THE PUDUCHERRY FACTORIES RULES, 1964

Contents

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S.O. 84: In exercise of the powers conferred by section 112 of the Factories Act, 1948 (Central Act 63 of 1948), the Lieutenant Governor, Puducherry hereby makes the following rules, the same having been previously published as required by section 115 of the said Act, viz.

CHAPTER I

PRELIMINARY

1. Short title extent and commencement

(1) These rules may be cited as the Puducherry Factories Rules, 1964.

(2) These rules shall extend to the whole of the Union territory of Puducherry.

(3) These rules except rules 31 to 35, 55, 66, 69, to 76 and 105 shall come into force at once and rules 31 to 35, 55, 66, 69 to 76 and 105 shall come into force on such dates as may be specified thereunder.

2. Definitions

In these rules, unless there is anything repugnant in the subject or context:

(a) “Act” means the Factories Act, 1948.

(b) “Government” means Administrator of the Union territory of Puducherry appointed by the President of India under Article 239 of the Constitution.

(c) “Appendix” means an appendix appended to these rules.

(d) “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.

Provided that the introduction of air directly from outside through moistened mats or screens placed in openings at times when the temperature of the room is 80 degrees or more, shall not be deemed to be artificial humidification.

(e) “Belt” includes any driving strap or rope.

(f) “Degree” (of temperature) means degree on the Fahrenheit scale.

(g) “District Magistrate” includes the Additional District Magistrate and any other officer appointed by the State Government in that behalf.

(h) “Family” means the wife, son, daughter, father, mother, brother or sister of the owner of any place wherein a manufacturing process is carried on who lives with or is dependent on, such owner.
(i) “Fume” includes gas or vapour.
(j) “Health Officer” means the Municipal Health Officer in a municipality or panchayat or such other officer as may be appointed by the State Government for any area in that behalf irrespective of whether such area is within the limits of a municipality.

(k) “Hygrometer” means an accurate wet and dry bulb hygrometer conforming to the prescribed conditions as regards construction and maintenance.
(l) “Maintained” means maintained in an efficient state, in efficient working order and in good repair
(m) “Manager” means a person nominated or appointed as such by the occupier of the factory under section 7 for the purposes of the Act.
(n) “Local Authority” means the Mayor of the respective Commune.
(o) “Public Health Authority” means the local Health Officer having jurisdiction over the area.

2A. Competent person
(1) The Chief Inspector may recognize any person as a ‘Competent person’ within such area and for such period as may he 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, 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 a person possesses the qualifications, experience and other requirements asset 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 at his command.
Provided further that where it is proposed to recognize 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 recognised shall not have powers of an ‘Inspector’:
Provided also that the 'Competent person' recognised under this provision shall not be above the age of 62 and shall be physically fit for the purpose of carrying out the tests, examinations and inspections.
(2) The Chief Inspector may recognize an institution of repute, having persons possessing qualifications and experience as set out in the Schedule annexed to sub-rule (1) for the purpose of carrying out tests, examination, inspections, and certification for building, dangerous machinery, hoists and lifts, lifting machines and lifting tackles, confined space ventilation system and such other process or plant and equipment as stipulated in the Act and the rules made thereunder, as a “Competent person” within such area and for such period as may be specified.
(3) Application for recognition as competent person from a person or an institution shall be made to the Chief Inspector of Factories in Form 1 or 1-A as case may be.

(4) 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 within a period of sixty days of the date of receipt of application

either after having satisfied himself as regards competence and facilities available at the disposal of the applicant, recognize the applicant as a ‘Competent person’ and issue a certificate of competency in Form 1B or reject the application specifying the reasons therefor.
(5) The Chief Inspector may after giving an opportunity to the competent person of being heard, revoke the certificate of competency,
(i) if he has reason to believe that a competent person:
(a) has violated any condition stipulated in the certificate of competency or;
(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
(c) Has omitted to act as required under the Act and rules made thereunder
(ii) for any other reason to be recorded in writing

Explanation: For the purpose of this rule, an institution includes an organization.
(6)
(i) The Chief Inspector may, for reasons to be recorded in writing, require certification of lifting machines, lifting tackles, or ventilation system, as the case may be which has been certified by a competent person outside the State.

