form	Class or description of factories	Date of submission
(1)	(2)	(3)	(4)	(5)
1.	Annual Return	27	All Factories	15th January of each year.
2.	Half-Yearly	28	All Factories	15th July and 15th January of each Year.

144[-----]

Provided that in the case of a factory in which work is carried on only during certain period or periods of the year, the annual or half-yearly return, as the case may he, shall be submitted when 15 days after the close of that period, or the close of the last of these periods in the year, as the case may be, intimating the reasons therefor and the number of persons affected thereby.

Before the end of each year, a return in duplicate giving notice of all days on which it is intended to close the factory during the next ending year shall be furnished to the Chief Inspector. If in any year a factory is newly started or restored after a closure during the previous year, such return shall be submitted before the date of such starting or restarting for the remaining period of the year:
Provided that the State Government may dispense with this return in the case of any specified factory or of any class of the factories in any particular area:
Provided further that the annual return of holidays shall be dispensed in case of all factories,
Provided that also that where any departure from such a holiday as aforesaid is made, prior intimation shall be given to the Chief Inspector.

113. Service of notices

The despatch by post under registered cover of any notice or order shall be deemed sufficient service on the occupier, owner or manager of a factory of such notice or order.

114. Information required by the Inspector

(2) [145][The occupier or manager of every factory shall report to the Inspector any intended closure. [146][Information as to the particulars and quantity of stored chemicals and action taken or proposed to be taken to ensure safety from those chemicals shall also be furnished along with the report of intended closure] of the factory or any section or department thereof, immediately it is decided to do so, intimating the reason for the closure, the number of workers on the registers on the date of the report, the number of workers likely to be affected by the closure, and the probable period of the closure. An intimation should also be sent to the Inspector as soon as the factory, or the section or department of the factory, as the case may be, starts working again.]

information, if made during the course of an inspection, shall be complied with forthwith if the information is available in the factory, or if made in writing, shall be complied with within seven days of receipt thereof.

115. Maintenance of a clock or time-piece

A clock or a time piece shall be maintained to Indian standard time near the notice board or any other conspicuous place where the majority of workers have an access to observe.

116. Display of sign-board

Every factory shall display a painted sign-board with conspicuous letters at the main entrance of the factory giving the following particulars:
(a) Registration of licence No:
(b) Name of the factory:
(c) Name of the occupier
(d) Locality street etc.

117. Display and maintenance of notices

i (i) If any person pulls down, injures or defaces any material exhibited in pursuance of these rules, he shall be guilty of an offence under this rule.
ii (ii) Any notice which ceases to have affected shall be removed from the notice board.

iii (iii) A copy of each notice exhibited shall be maintained in file or files for a period of three years from the date it ceases to have effect.

118. Muster-roll

The manager of every factory shall maintain a muster-roll of all the workers employed in the factory in Form No. 14 and shall make entries of the daily attendance of each worker before he is allowed to work.

119. Register of accidents and dangerous occurrences

The manager of every factory shall maintain a register of all accidents and dangerous occurrences which occur in the factory in Form No. 31 showing the:

i (i) Name of injured person (if any);

ii (ii) Date of accident or dangerous occurrence;

i (iii) Date of report on Form No. 22 to Inspector;

ii (iv) Nature of accident or dangerous occurrence;

iii (v) Date of return of injured person to work;

iv (vi) Number of days of absence from work of injured person;

v (vii) Average rate of pay;

vi (viii) Whether disablement is permanent or temporary;

(ix) Compensation paid if any. (1) All the registers required to be maintained in pursuance of these rules shall be well bound and shall of size not smaller than the foolscap size.

(2) All registers, cards and other forms shall be legibly written in ink in either Hindi in Dev Nagari script or English.

(3) Overwritings, erasures and scratches shall be avoided as far as possible and wherever such overwritings, erasures and scratches occur they shall be duly initialled by the manager.

(4) Unless otherwise provided all registers shall be preserved for a period of three years dating from the last entry therein.

(1) The Chief Inspector may recognise any person as 'competent person' within such area and for such period as may be specified for the purposes of carrying out tests, examinations, inspections and certification for such buildings, dangerous machinery hoists and lifts, lifting machines and lifting tackles,

120. Maintenance of Inspection book

The manager of every factory shall maintain a bound inspection book and shall produce it when so required by the Inspector or Certifying Surgeon.

121. Maintenance of Registers

1 **122.**

The Central Provinces and Berar Factory Rules, 1949, in their application to Mahakoshal region, the Madhya Bharat Factory Rules, 1951, the Bhopal Factory Rules, 1952, the Vindhya Pradesh Factory Rules, 1951, and the Rajasthan Factory Rules, 1951, in their application to the Sironj region are hereby repealed.

Provided that any application relating to grant, renewal, transfer or amendment of licence pending at the time of coming into force of these rules shall be decided in accordance with the provisions of the rules under which such application was made
Provided further that subject to the preceding proviso, anything done or any action taken (including any appointment of delegation made, notification, order, instruction or direction issued, certificate obtained, patent permit or licence granted or registration effected) under any such rule shall be deemed to have been done or taken under the corresponding provision of these rules and shall continue to be in force accordingly/unless superseded by anything done or any action taken under these rules.

123. [147]**[Competent person**

i (2) The Chief Inspector may recognise an institution of repute, having persons possessing qualifications and experience as set out in the Schedule annexed to sub-rule (1) for the purposes of carrying out tests, examinations inspection and certification for buildings, dangerous machinery, hoists and lifts, lifting machines, and lifting tackles, pressure plant, confined space, ventilation system and such other process or plant and equipment as stipulated in the Act and the Rules made thereunder, as 'competent person' within such area and for such period as may be specified.

i (3) The Chief Inspector on receipt of an application in the prescribed form from a person or an institution intending to be recognised as a 'competent person' for the purposes of this Act and the Rules made thereunder shall register such application and after satisfying himself as regards competence and facilities available at the disposal of the applicant may recognise the applicant as a 'competent person'. Such application shall be disposed of either by issuing a certificate of competency in the prescribed form or by rejecting the same specifying reasons therefor within a period of 60 days.

(4) The Chief Inspector, if he has reason to believe that a 'competent person (a) has violated any condition stipulated in the certificate of competency:

(b) has carried out a test, examination and inspection or has acted in a manner inconsistent with the intent or the purpose of this Act or the Rules made thereunder, or has omitted to act as required under the Act or the Rules made thereunder:

(c) has rendered himself unfit for any other reason to be recorded in writing: may revoke the certificate of competency after giving an opportunity to the 'competent person' of being heard.

(5) The Chief Inspector may, for reasons to be recorded in writing, require

pressure plant, confined space, ventilation system and such other process or plant and equipment as stipulated in the Act and the Rules made thereunder, located in a factory, if such person possess the qualification, experience and other requirements as set out in the schedule annexed to this Rule:

Provided that the Chief Inspector may relax the requirements of qualifications in respect of a ‘Competent person’ if such a person is exceptionally experienced and knowledgeable, but not the requirements in respect of the facilities as his command:

Provided further that where it is proposed to recognise a person employed under the Chief Inspector as a 'competent person', concurrence of the State Government shall be taken and such a person after being so recognized shall not have powers of an 'Inspector':
Provided further that the ‘competent person’ recognized under this provision shall not be above the age of 62 and shall be physically fit for the purpose of carrying out the tests, examination and inspection.
Explanation: For the purpose of this Rule, an institution includes an organisation.

recertification of lifting machines, lifting tackles, pressure plant or ventilation system, as the case may be, which has been certified by a competent person outside the State.

SCHEDULE

Sl. No	Section or Rules under which competency is recognised	Qualification required	Experience for the purpose	Facilities at his command
1	2	3	4	5
1.	Rules made under Section 6 and Section 112 Certificate of stability for buildings	Degree in Civil or structural Engineering; or equivalent	i (i) A minimum of 10 years’ experience in the design or construction or testing or repair of structure; ii (ii) Knowledge of non- destructive testing, various codes of practices that are current and the effect of the vibrations and natural forces on the stability of the building; and iii (iii) Ability to arrive at a reliable conclusion with regard to the safety of the structure or the building	

2.	Rules made under Section 21(2) "Dangerous Machines."	Degree in Electrical or Mechanical or Textile Engineering or equivalent	(i) A minimum of 7 years' (a) the design or operation or maintenance; or (b) the testing examination and inspection of relevant machinery, their guards, safety devices and appliances. (a) be conversant with the safety devices and their proper functioning; (b) be able to identify defects and any other cause leading to the failure; and (c) have ability to arrive at a reliable experience in, i (ii) He shall: conclusion with	Gauges for measurement instruments for measurement of speed and any other equipment or device to determine the safety in use of the dangerous machines.

regard to the safety device and appliance and the machine guard

3.	Section 28- Lifts and Hoists.	A degree in Electrical and/or Mechanical Engineering or its equivalent	(i) A minimum experience of 7 years in, (a) 'design or erection or maintenance, or (b) inspection and test procedures of lifts and hoists. (ii) He shall be, (a) conversant with relevant codes of practices and test procedures that are current; (b) conversant with other statutory requirements covering the safety of the Hoists and Lifts; (c) able to identify the defects and arrive at a reliable conclusion with regard to the safety of the Hoists and Lifts.	Facilities load testing, tensile testing guages equipment/Gadget for measurement and any other equipment required for determining the safe working conditions of the Hoist and Lifts.
4.	Section 29- Lifting Machinery and Lifting Tackles	Degree in Mechanical or Electrical or Metallurgical Engineering or its equivalent.	(i) A minimum experience of 7 years in, (a) design or creation or maintenance, or (b) testing, examination and inspection of lifting machinery,	Facilities for load testing, heat treatment, equipment/ gadget for measurement, guage and such other equipment to determine the safe working conditions of the lifting machinery tackles

chains, ropes and lifting tackles.
(ii) He shall be, (a) conversant with the relevant codes of practices and test procedure that are current;
(b) conversant with fracture mechanics and metallurgy of the material of construction;
(c) Conversant with heat treatment/ stress relieving techniques as applicable to stress bearing components and part of lifting machinery and lifting tackles;
(d) capable of identifying defects and arriving at a reliable conclusion with regard to the safety of the lifting machinery, chains, ropes and lifting

tackles.

5.	Section 31- "Pressure Plant".	Degree in chemical or electrical or metallurgical or Mechanical Engineering or its equivalent	(i) A minimum experience of 10 years in, (a) design or erection or maintenance, or (b) testing examination	Facilities for carrying out hydraulic test nondestructive test guages equipment/g adget for measurement and any other equipment or guage to determine the safety in the use of pressure vessels

and inspection for pressure plants.
(ii) He shall be, (a) conversant with
(b) conversant with
(c) conversant with the non- destructive testing techniques as are applicable to pressure vessels;
(d) able to identify

the relevant codes of practices and test procedure relating to pressure vessels;
other statutory requirements concerning the safety of unfired pressure vessels and equipment operating under pressure;
the defects and arrive at a reliable conclusion with regard to the safety of the pressure plant.

6.	i (i) Section 36- Precautions against dangerous fumes. i (ii) Rules made under Sections 41 and 112 concerning ship building and ship repair	Master's degree in Chemistry, or a degree in Chemical Engineering	i (i) A minimum experience of 7 years in collection and analysis of environmental samples and calibration of monitoring equipment; (ii) He shall, (a) be conversant with the hazardous properties of chemicals and their	Meters, instruments and devices duly calibrate and certified for carrying out the tests and certification of safety in working in confined spaces.

permissible limit values;
(b) be conversant with the current techniques of sampling and analysis of the environmental contaminates; and
(c) be able to arrive at a reliable conclusion as regards the safety in respect of entering and carrying out

hot work.

7.	Ventilation systems as required under various Schedule framed under Section 87, such as Schedule on, i (i) Grinding or glazing of metals and processes incidental thereto, ii (ii) Cleaning or smoothing, roughing etc. of articles by a jet sand, metal shot or grit, or other abrassive propelled by a blast of compressed air of steam. i (iii) Handling and processing of asbestos. ii (iv) Manufacture of Rayon by Viscose Process, iii (v) Foundary Operations.	Degree in Mechanical or Electrical Engineering or equivalent.	i (i) A minimum experience of 7 years in the design, fabrication, installation testing of ventilation system and systems used for extraction and collection of dusts, fumes and vapours other ancillary equipment. i (ii) He shall be conversant with relevant codes of practice and tests procedures that are current in respect of ventilation and extraction system for fumes and shall be able to arrive at a reliable conclusion with regard to effectiveness of the system.	Facilities for testing the ventilation system instruments and guages for testing the effectiveness of the extraction system for dusts, vapour and fumes and any other equipment needed for determining the efficiency and adequacy of these system. He shall have the assistance of a suitable qualified technical person who can come to a reasonable conclusion as to the adequacy of the system.

124. [148][**Guidelines, instructions and records** (1) Without prejudice to the general responsibility of the occupier to comply with the provisions of Section 7(A), the Chief Inspector may, from time to time, issue guidelines and instructions regarding the general duties of the occupier relating to health safety and welfare of all workers while they are at work in the factory.

1 (2) Issue of guidelines

1 (3) The occupier shall maintain such records, as may be prescribed by the Chief Inspector, in respect of monitoring of working environment in the factory. (1) All persons who are required to superwise the handling of hazardous substances shall possess the following qualifications and experience: (i) A degree in Chemistry or Diploma in Chemical Engineering or Technology with 5 years' experience; or

1 (ii) A Master's Degree in Chemistry or a Degree in Chemical Engineering or Technology with 2 years' experience.

1 (iii) The experience stipulated above shall in process operation and maintenance in the Chemical Industry.

(2) The Chief Inspector may require the supervisor to undergo training in Health and Safety. The syllabus and duration of the training in health and safety and the organisation conducting the training shall be approved by the DGFASLI or the State Government in accordance with the guideline issued by the DGFASLI.

For the purpose of compliance with the requirements of sub-sections (1), (4) and (7) of Sections 41-B and 41-C Chief Inspector may, if deemed necessary, issue guidelines from time to time to the occupier of factories carrying on 'hazardous process'. Such guidelines may be based on National Standards. Codes of Practice or recommendations of International Bodies such as ILO and WHO.

124-A [149]**[Qualifications, etc. of Supervisors**

(a)

124-B. Surveillance of the work- environment

1 (1) In addition to generality of the provisions of Sections 7-A and 7-B, the occupier of the factory involved in hazardous process, shall make necessary arrangements for monitoring of level of exposure of chemical and toxic substances (whether hazardous or otherwise) in the work environment of the factory, as may be further instructed by the Chief Inspector.

2 (2) Without prejudice to the requirements in any other provisions in the Act or the rules, the requirement specified in the following schedule for permissible levels or certain chemical substance in work-environment shall apply to all factories.

SCHEDULE

1. Definitions (a) "mg/m3" means milligrams of a substance per cubic meter of air;
(b) "ppem" means million particles of a substance per cubic meter of air;
(c) "ppm" means parts of vapour or gas per million parts of air by volume at 25øC and 760 mm of mercury pressure;
(d) "Times weighted average concentration" means the average concentration of a substance in the air at any work location in a factory computed from

For the purpose of this schedule

(e) "work location" means a location in a factory at which a worker works or may be required to work at any time during any shift on any day.
(a) such periods during which the concentration exceeds the prescribed time weighted average concentration are restricted to not more than 4 per shift;
(b) the time interval between any two such periods of higher exposure shall not be less than 60 minutes;

(c) at no time the concentration of the substance in the air shall exceed the limit of short term maximum concentration.
(a) In case, the air at any work location contains a mixture of such substances mentioned in Table 1, 2 or 3, which have similar toxic properties, the time weighted concentration of each of these

evaluation of adequate number of air samples taken at the location, spread over the entire shift on any day, after giving weightage to the duration for which each such sample is collected and the concentration prevailing at the time of taking the sample.
Time weighted average $C_1T_1+C_2T_2.....C_nT_n/T_1\ T_2\ T_n$ concentration.
Where C_1 represents the concentration of the substance for duration T_1 (in hours)
C_2 represents the concentration of the substance for duration T_2 (in hours) and
Cn represents the concentration of the substance for duration T_n (in hours)
1 2. Limits of concentrations of substances at work locations
2 (1) The time weighted average concentration of any substance listed in Table 1 or 2 Of the schedule, at any work location in a factory during any shift on any day shall not exceed the limit of the permissible time weighted average concentration specified in respect of that substance:

Provided that in the case of a substance mentioned in Table 1 in respect of which a limit in terms, of short term maximum concentration is indicated, the concentration of such a substance may exceed the permissible limit of the time weighted average concentration for the substance for short periods not exceeding 15 minutes at a time, subject to the condition that:
1 (2) In the case of any substance given in Table 3, the concentration or the substance at any work location in a factory at any time during any day shall not exceed the limit of exposure for that substance specified in the table.
2 (3) In the cases where the word “skin” has been indicated against certain substance mentioned in Tables 1 and 3, appropriate measures shall be taken to prevent absorption through cutaneous routes particularly skin, mucous membrances, and eyes as the limits specified in these Tables are for conditions where the exposure is only through respiratory tract.
3 (4)