SCHEDULE
[Prescribed under sub-rule (1) or rule 2A]

Sl. No.	Section under which competency is recognised	Qualification required	Experience for the purpose	Facilities at his command
1.	Section 6 "Certificate of stability for building"	Degree in Civil Structural Engineering or equivalent	(i) A minimum of 10 experience in the design, of construction or testing or repairs of structures;	
(ii) knowledge of non-destructive testing, various codes of practices that are current and, the effect of vibrations and natural forces on the stability of the building; and				
(iii) ability to arrive at a reliable conclusion with, regard to the safety of the structure of the building.				

2.	Section 21(2): "Dangerous Machines"	Degree in Electrical or Mechanical or Textile Engineering or equivalent.	(i) A minimum of 7 years' experience in: (a) Design or operation or maintenance; or (b) Testing, examination and inspection of relevant machinery, their guard's safety devices and appliances	Gauges for measurement instruments for measurement of speed and any other equipment or device to determine the safety in the use of the dangerous machines.
(ii) He shall: (a) Be conversant with safety devices and their proper functioning; (b) Be able to identify defects and any other cause leading to failure; and				

(c) Have ability to arrive at a reliable conclusion with regard to the proper functioning of safety device and appliance and machine guard.				
3.	Section 28 "Hoists and lifts"	A Degree in Electrical or Mechanical or Textile Engineering or its equivalent.	(i) A minimum of 7 years' experience in: (a) Design or operation or maintenance; or (b) Inspection and test procedures; of lifts and hoists	Facilities for load testing, tensile testing gauge/equipment/gadgets, for measurement and any other equipment required for determining the safe working conditions of hoists and lifts.
(ii) He shall: (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 defects and arrive at a reliable conclusion with regard to the safety of hoists and lifts.				

4.	Section 29 "Lifting Machinery and Lifting Tackles"	Degree in Mechanical or Electrical or Metallurgical Engineering or its equivalent	(i) A minimum of 7 years' experience in: (a) Design or erection or maintenance; or (b) Testing, examination and inspection of lifting machinery, chains, ropes and lifting tackles.	Facilities for load testing, tensile testing, heat treatment equipment/gadges and such other equipment to determine the safe working conditions of the lifting machinery, tackle.
(ii) He shall be: (a) Conversant with the relevant codes of practices and test procedures that are current; (b) Conversant with fracture mechanics and metallurgy of the material or construction;				

(c) Conversant with heat treatment reliving techniques as applicable to stress bearing component and parts of lifting machinery and lifting tackles; (d) Capable of identifying defects and arriving at a reliable conclusion with regard to the safety of 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 of 10 years' experience in: (a) Design or erection or maintenance; or (b) Testing, examination and inspection of pressure plants.

(ii) He shall be: (a) conversant with the relevant codes of practices and test procedures relating to pressure vessels; (b) conversant with statutory requirements concerning the safety of unfired pressure vessels and equipment operating under pressure; (c) conversant with non-destructive testing techniques as are applicable to pressure vessels; (d) able to identify defects and arrive at a reliable conclusion with regard to the safety of pressure plants.

6.	Section 36 "Precautions against dangerous fumes"	Master's Degree in Chemistry, or a Degree in Chemical Engineering	(i) A minimum of 7 years in collection and analysis of environmental samples and calibration of monitoring equipment.	Meters, instruments and devices duly calibrated and certified for carrying out the tests and certification of safety in working in confined spaces.
(ii) He shall: (a) be conversant with the hazardous properties; of chemicals and their permissible limit values; (b) be conversant with the current techniques of sampling and analysis (if the environmental contaminants.; and (c) be able to arrive at a reliable conclusion as regards the safety in respect of entering and carrying out work in confined spaces.				
7.	Section 87 "Dangerous Operations Ventilation Systems"	Degree in Mechanical or Electrical Engineering or equivalent	(i) A minimum of 7 years in the design, fabrication, installations, testing of ventilation system and systems used for extraction and collection of dusts, fumes and vapours other ancillary equipment.	Facilities for testing the ventilation system instruments and gaugese for testing the effectiveness of the extraction systems for dusts, vapours and fumes, and any other equipment needed for determining the efficiency and adequacy of these systems. He shall have the assistance of a

			(ii) He shall be conversant with relevant cedes 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.	suitable qualified technical person who can come to a reason able conclusion as to the adequacy of the system.

3. Approval of site, construction or extension of a factory

(1) No site shall be used for the location of a factory or no building in a factory be constructed, reconstructed extended or taken into use as a factory or part of a factory, nor shall any manufacturing process be carried on in any building, constructed, reconstructed or extended without the previous permission in writing of the Chief Inspector. The previous permission of the Chief Inspector or shall also be obtained for the installation of additional machinery or for the installation of prime movers exceeding the horse-powers already installed in the factory.