(b) In case the air at any work location contain a mixture of substances, mentioned in Table 1, 2 or 3, and these do not have similar toxic properties, then the time weighted concentration of each of these substances shall not exceed the permissible time weighted average concentration specified in the above mentioned tables, for that particular substances.
(c) The requirement in clauses (a) and (b) shall be in addition to the requirements in paragraphs (1) and 2 (2).
(a) For determination of the number of particles per cubic meter in item 1 (a)(i)(1) in Table 2, samples are to be collected by standard or midget impinger and the count made by lightfield technique:
(b) The percentage of quartz in the 3 formula given in item 1 (a)(i) of Table

(c) For determination of number of fibres as specified in item 2 (a) of Table 2, the memberance filter method at 400-450 X magnification (4 mm objective) with phase contrast illumination should be used:
(d) Both for determination of concentration and percentage of quartz for use of the formula given in item 1 (a)(i)(2) of Table 2, the fraction passing through a size- selector with the following characteristics should not be considered.

substances during the shift should be such, that when these time weighted concentration divided by the respective permissible time weighted average concentration specified in the above mentioned tables, and the fractions obtained are added together, the total shall not exceed unity;
Should not exceed unity;
i.e. $C_1/L_1 + C_2/L_2 + \ldots\ldots\ldots\ldots\ldots + C_n/L_n$ should not exceed unity when C_1, C2.....
the time weighted concentration of toxic substances 1, 2, ... and n respectively, determined after measurement at work location;
and L_1, L_2.....Ln are the permissible time weighted average concentration of the toxic substances 1, 2..... and n respectively.
1 3. Sampling and evaluation procedures
2 (1) Notwithstanding provisions in any other paragraphs, the sampling and evaluation procedures to be adopted for checking compliance with the provisions in the schedule shall be as per standard procedures in vogue from time to time.
3 (2) Notwithstanding the provisions in paragraph 5, the following conditions regarding the sampling and evaluation procedures relevant to checking compliance with the provisions in this schedule are specified:

2 is to be determined from air borne samples":

Aerodynamic diameter (unit density sphere)	**Percentage allowed by size- selector**
2.0	90
2.5	75
3.5	50
5.0	25
10.0	0

1 4. Power to require assessment of concentration of substances
2 (1) An Inspector may, by an order in writing, direct the occupier or manager of a factory to get the assessment of the time weighted average concentration at any work location of any of the substances mentioned in Table 1, 2 or 3 carried out, by the Government's Industrial

Hygiene Laboratory. The services of the laboratory may be requisitioned by the occupier or manager of the factory, with their consent and after payment of fees of laboratory services the rates as may be specified by order by the State Government from time to time.

3 (2) The results of such assessment as well as the method followed for air sampling and analysis for such assessment furnished by the laboratory shall be sent to the Inspector within 3 days from the date of completion of such assessment by the occupier or manager and also a record of the same kept readily available for inspection by an Inspector.

4 5. Exemption

if in respect of any factory or a part of a factory, the Chief Inspector is satisfied that, by virtue of the pattern of working time of the workers at different work locations or on account of other circumstances, no worker is exposed in the air at the work locations, to a substance or substances specified in Table 1, 2 or 3 to such an extent as is likely to be injurious to his health. He (the Chief Inspector) may by an order in writing exempt the factory or a part of the factory from the requirements in paragraph 2, subject to such conditions if any, as he may specify therein.

1 6. Change of permissible limit

The permissible limits listed in following Tables (1), (2) and (3) of this Schedule and the permissible limits as specified in the Second Schedule of the Factories Act, 1948 are the same. Hence at any change in the limits specified in the second schedule of the Act, those substituted limits shall be applicable under this Schedule as if the same have been incorporated in its tables.

SL.No	Substance	Permissible limits of exposure	
Time-weighted average concentration (TWA) (8Hrs)		Short term exposure limits (STEL) (15min)*	

(1)	(2)	(3)	(4)	(5)	(6)
PPm	mg/m3		PPm	mg/m3	
1.	AceXaldehyde	100	180	150	270
2.	Acetic acid	10	25	15	37
3.	Acetone	750	1780	1000	2375
4.	Acrolein	0.1	0.25	0.3	0.8
5.	Acrylonitric skin (S.C)	2	18	--	--
6.	Aldrin-skin	..	0.25	--	--
7.	Allyl chloride	1	3	2	6
8.	Ammonia	25	18	35	27

9.	Aniline skin	2	10	--	--
10.	Anisidine (o-p-isomers)-Skin	0.1	0.5	--	
11.	Arsenic & soluble compounds (as As)	--	0.2	--	--
12.	Benzene (S.C.)	10	30	--	--
13.	Beryllium & compounds (as Be) (S.C.)	--	0.002	--	--
14.	Boron trifluoride-C	1	3	--	--
15.	Bromine	0.1	0.7	0.3	2
16.	Butane	800	1900	--	--
17.	2-Butanone (Methyl ethyl-Ketone- MEK)	200	590	300	885
18.	n-Butyl acetate	150	710	200	950
19.	n-Butyl alcohol-Skin-C	50	150	--	--
20.	Sec/tert. Butyl acetate	200	950	--	--
21.	Butyl merceptan	0.5	1.5	--	--
22.	Cadmium Dusts and salts (as Cd)	--	0.05	--	
23.	Calcium oxide	--	2	--	--
24.	Carbaryl (Sevin)	--	5	--	--
25.	Carbofuran (furadan)	--	0.1	--	
26.	Carbon disulphide-Skin	10	30	--	--
27.	Carbon monoxide	50	55	400	440
28.	Carbon tetrachloride-Skin (S.C.)	5	30	--	--
29.	Chlordane-Skin	--	0.5	--	2
30.	Chlorine	1	3	3	9
31.	Chlorobenzene (Monochloro- benzene)	75	350	--	--
32.	Chloroform (S.C.)	10	50	--	--

33.	bis (Chloromethyl) ether (H.C.)	0.001	0.005	--	--
34.	Chromic acid and chromates (as Cr)	--	0.05	--	--
35.	Chromous salts (as Cr)	--	0.05	--	--
36.	Copper Fume	--	0.2	--	--
37.	Cotton dust, raw	--	0.2+	--	--
38.	Cresol, all isomers, Skin	5	22	--	--'
39.	Cyanides (as CN)-Skin	--	5	--	--

40.	Cyanogen	10	20	--	--
41.	DDT(Dichlorodiphenyl Trichloroethane)	--	1	--	--
42.	Demeton-Skin	0.01	0.1	--	--
43.	Diazinon-Skin	--	0.1	--	--
44.	Dibutyl phthalate	--	5	--	--
45.	Dichlorvos (DDVP)-Skin	0.1	1	--	--
46.	Dieldrin-Skin	--	0.25	--	--
47.	Dinitrobenzene (all isomers) Skin	0.15	1	--	--
48.	Dinitrotoluene-Skin	--	1.5	--	--
49.	Diphenyl (Biphenyl)	0.2	1.5	--	--
50.	Endosulfan (Thiodan)-Skin	--	0.1	--	--
51.	Endrin-Skin	--	0.1	--	--
52.	Ethyl acetate	400	1400	--	--
53.	Ethyl alcohol	1000	1900	--	--
54.	Ethylamine	10	18	--	--
55.	Fluorides (as F)	--	2.5	--	--
56.	Fluorine	1	2	2	4
57.	Formaldehyde (S.C.)	1.0	1.5	2	3
58.	Formic acid	5	9	--	--
59.	Gasoline	300	900	500	1500
60.	Hydrazinc-Skin (S.C.)	0.1	0.1	--	--
61.	Hydrogen chloride-C	5	7	--	--
62.	Hydrogen cyanide-Skin-C	10	10	--	--
63.	Hydrogen fluoride (as F)-C	3	2.5	--	--
64.	Hydrogen peroxide	1	1.5	--	--
65.	Hydrogen Sulphide	10	14	15	21
66.	Iodine-C	0.1	1	--	--
67.	Iron Oxide Fume(Fe_2O_3)(as-Fe)	--	5	--	--
68.	Isoamyl acetate	100	525	--	--

69.	Isoamyl alcohol	100	360	125	450
70.	Isobutyl alcohol	50	150	--	--
71.	Lead, inorg duets and fumes (as Pb)	--	0.15	--	--

72.	Lindane-Skin	--	0.5	--	--
73.	Malathion-Skin	--	10	--	--
74.	Manganese(as-Mn) dustand compou	--	5	--	--
75.	Manganese Fume (as Mn)	1	--	--	
76.	Mercury (as Hg)- i (i) Alkyl compounds ii (ii) All forms except alkyl vapour	--	0.01 0.05	--	0.03
77.	Mercury (as Hg) Aryl and inorganic compounds	--	0.1	--	--
78.	Methyl alcohol (Methanol)-Skin	200	260	250	310
79.	Methycellosolve(2-Methoxye- thanol) Skin	5	16	--	--
80.	Methyl isobutyl ketone	50	205	75	300
81.	Methyl isocyanate-Skin	0.02	0.05	--	--
82.	Naphthalene	--	--	--	--
83.	Nickel cabonyl (as Nil)	10	50	15	75
84.	Nitric acid	2	5	4	10
85.	Nitric oxide	25	30	--	--
86.	Nitro benzene-Skin	1	5	--	--
87.	Nitrogen dioxide	3	6	5	10
88.	Oil mist, mineral	--	5	--	10
89.	Ozone	0.1	0.2	0.3	0.6
90.	Parathion-Skin	--	0.1	--	--
91.	Phenol-Skin	5	19	--	--
92.	Phorate (Thimet)-Skin	0.05	--	0.2	
93.	Phosgene (Carbonyl chloride)	0.1	0.4	--	--
94.	Phosphine	0.3	0.4	1	1
95.	Phosphoric acid	--	1	--	--
96.	Phosphorus (yellow)	--	0.1	--	--
97.	Phosphorus Pentachloride	0.1	1	--	--
98.	Phosphorus trichloride	0.2	1.5	0.5	3
99.	Picric acide-Skin	--	0.1	--	0.3
100.	Pyridine	5	15	--	--
101.	Silane (Silocon tetrahydride)	5	7	--	--
102.	Sodium hydroxide-C	--	2	--	--

103.	Styrene, monomer (Phenylethylene)	10	215	100	425
104.	Sulphur dioxide	2	5	5	10
105.	Sulphur hexafluoride	1000	6000	--	--
106.	Sulphuric acid	--	1	--	--
107.	Tetraethyl lead (as Pb)-Skin	--	0.1	--	--
108.	Toluence (Touol)	100	375	150	560
109.	o-Toluidine-Skin (S.C.)	2	9	--	--
110.	Tributyl phosphate	0.2	2.5	--	--
111.	Trichloroethylene	50	270	200	1080
112.	Uranium, natural (as U)	--	0.2	--	0.6
113.	Vinyl chloride (H.C.)	5	10	--	--
114.	Welding Funes	--	5	--	--
115.	Xylene (o-, m-, p-isomers)	100	435	150	655

TABLE 2

Substance Permissible	**time weighted average concentration**
1. Silica	
(a) Crystalling	
(i) Quartz	
(1) In terms of (): dust count	1060 % Quartz + 0 Mppcm
(2) In terms of () : respirable dust	10 % respirable quartz + 2 mp/m3
(3) In terms of (): total dust	30 % quartz + 3 mg/33
(ii) Cristobalite	Half the limits given against quartz.
(iii) Tridymite	Half the limits given against quartz.
(iv) Silica fused	Same limit as for quartz.
(v) Tripoli	Same limit as in formula in item given against quartz.
(b) Amorphous	(705 mppcm) or 10 mg/m3 Total dust
2. Silicate having less than 1% free silica by weight	

(a) Asbestos-fibres longer 5 microns	0.5 fibre/cube centimeter
(i) Amosite	2 fibre/cubic centimeter

(ii) Chrysotile	0.2 fibre/cubic centimeter greater
(iii) Crocidolite	
(iv) Other form	2 fibres/cubic centimeter greater than 5 m in length and less than 3 micron in breadth with length to breadth ration equal to or greater to 3 : 1
(b) Mica	705 mppcm or 10 mg/m
(c) Minera wool fibre	10 mg/m3
(d) Porlite	1060 mppcm
(e) Portland cement	10 mg/m Total dust containing less than 1 % quartz.
(f) Soap stone	705 mppcm
(g) Tale (non-abostiform)	705 mppcm
(h) Tale (fibrous)	Same limit as for asbestos
(i) Tromolite	Same limit as for asbestos
3. Coal dust (1) For airborne dust having less than 5% silicon dioxide quartz by weight:	2mg/m3

(2) For airborne dust having over 5% silicon dioxide quartz.			Same limit as prescribed by in item (2) against quartz.		
1	2	3	4	5	6
116.	Zinc oxide-		5.0		10
(i) Fume					
(ii) Dust (Total dust)	--		10.00	--	--
117.	Zirconium compounds (as Zr)	--	5	--	10

ppm: Parts of vapour or gas per million parts of contaminated air by volume as 25øC and 700 mm of Hg:
mg/m: Miligram of substance per cubic metre of air.
* Not more than 4 times a day with at least 60 min. interval between successive exposures.
** mg/m3 = Molecular weight/24.45 x ppm

TABLE 3

Substance	Permissible limit of exposure	
PPm	PPm mg/m3	
Acetic anhydride	5	20
O-Dichlorobenzene	50	300
Formaldhyde	2	3
Hydrogen chloride	5	7
Manganese & Compounds (as Mn)	-	5
Nitrogen dioxide	5	9
Nitroglycerin-skin	0.2	2

Potassium Hydroxide	-	2
Sodium hydroxide	-	2
2, 4, 6 Trinitrotoluene (TNT)	-	0.5

125. Site Appraisal Committee (1) Constitution: The following provisions shall govern the functioning of the Site Appraisal Committee, hereinafter, be referred to as the "Committee", in these rules: (a) The State Government may constitute a Site Appraisal Committee and reconstitute the Committee as and when necessary;
(b) The State Government may appoint senior official of the Factories Inspectorate, preferably with qualification in Chemical Engineering to be the Secretary of the Committee;
(c) The State Government may appoint the following as member of the

1 (i) A representative of the Fire Service Organisation of the State Government;
1 (ii) A representative of the State Department of Industries;
1 (iii) A representative of the Director General of Factory Advice Service and Labour Institute, Bombay.

(2) No member, unless required to do so by a Court of Law, shall disclose otherwise than in connection with the purposes of the Act, at any time any information relating to manufacturing or commercial business or any working process which may come to his knowledge during his tenure as a Member on this Committee.
(3) Applications for appraisal of sites: (a) Application for appraisal of sites in respect of the hazardous process factories covered under Section 2 (cb) of the Act shall be submitted to the Chairman of the Site Appraisal Committee.
(b) The application for site appraisal alongwith 15 copies thereof shall be submitted in the Form 1. The committee may dispense with Furnishing information on any particular item in the Application Form if it considers the same to be not relevant to the application under consideration.

(4) Functions of the Committee (a) The secretary arranges to register the applications received for appraisal of site in a separate register and acknowledge the same within a period of 7 days.
(b) The Secretary shall fix up meeting in such a manner that all the applications received and registered are referred to in Committee within a period of one month from the date of their receipt.
(c) The Committee may adopt a procedure for its working keeping in view the need for expeditious disposal of applications.
(d) The Committee shall examine the application for appraisal of a site with reference to the prohibitions and restrictions on the location of industry and the carrying on of processes and

operations in different areas as per the provisions as Rule 5 of the Environment (Protection) Rules, 1986 framed under the Environment Protection Act, 1986.
(e) The Committee may call for documents, examine experts, inspect the site if necessary and take other steps for formulating its views in regard to the suitability of the site.
(f) Wherever the proposed site requires clearance by the Ministry of Industry or the Ministry of Environment and Forests, the application for Site Appraisal will be considered by the Site Appraisal Committee only after such clearance has been received.

(1) Occupier of every factory, except as provided for in sub-rule (2), shall prepare a

Committee:
126. Health and Safety Policy

(2) All factories (a) covered under Section 2m(i) but employing, less than 50 workers: OR

(3) Notwithstanding anything contained in sub-rule (2), the Chief Inspector may require the occupiers of any of the factories or class or description of factories to comply with the requirements of sub-rule (1), if, in his opinion, it is expedient to do so.
(4) The Health and Safety Policy should contain or deal with (a) declared intention and commitment of the top management to health, safety and environment and compliance with all the relevant statutory requirements;
(b) organisational set up to carry out the declared policy clearly assigning the responsibility at different level: and

(5) In particular, the policy In particular, the policy should specify the following: (a) arrangements for involving the workers;
(b) intentions of taking into account the health and safety performance of individuals at different levels while considering their career advancement;
(c) fixing the responsibility of contractors, sub-contractors, transporters and other agencies entering the premises;
(d) providing a resume of health and safety performance of the factory in its Annual Report;
(e) relevant techniques and methods, such as safety audits and risk assessment for periodical assessment of the status on health, safety and environment and taking all the remedial measures;
(f) stating its intentions to integrate health and safety in all decisions including those dealing with purchases, of plant, equipment, machinery and material as well as selection and placement of personal;
(g) arrangements for informating education and training and retraining its own employees at different levels and the public, wherever required.