(2) Application for such permission or submission of plans shall be made in Form No.1-C. It shall be accompanied by the following documents, namely:

(a) a Flow chart of the manufacturing, process supplemented by a brief description of the process in its various stages.

(b) plans in triplicate drawn to scale showing:

(i) the site of the factory and immediate surroundings including adjacent buildings and other structures, roads, drains, and the like; and

(ii) the plan elevation and necessary cross sections of various buildings indicating all relevant details relating to natural lighting, ventilation and means of escape in case of fire. The plans shall also clearly indicate the position of the plant and machinery, aisles and Passageways.

(c) such other particulars as the Chief Inspector may require.

(3) After examination of the documents referred to in sub-rule (2), the Chief Inspector may accord the permission applied for:

Provided that the Chief Inspector may call for such other particulars as he may require before according such permission:

Provided further that the Chief Inspector may accord such permission subject to such conditions as he may consider necessary.

(4) The fact that the permission applied for is accorded shall be noted on the plans and specifications and shall be signed by the Chief Inspector. One copy of each of the said plans and specifications shall be returned to the applicant.

(5)

(a) A factory or part of a factory constructed, reconstructed, extended or taken into use, shall be in accordance with the plans approved by the Chief Inspector and shall satisfy the conditions subject to which the plans have been approved.
(b) No machine or prime mover or a permanent fixture not shown in the plans approved by the Chief Inspector shall be installed, fixed or used in any factory except in replacement of any machine, prime mover or a permanent fixture not occupying more floor area than that already shown in the approved plans.

4. Registration and grant of licence for a factory
(1) No premises shall be used as factory nor any manufacturing process carried on in any factory except under, and in accordance with, the registration and licence granted under these rules; and

Provided that if a valid application for grant of licence has been submitted and the required fees has been paid the premises shall be deemed to be fully licenced until such dates as the Chief Inspector grants the licence or refuses in writing to grant licence.
(2) [2][The fees applicable for registration and grant of licence to a factory shall be as specified in the Schedule hereto and the appropriate fee for registration and grant of licence shall be remitted through the on-line payment portal of Government of Puducherry under the relevant Head of Account viz., "0230-00-104-02-00-00, Fees realised under the Factories Act – Licence fees. The application in Form No. 2 shall he accompanied by the e-challan receipt, evidencing payment of the appropriate fee specified in the Schedule hereto. The application in Form No. 2 shall be made through the on-line portal of the Chief Inspectorate of Factories and Boilers, Puducherry, or personally delivered to the Office of the Chief Inspectorate of Factories and Boilers or sent by registered post]
(3) Every application received by the Chief Inspector shall be registered in Form No. 3.
(4) No licence shall be granted until the notice specified in section 7 has been received in triplicate in Form No. 2 by the Chief Inspector.
(5) If the Chief Inspector is satisfied that the registration and licence may be granted, such registration and licence shall be issued in Form No. 4:

Provided that the Chief Inspector may call for such other particulars as he may require before registration or grant of such licence:
Provided further that the Chief Inspector may register and grant licence subject to such conditions as he may consider necessary and which shall be specified in the licence.
(6) Except as provided in rule 122 every licence granted or renewed under this chapter shall remain in force up to and inclusive of the 31st December of the year for which the licence is granted or renewed.

SCHEDULE

Total Horse Power Installed inclusive of Mobile equipment (1)					Maximum number of persons to be employed on any day during the year				
20	50	100	250	500	1000	2000	5000	10000	Above 10,000
(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

Fee payable	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Nil	20	40	80	200	400	800	1600	2400	3200	4000
Upto 10 H.P.	40	80	120	240	480	1200	2400	3200	4000	4800
Above 10 Horse Power up to 50 Horse Power	80	120	200	400	800	1600	3200	4000	4800	5600
Above 50 Horse Power up to 100 Horse Power	160	200	300	600	1200	2400	4000	4800	5600	6400
Above 100 Horse Power up to 250 Horse Power	320	400	600	800	1600	2400	4000	5600	6400	7200
Above 250 Horse Power up to 500 Horse Power	400	600	800	1600	2400	4000	5600	6400	7200	8000
Above 500 Horse Power up to 1,000 Horse Power	500	700	1600	2400	3200	4800	6400	7200	8000	9000
Above 1,000 Horse Power up to 2,000 Horse Power	800	1600	2400	3200	4000	5600	7200	8000	9000	10000
Above 2,000 Horse Power up to 5,000 Horse Power	1600	2400	3200	4000	5600	7200	8000	9000	1000	11000
Above 5,000 H.P.	2400	3200	4000	5600	7200	8000	9000	10000	11000	12000

5. Amendment of licence

(1) The limits specified in the licence granted to a factory in regard to home power or the number of persons employed shall not be altered or the name of the factory changed unless the licence has been amended by the Chief Inspector.