(6) A copy of the declared Health and Safety Policy signed by the occupier shall be made available to the Inspector having jurisdiction over the factory and to the Chief Inspector.

(7) The policy shall be made widely know by, (a) making copies available to all workers including contract workers, apprentices, transport workers, suppliers, etc.
(b) displaying copies of the policy at conspicuous places; and

written statement of his policy in respect of health and safety of workers at work.
Provided that they are not covered in the First Schedule under Section 2 (cb) or carrying out, processes or operations declared to be dangerous under Section 87 of the Act.

(c) any other means of communication;

(8) The occupier shall revise the Safety Policy as often as may be appropriate, but it shall necessarily by revised under the following circumstances, (a) whenever any expansion or modification having implication on safety and health of persons at work is made, or
(b) wherever new substance(s) or articles are introduced in the manufacturing process having implications on health and safety of person exposed to such substance.

1 (1) The occupier of every factory carrying of a 'hazardous process' shall arrange to obtain or develop information in the form of Material Safety Data Sheet(MSDS), in respect of every hazardous substance or material handled in the manufacture, transportation and storage in the factory. It shall be accessible upon request to a worker for reference. (a) Every such Material Safety Data Sheet shall include the following information: (i) The identity used on the label;
1 (ii) Hazardous ingredients of the substances;
1 (iii) Physical and chemical characteristics of the hazardous substance;
1 (iv) The physical hazards of the hazardous substances, including the potential for fire, explosion and reactivity;
1 (v) The health hazards of the hazardous substances including signs and symptoms of explosure, and any medical conditions which are generally recognized as being aggravated by exposure to the substance;
1 (vi) The primary route(s) of entry;
1 (vii) The permissible limits of exposure prescribed in the Second Schedule under Section 41-F of the Act, and in respect of a Chemical not covered by the said Schedule, any exposure limit used or recommended by the manufacturer, importer or occupier;
1 (viii) Any generally applicable precautions for safe handling and use of the hazardous substance, which are known, including appropriate hygienic practices, protective measures during repairs and maintenance of contaminated equipment, procedures for clean-up of spills and leaks
1 (ix) Any generally applicable control measures, such as appropriate engineering, controls, work practices, or use of personal protective equipment;
1 (x) Emergency and first-aid procedures;

in a language understood by majority of workers.

127. [150][Collection and development and dissemination of information

1 (xi) The date of preparation of the Material Safety Data Sheet, or the last change to it; and

1 (xii) The name, address and telephone number of the manufacturer, importer, occupier or other responsible party preparing or distributing the Material Safety Data Sheet, who can provide additional information on the hazardous substance and appropriate emergency procedures, if necessary.

(b) The occupier while obtaining or developing a Material Safety Data Sheet in respect of a hazardous substance shall ensure that the information recorded accurately reflects the scientific evidence used in making the hazard determination. If he becomes newly aware of any significant information regarding the hazards of a substance, or ways to protect against the hazards, this new information shall be added in the Material Safety Data Sheet as soon as practicable.

<table>
<tr><td colspan="4">(c) presto typw example of MIDS is as below:</td></tr>
<tr><td>1</td><td colspan="2">Chemical Identify</td><td>Safety Data Sheet</td></tr>
<tr><td colspan="2">Chemical Name</td><td colspan="2">Chemical Classification</td></tr>
<tr><td colspan="2">Synonyms</td><td colspan="2">Trade Name</td></tr>
<tr><td colspan="2">Formula</td><td colspan="2">C.A.S. No.</td></tr>
<tr><td colspan="4">U.N.No.1</td></tr>
<tr><td colspan="4">Shipping Name</td></tr>
<tr><td colspan="4">Codes/Lable</td></tr>
<tr><td colspan="4">Hazchem No.</td></tr>
<tr><td colspan="4">Regulated identification……..</td></tr>
<tr><td colspan="4">Hazaedous Waste</td></tr>
<tr><td colspan="4">I.D.
No</td></tr>
<tr><td>Hazardous Ingredients</td><td>C.A.S. No.</td><td>Hazardous Ingredients</td><td>C.A.S. No.</td></tr>
</table>

1		3	
2		4	
2		Physical and chemical data	
Boiling Range/point	*C	Physical State	Appearance
Melting/Freezing point	Vapour Pressure		Odour

@35* C	mm/Hg	
Vapour Density	Solubility in water	Others
(Air=1)	35*C	
Specific Gravity		
Water-1	PH	
3	Fire and Explosion Hazard Data	
Flammability Yes/No LEL	?Flash point *C	Autoignition*C
TDG Flammability Yes/No UEL	?Flash point *C	
Explosion Sensitivity to impact	Explosion	Hardous Combusion
Snsitivity	Products	
to State Electricity		
Hazardous Polymerisation		
Combustible Liquid	Explosive	Corrosive
Material	Material	
Flammable Material	Oxidiser	Others
Pyrophoric Material	Organic Peroxide	
4	Reactivity Data	
Chemical Stability		
Incompatibility with		
other Material		
Reactivity		

Hazardous Reaction					
product					
5			Heath Hazard Data		
Routes of Entry					
Effectts of Exposure					
Symptoms					
Emergency Treatment					
TLV (ACGIH)	PPm	MF/m3	STEL	PPm	mg/m

permissible				
Exposure Limit pommg/m3 other Threshold			mg/m3	
Lo			LD2	
NEPA Hazard	Healths	Flammability	Stablity	Special
Signals				
6			Preventive Measures	
Pennel Protective				
equipment				
Handing and storage				
precautions				
7			Emergency and First	
aid measure				
Fire			Fire Extinguishing	
Fire			Special procedures	
Unusal Hazards				
Exposure			First Aid measures	
Antidotes/Dosages				
Spills			Steps to be taken	

Waste disposal method	
8	ADDITIONAL INFORMATION/REFERENCES
9	MANUFACTURER/ SUPPLIERS DATA
Contract person in Emergency	
Name of Firm Mailing Address	
Telephone/Telex Nos.	
Telegraphic Address	Local Bodies
involved	
Standard	
packing	

1 (2) Labelling
1 (a) the contents of the containers;
1 (b) the name and address of the manufacturer or importer of the hazardous substance;
1 (c) the physical and health hazards; and
1 (d) the recommended personal protective equipment needed to work safely with the hazardous substance.

(1) The occupier of a factory carrying on a 'hazardous process' shall supply to all workers the following information in relation to handling of hazardous materials or substances in the manufacture, transportation, storage and other processes: (a) Requirements of Sections 41-B, 41-C and 41-H of the Act;
(b) A list of 'hazardous processes' carried on in the factory;
(c) Location and availability of all Material Safety Data Sheets as per Rule 127;
(d) Physical and health hazards arising from the exposure to or handling of substances;
(e) Measures taken by the occupier to ensure safety and control of physical and health hazards;
(f) Measure to be taken by the workers to ensure safe handling, storage and transportation of hazardous substances;
(g) Personal Protective Equipment required to be used by workers employed in 'hazardous process' or 'dangerous operation';
(h) Meaning of various labels and markings used on the containers of hazardous substances as provided under Rule 127;

Treameard
Details/Ref
Other

10. Disclaimer: Information contained in this material data sheet in believe to the reliable but no representation. Guarantee or warranties of any kind are made as to its accuracy. Suitability for a particular application or results to be obtained from them. It is upto the manufacturer/seller to ensure that the information contained in the material safety data sheet is relevant to the product manufactured/warranties expressed or implied in respect of the adequacy of this document for any particular purpose.

1 (1) Every container of hazardous substance shall be clearly labelled or marked to identify:

2 (2) In the case container is required to be transport by road outside the factory premises it should in addition be labelled or marked in accordance with the requirements laid down under Rule 128.

128. [151][Disclosure of Information to workers

(i) Signs and symptoms likely to be manifested on exposure to hazardous substances and to whom to report;
(j) Measures to be taken by the workers in case of any spillage or leakage of a hazardous substances;
(k) Role of worker's vis-a-vis the emergency plan of the factory, in particular the evacuation procedures;
(l) Any other information considered necessary by the occupier to ensure safety and health of workers.

(2) The information required by sub-rule (1) shall be copied and made known to workers individually through supply of booklets or leaflets and display of cautionary notices at the work places.
(3) The booklets, leaflets and the cautionary notices displayed in the factory shall be in the language understood by the majority of the workers and also explained to them.

128-A. [152][Disclosure of information to the Chief Inspector

1 (1) The occupier of every factory carrying on hazardous process shall furnish, in writing to the Chief Inspector, a copy of all the information furnished to the workers.

2 (2) A copy of compilation of Material Safety Data Sheets in respect of hazardous substances used, produced or stored in the factory shall be furnished to the Chief Inspector, and the Local Inspector.

3 (3) The occupier shall also furnish any other information asked for by the Chief Inspector from time to time for the purpose of the Factories Act and the Rules made thereunder.]

128-B. [153]**[Information an Industrial Wastes**

1 (1) The information furnished under Rules 128 and 128-A shall include the quantity of the solid and liquid wastes generated per day, their characteristics and the method of treatment such as incineration of solid wastes, chemical and biological treatment of liquid waste and arrangement for their final disposal.

2 (2) It shall also include information on the quality and quantity of gaseous water discharged through the stacks or other opening, and arrangement such as provision of scrubbers, cyclone separators, electrostatic precipitators or similar such arrangements made for controlling pollution on the environment.

(3) The occupier shall also furnish the information prescribed in the sub-rules (1) and (2) to the State Pollution Control Board.] (1) The occupier shall review once in every calendar year and modify, if necessary, the information furnished under Rules 128 and 128-A to the workers and the Chief Inspector

(2) In the event of any change in the process or operations of methods of work or when any new substance is introduced in the process of in the event of a serious

129. Review of the information furnished to workers etc.

(1) The occupier of a factory carrying as 'hazardous process' shall disclose all information needed for protecting safety and health of the workers to: (a) his workers; and

(b) Chief Inspector as required under Rules 128 and 128-A. If the occupier is of the opinion that the disclosure of details regarding the process and formulations will adversely affect his business interests, he may make a representation to the Chief Inspector stating the reasons for withholding such information. The Chief Inspector shall give an opportunity to the occupier of being heard and pass order of Chief Inspector may proper an appeal before the State Government within 30 days. The State Government shall give an opportunity to the occupier of being heard and pass an order. The order of the State Government shall be final.]

(1) Without prejudice to the provisions of any other rule the following rule and the Rules 131-A to 131-D shall apply to factories involving hazardous processes.

(2) Workers employed in a 'hazardous process' shall be medically examined by a qualified medical practitioner hereinafter referred to as Factory Medical Officer, in the following manner:

(a) Once before employment, to ascertain the health status of all the workers in respect of occupational health hazards to which they are exposed and in cases wherein the opinion of the Factory Medical Officer it is necessary to do so at a shorter interval in respect of any worker;

(b) The details of pre-employment and periodical medical examinations carried out as aforesaid shall be recorded in the Health Register Form 21.

(3) No person shall be employed for the first time without a certificate of Fitness in Form 32 granted by the Factory Medical Officer. If the Factory Medical Officer declares a person unfit for being employed in any process covered under sub- rule (1), such a person shall have the right to appeal to the Inspector who shall refer the matter to the Certifying Surgeon whose opinion

shall be final in this regard. If the Inspector himself is also a Certifying Surgeon, he may dispose of application himself.
(4) Any findings of the Factory Medical Officer revealing any abnormality or unsuitability of any person employed in the process shall immediately be reported to the Certifying Surgeon who shall in turn, examine the concerned worker and communicate his findings to the occupier within 30 days. If the Certifying Surgeon is of the opinion that the worker so examined is required to be taken away from the process for health protection, he will direct the occupier accordingly, who shall not employ the said worker in the same process. However, the worker so taken away be provided with alternate placement unless he is fully incapacitated, in the opinion of the Certifying Surgeon, in that case the worker effected shall be suitably rehabilitated:

accident taking place, the information so furnished shall be previewed.]

130. Confidentiality of information

131. Medical Examination

1 (5) The worker taken away from employment is any process under sub-rule (2) may be employed again in the same process only after obtaining the Fitness Certificate from the Certifying Surgeon and after making entries to that effect is the Health Register.
1 (6) An Inspector may if he deems it necessary to do so, refer a worker to the Certifying Surgeon for medical examination as required under sub-rule (1) or if he is a Certifying Surgeon himself, conduct such medical examination. The opinion of the Certifying Surgeon in such a case shall be final. The fee required for this medical examination shall be paid by the occupier.
(7) The worker required to undergo medical examination under these rules and for any medical survey conducted by or on before of the Central or the State Government shall not refuse to undergo such medical examination.] (a) In respect of any factory carrying on 'hazardous process' there shall be provided and maintained in good order an Occupational Health Centre with the Services and facilities as per scale laid down hereunder,

(i) The services of a Factory Medical Officer on retainership basis, in his clinic to be notified by the occupier. He will carry out the pre- employment and periodical medical examinations stipulated in Rule 131 and render medical assistance during any emergency;
(ii) a minimum of 5 persons trained in first-aid procedures amongst whom atleast one shall always be available during the working period;
(iii) a fully equipped fist-aid box.
(i) An Occupational Health Centre having a room with a minimum floor area of 15 sq. m. with floors and wall made of smooth and impervious surface and within adequate illumination and ventilation as well as equipments as per the schedule annexed to this rule;
(ii) a part-time Factory Medical Officer shall be in over all charge of the Centre who shall visit the factory atleast twice in a week and whose services shall be readily available during medical emergencies;
(iii) one qualified and trained dresser-cum-compounder on duty throughout the working period;
(iv) a fully equipped first aid box in all the department.

(i) one full-time Factory Medical Officer for factories employing upto

Provided that the Certifying Surgeon on his own examine any worker when he considers it necessary to do so far ascertaining the suitability of his employment in the 'hazardous process' or for ascertaining the health states of any worker.

131-A. [154]**[Occupational Health Centre**

(a) For factories employing upto 50 workers:
(b) For factories employing 51 to 200 workers,
(c) For factories employing above 200 workers,

(ii) an Occupational Health Centre having atleast 2 rooms each with a minimum floor area of 15 sq. m. with floors and walls made of smooth and impervious surface and adequate illuminations and ventilation as well as equipment as per the schedule annexed to this rule;
(iii) there shall be one nurse, one dresser-cum-compounder and one sweeper-cum-ward boy throughout the working period;
(iv) the Occupational Health Centre shall be suitably equipped to manage medical emergencies.
(a) a person possessing a Diploma in Industrial Health or equivalent shall not be required to possess the certificate of training as aforesaid;
(b) the Chief Inspector may, subject to such conditions as he may specify, grant exemption from the requirement of this sub-rule, if in his opinion a suitable person possessing the necessary qualification is not available for appointment;
(c) in case of a person who has been working as a Factory Medical Officer for a period of not subject to the condition that the said person shall obtain the aforesaid certificate of training within a period of three years, relax the qualification.
(a) Name and address of the Factory Medical Officer;
(b) Qualifications;
(c) Experience, if any; and
(d) the sub-rule under which appointment given.

500 workers and one more medical officer for every additional 1000 workers or part thereof;
(b) The Factory Medical Officer required to be appointed under sub-rule (1) shall have qualifications included in Schedules to the Indian Medical Degrees Act, 1916 or in the Schedules to the Indian Medical Council Act, 1956 and possess a Certificate of Training in Industrial Health of minimum three months duration recognised by the State Government,

Provided that:
(c) The syllabus of the course leading to the above certificate, and the organisations conducting the State course shall be approved by the DGFASLI or the State Government in accordance with the guidelines issued by the DGFASLI.
(d) Within one month of the appointment of a Factory Medical Officer, the occupier of the Factory shall furnish to the Chief Inspector the following particulars:

SCHEDULE

Equipment for Occupational Health Centre in Factories

1.	A glazed sink with hot and cold water always available.
2.	A table with a smooth top atleast 180 x 105 cm.
3.	Means for sterilizing instruments.
4.	A coach.
5.	Two buckets or containers with close fitting lids.
6.	A kettle and spirit stove or other suitable means of boiling water.
7.	One bottle of spiritus ammoniac aromaticus (120 ml.)
8.	Two medium size sponges.
9.	Two 'Kidney' trays.
10.	Four cakes of toilet, preferably antiseptic soap.
11.	Two glass tublers and two wine glasses.
12.	Two clinical thermometers.
13.	Two tea spoons.
14.	Two graduated (120 ml.) measuring glasses.
15.	One wash bottle (1000 cc.) for washing eyes.
16.	One bottle (one litre) carbolic lotion 1 in 20.
17.	Three chairs.
18.	One screen.
19.	One electric hand torch.
20.	An adequate supply of tetanus toxide
21.	Ceramine liquid (60 ml.).
22.	Tablets, antihistaminic, antispasmodic (25 each).
23.	Syringes with needles 2 cc, 5cc and 10 cc.
24.	Two needle holders, bid and small.
25.	Suturing needles and materials.
26.	One dissection forceps.
27.	One dressing forceps.

28.	One scpels.
29.	One stethoscope.
30.	Rubber bandage-pressure bandage.
31.	Oxygen cylinder with necessary attachments.
32.	One Blood Pressure apparatus.
33.	One Paterllar Hammer.

34.	One Peak-flow meter for lung function measurement.
35.	One Stomach wash set.
36.	Any other equipment recommended by the Factory Medical Officer according to specific need relating to manufacturing process.

1 37. In addition: (1) For factories employing 51 to 200 workers: 1. Four plain Wooden splints 900 mm x 100 mm x 6 mm.
1 2. Four plain wooden splints 350 mm x 75 mm x 6 mm.
1 3. Two plain wooden splints 250 mm x 50 mm x 12 mm.
1 4. One pair artery forceps.
1 5. Injection-morphia, pethodine, atropine, adrenaline, coramine, nevacan (2 each).
1 6. One surgical scissor.

1 (2) For factories employing above 200 workers: 1. Eight plain wooden splints 900 mm x 100 mm x 6 mm.
1 2. Eight plain wooden splints 350 mm x 75 mm x 6 mm.
1 3. Four plain wooden splints 250 mm x 50 mm x 12 mm.
1 4. Two pairs artery forceps.
1 5. Injections-morphia, pethodine, atropine, adrenaline, coramine, nevacan (4 each).
1 6. Two surgical scissors.]

131-B. [155] **[Ambulance Van**

1 (1) In any factory carrying on 'hazardous process' there shall be provided and maintained in good condition, a suitably constructed ambulance van equipped with items as per sub-rule (2) and manned by a full-time Driver-cum-Mechanic and a Helper trained in first-aid, for the purpose of transportation of serious cases of accidents or sickness. The ambulance van shall not be used for any purpose other than the purpose stipulated herein and will normally be stationed at or near to the Occupational Health Centre:

Provided that a factory employing less than 200 workers, may make arrangements for procuring such facility at short notice from nearby hospital or other places, to meet any emergency.
(2) The Ambulance should have the following equipments (a) General: A wheeled stretcher with folding and adjusting devices, with the head of the stretcher capable of being tilted upward;

Fixed suction unit with equipment; - Fixed oxygen supply with equipment;

(b) Safety equipment: Flares with life of 30 minutes, Flood lights; Flash lights, -Fire extinguisher dry power type;

1 (c) Emergency care equipments (i) Resuscitation
1 (ii) Immobilization
1 (iii) Dressings
1 (iv) Poisoning
1 (v) -Emergency Medicines

Pillow with case, sheets, blankets, Towels; Emesis bag, -Bed pan, -Urinal, -Glass;
Insulated gauntlets;
-Portable suction unit, portable oxygen units;
-Bag-value-mask, hand operated artificial ventilation unit;
-Airways, Mouth gage, -Trecheestomy adoptors;
-Short spine board, -I.V. Fluids with administration unit;
-B.P. manometer, Cugg, -Stethoscope.
-Long and short padded boards, -Wire ladder splints;
-Triangular bandage, -Long and short spine boards.
-Gauze pads-4" x 4", -Universal dressing 10" x 36";
-Roll of aluminium foils, -Soft roller bandages 6" x 3" 5 yards,
-Adhesive taps in 3" roll, -Safety pins;
-Bandage sheets, -Burn sheet.
-Syrup of Ipecae, -Activated Charcoal; Pre-packeted in doses, -Snake bite kit;
-Drinking water.
As per requirement (under the advice of Medical Officer only).

131-C. Decontamination facilities

In every factor, carrying out 'hazardous process', the following provisions shall be made to meet emergency:
(a) fully equipped first aid box;
(b) readily accessible means of drenching with water: Water workers, parts of body of workers, and clothing of workers who have been contaminated with hazardous and corrosive substance; and such means shall be as per the scale shown in the Table below:

TABLE

No. of persons employed at any time	No. of drenching showers
(i) Upto 50 workers	2
(ii) Between 51 to 200 workers	2 + 1 for every additional 50 or part thereafter 5 + 1 for every additional 200 or part thereafter.

(c) a sufficient number of eye wash bottles filled with distilled water or suitable liquid, kept in boxes or cupboards conveniently situated and clearly indicated by a distinctive sign which shall be visible at all time.

131-D. Making available Health Records to Workers

(1) The occupier of every factory carrying out 'hazardous process' shall make available the health records including the record of worker's exposure to hazardous process or, as the case may be, the medical records of any worker for his perusal under the following conditions: (a) Once in every six months or immediately after the medical examination whichever is earlier;
(b) If the Factory Medical Officer or the Certifying Surgeon as the case may be, is of the opinion that the worker has manifested signs and symptoms of any notifiable diseases as specified in the Third Schedule of the Act;
(c) If the worker leaves the employment;
(d) If any one of the following authorities so direct:

-the Chief Inspector of Factories;
-the Health authority of the Central or State Government;
-Commissioner of Workmen's Compensation;
-The Director General, Employees' State Insurance Corporation;
-The Director, Employees State Insurance Corporation (Medical Benefits); and
-The Director General, Factory Advice Service and Labour Institutes.

1 (2) A copy of the up-to-date health records including the record of worker's exposure to hazardous process or, as the case may be, the medical records shall be supplied to the worker on receipt of an application from him. X-ray plates and other medical diagnostic reports may also be made available for reference to his medical practitioner.

1 As amended by Notfn. No. F-4-(A)-5-99-XVI-B, dated 31-12-2001. 2 Subs./Ins. By Notfn. No. 4(a) 4-9-16iB, dated. 6-4-95.
3 Subs./Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-95. 4 Subs./Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-95. 5 Ins.by Notfn. No. 3688-4113-XVI, dated 1-6-1968.
6 Subs./Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-95. 7 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-95.

8 Substituted vide Notification No. F 10-11/2015/16, by the Chhattisgarh (Amendment) Factories Rules, 1962. 9 Substituted vide Notification No. F 10-11/2015/16, by the Chhattisgarh (Amendment) Factories Rules, 1962. 10 Subs./Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-95.
11 Subs. Notfn. No. 4(a)4-91-16B, dated 6-4-1995.
1 12 Subs.by Notfn. No. F1-60./2007/16, dated 28-12-07, Published in Chhattisgarh Rajpatra (Extraordinary) dt. 28-12-07, Schedule 'A'

applicable in Chhattisgarh State only.
1 13 Applicable in Chhattisgarh State only. 14 Applicable in Chhattisgarh State only.

15 Renumbered/Subs./Ins. By Notfn. No. 4(a) 4-91-16B, dated 6-4-1995. 16 Subs. By Notfn. No. 4(a) 4-91-1613, dated 6-4-1995.
17 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-95. 18 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-95. 19 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-95. 20 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-95.
21 Renumbered/Subs. Ins. By Noftn. No. 3688-4113-XVI, dated 1-6-1968. 22 Renumbered/Subs. Ins. By Noftn. No. 3688-4113-XVI, dated 1-6-1968. 23 Renumbered/Subs. Ins. By Noftn. No. 3688-4113-XVI, dated 1-6-1968. 24 Subs. By Notfn. No. 5692-3009-XVI, dated 12-8-1972. 25 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-95. 26 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-1995. 27 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-1995. 28 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-1995. 29 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-1995. 30 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-1995. 31 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-1995. 32 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-1995. 33 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-1995. 34 Subs.Ins. By Notfn. No. 4(a) 4-9-16B, dated. 6-4-1995.
1 35 Subs. By Notfn. No. 4(A)3-81-LAB-XVI, dated 28-5-1981.
2 36 Subs. By Notfn. No. 4(A)3-81-LAB-XVI, dated 28-5-1981.
3 37 Subs. By Notfn. No. 4(A)3-81-LAB-XVI, dated 28-5-1981.
4 38 Ins. By Notfn. No. 4(a)4-9M6LB-dated 6-4-1995. 39 Subs. By Notifn. No.3688-XVI, dated 1-6-1968. 40 Ins. By Notfn. No. 4(a)4-91-16B, dated 6-4-1995.

41 Subs. By Notfn. No.4(a)4-91-16LB, dated 6-4-1995. 42 Subs. By Notfn. No. 4(a)4-91-16LB, dated 6-4-1995. 43 Subs. By Notfn. No. 4(a)4-91-16LB, dated 6-4-1995. 44 Ins. By Notfn. No. 4(a)4-91-16B, dated 6-4-1995. 45 Ins. By Notfn. No. 4(a)4-91-16B, dated 6-4-1995
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56 Subs. By Notfn. No. 4(a) 3-8-LAB-XVI, dated 28-5-1981. 57 Omitted by Notfn. No. 4(a)4-91-16B dated 6-4-1995. 58 Ins. By Notfn. No. 3688-4113, dated 1-6-1968.
59 Subs. By Notfn. No. 4(a)4-91-16LB, dated 6-4-1995. 60 Subs. By Notfn. No. 4(a)-3-78-XVI, dated 6-2-1980. 61 Subs. By Notfn. No. 3-81-LAB-XVI, dated, 28-5-1981.
62 Subs. By Notfn. No 4(a) 4-91-16-B, dated, 6-4-1995. 63 Ins. By Notfn. No. 4(A)-3-81-LAB-XVI-dated 28-5-1981.
64 Ins./Subs. By Notfn. No. 4(a) 4-91-16-B dated 6-4-1995. 65 Ins.By Notfn. No. 4(a) 4-91-16-B dated 6-4-1995.
66 Ins. By Notfn.No. 5692-3009-XVI, dated 12-8-1972.
67 Ins.By Notfn. No. 4(a) 4-91-16-B dated 6-4-1995.
68 Ins/Subs. By Notfn. No. 4(A)-3-81-LAB-XVI-dated 28-5-1981. 69 Subs, by Notfn. No. 313-4338-XVI, dated 12-1-1972.
70 Subs.by Notfn. No. 4(a)4-91-16B, dated 6-4-1995. 71 Subs.by Notfn. No. 4(a)4-91-16B, dated 6-4-1995.
72 Omitted by Notfn. No. 4(a)4-91-16B, dated 6-4-1995. 73 Ins. By Notfn. No. 4(a)4-91-16B, dated 6-4-1995.
74 Omitted by Notfn. No. 4(a)4-91-16B, dated 6-4-1995. 75 Ins. By Noftn. 9439-9181-XVI, dated 3-12-1976.
76 Subs.by Notfn. No. 4(a)4-91-16B, dated 6-4-1995.
77 Ins. By Notfn. No. 4(a)3-81-LAB-XVI, dated 28-5-1981.
78 Ins.by Notfn. No. 3688-4113-XVI, dated 1-6-1968. 79 Ins.by Notfn. No. 3688-4113-XVI, dated 1-6-1968. 80 Ins.by Notfn. No. 3688-4113-XVI, dated 1-6-1968. 81 Ins.by Notfn. No. 3688-4113-XVI, dated 1-6-1968.
82 Omitted, by Notfn. No. 4(a)4-91-16B, dated 6-4-1995. 83 Ins. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995.
84 Ins. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 85 Ins. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 86 Subs. By Noftn. No. 4(a)3-78-XVI, dated 6-2-1980.
87 Subs. By Noftn. No. 4(a)3-81-LAB-XVI, dated 28-5-1981. 88 Subs. By Noftn. No. 4(a)3-81-LAB-XVI, dated 28-5-1981.
89 Omitted, by Noftn. No. 4(a)3-81-LAB-XVI, dated, 28-5-1981. 90 Subs. By Noftn. No. 4(a)3-78-XVI, dated 6-2-1980.
91 Renumbered by Notfn. No. 3688-4113-XVI, dated 1-6-1968. 92 Subs. By Notfn. No. 4(a)-10-XVI-B-86, dated 22-9-1986.
93 Added by Notification No. 4(a)-4-91-16B, 6-4-1995. Published in M.P. Rajpatra, part IV (Ga) dated 2.6.1995. Pages 284-347. 94 Inserted by Notification No. 4(a)-4-91-16B, 6-4-1995. Published in M.P. Rajpatra, part IV (Ga) dated 2.6.1995. Pages 284-347. 95 Ins. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995.
96 Ins. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 97 Ins. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 98 Subs. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 99 Subs. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 100 Subs. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995.
101 Omitted by Notfn. No. 4(a)4-91-16B, dated 6-4-1995 102Subs. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 103 Omitted, by Noftn. No. 4(a)4-91-16B, dated 6-4-1995. 104 Subs. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995.
105 Subs. By Noftn. No. 4(a)3-81-LAB-XVI, dated 28-5-1981.
106 Ins. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 107 Ins. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 108 Ins. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 109 Ins.by Notfn. No. 3688-4113-XVI, dated 1-6-1968. 110 Ins. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 111 Subs.by Noftn. No. 999-7325-XVI-dated 25-2-1969.
112 Subs.by Noftn. No. 999-7325-XVI-dated 25-2-1969. 113 Subs. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 114 Ins. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995.
115 Schedule X to Schedule XIII Ins. By Notfn. No. 3688-4113-XVI, dated 1-6-1968. 116 Subs. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995.

117 Subs. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 118 Subs. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 119 Subs. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 120 Ins. By Notfn. No. 4982-9117-XVI, dated 10-09-1971.
121 Ins. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 122 Ins. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 123 Subs. By Noftn. No. 4(a)4-91-16B, dated, 6-4-1995. 124 Ins by notfn. No 4982-9117-XVI, dated 10-09-1971 125 Subs. By Notfn. No. 4(a) 4-91-16B, dated 6-4-1995
126 Ins. By Notfn. No 4(a) 3-78-XVI, dated 6-2-1980.
127 Subs. by Notfn. No. 4(a)4-9-1-16B, dated 6-4-1995. 128 Ins. by Notfn. No. 4(a)3-78-XVI, dated 6-2-1980.
129 Ins. by No. 4(a) 3-81-LAB-XVI, 28-5-1981.
130 Subs. By Notfn. No. 4(a)4-91-16B, dated 6-4-1995. 131 Subs. By Notfn. No. 4(a)4-91-16B, dated 6-4-1995. 132 Ins. by Notfn. No. 4(a)3-76-XVI-B, dated 28-12-1984.
133 Ins./Renumbered by Notfn. No 4(a) 4-91-16B, dated 6-4-1905. 134 Ins. by Notfn. No. 4(a) 4-91-16B, dated 6-4-1995.
135 Ins. by Notfn. No. 4(a) 4-91-16B, dated 6-4-1995. 136 Ins. by Notfn. No. 4(a) 4-91-16B, dated 6-4-1995.
137 Subs./ Ins. by Notfn. No. 4(a) 4-91-16B, dated 6-4-1995. 138 Subs./ Ins. by Notfn. No. 4(a) 4-91-16B, dated 6-4-1995. 139 Ins. by Notfn. No. 4(a) 4-91-16B, dated 6-4-1995.
140 Ins. by Notfn. No. 4(a) 4-91-16B, dated 6-4-1995. 141 Ins. by Notfn. No. 4(a) 4-91-16B, dated 6-4-1995. 142 asdfgsgfg
143 Subs.by Notfn. No. 4(a)-3-81-LAB-XVI, dated 28-5-1981. 144 Omitted by Notfn.No.3688-4112-XVI, dated 1-6-1968
145 Rule 114 renumbered sub-rule (1) and sub-rule (1) so renumbered sub-rule (2) Ins by Notfn. No. 3688-4113-XVI, dated 1-6-1968. 146 Ins.by Notfn.No. 4(a) 4-91-16B, dated 6-4-1995.
147 Ins.by Noftn. No. 4(a) 4-9-1-16B, dated 6-4-1995. 148 Ins by Noftn. No.4(a) 4-91-16B, dated 6-4-1995.
149 Ins by Noftn. No.4(a) 4-91-16B, dated 6-4-1995. 150 Ins by Noftn. No.4(a) 4-91-16B, dated 6-4-1995 151 Ins by Noftn. No.4(a) 4-91-16B, dated 6-4-1995 152 Ins by Noftn. No.4(a) 4-91-16B, dated 6-4-1995 153 Ins by Noftn. No.4(a) 4-91-16B, dated 6-4-1995 154 Ins by Noftn. No.4(a) 4-91-16B, dated 6-4-1995 155 Ins. by Notfi. No. 4(a) 4-91-16B, dated 6-4-1995.
156 omitted by vide notification No. F-10-7/2019/16 dated- 19.05.2023.