(2) An application for the amendment of a licence granted to a factory shall be submitted to the Chief Inspector 3[through the on-line portal of the Chief Inspectorate of Factories and Boilers, Puducherry, or personally delivered to the Office of the Chief Inspectorate of Factories and Boilers or sent by registered post] specifying the nature of the amendment sought and the reasons therefor, at least fifteen days prior to the date on which the applicant desires the amendment to take effect. The application shall be accompanied by the original licence, if it is not already available with the Chief Inspector and a challan receipt evidencing payment of the appropriate fee.

(3) The fee for the amendment of a licence shall be five rupees plus the amount, if any, by which the fee that would have been payable if the licence had originally been issued in the form exceeds the fee originally paid for the licence.
(4) On the receipt of such application together with the fee prescribed, the Deputy Chief Inspector may amend the licence suitably:

Provided the Chief Inspector may call for such other particulars as he may require before amending the licence:
Provided further that the Chief Inspector may amend the licence subject to such conditions as he may consider necessary and which shall be specified in the licence.

(5) The amendment made shall be incorporated in the licence and the Register of Factories.

6. Renewal of licence
(1) No premises shall be used as a factory nor any manufacturing process carried on in any factory except under, and in accordance with, the licence renewed under these rules.
(2) The occupier of every factory licensed under rule 4, shall submit to the Chief Inspector an application in Form No. 2 in triplicate, for the renewal of the licence [4][through the on-line portal of the Chief Inspectorate of Factories and Boilers, Puducherry, or personally delivered to the Office of the Chief Inspectorate of Factories and Boilers or sent by registered post] The application for such renewal shall be made not less than two months before the date on which the licence expires and it shall be accompanied by the original licence if it is not already available with the Chief Inspector.
(3) The same fee shall be charged for the renewal of a licence as for the grant thereof

Provided that if the application for renewal is not received within the time specified in sub-rule (2), the licence shall be renewed only on payment of an additional fee of:
(i) ten percentum of the fee payable, if the application for the renewal is received not less than one month before the date of expiry of the licence;
(ii) twenty percentum of the fee payable, if the application for renewal is received within a month before the expiry of the licence; and
(iii) thirty percentum of the fee payable, if the application for renewal is received after the expiry of the licence.
(4) If the application has been made in accordance with this rule, the premises shall be held to be duly licensed until such date as the Chief Inspector may pass orders on the application for the renewal.
(5) The Chief Inspector may renew the licence:

Provided that the Chief Inspector may call for such other particulars as he may require before renewing the licence:
Provided further that the Chief Inspector may renew the licence subject to such conditions as he may consider necessary and which shall be specified in the licence.
(6) Suitable entry shall also be made in the Register of Factories regarding the renewal of the licence.

7. Transfer of licence

(1) The holder of a licence or in the event of his death, any person carrying on the business of such licensee may, at any time, before the expiry of the licence, apply for permission to transfer the licence to another person or to himself.

(2) [5][Such application for transfer shall be made to the Chief Inspector through the on-line portal of the Chief Inspectorate of Factories and Boilers, Puducherry, or

personally delivered to the Office of the Chief Inspectorate of Factories and Boilers or sent by registered post and accompanied by a fee of one hundred rupees paid through the on-line payment portal of the Government of Puducherry under relevant Head of Account viz., 0230-00-104-02-00-00. Fees realised under the Factories Act – Licence Fees for each such application.]

(3) The Chief Inspector, if he approves of the transfer, enter upon the licence under his signature, an endorsement to the effect that the licence has been transferred to the person named:

Provided that the Chief Inspector concerned may call for such other particulars as he may require before effecting the transfer:

Provided further that the Chief Inspector concerned may effect such transfer subject to such conditions as he may consider necessary and which shall be specified in the licence.

(4) Suitable entry shall also be made in the Register of Factories regarding the transfer.

7-A. Refusal to register and grant a licence or to renew licence in certain cases

(1) Subject to the provisions of sub-section (3) of section 6 of the Act, the Chief Inspector may refuse to register a factory and grant or renew a licence if he is satisfied:

(i) that an application is not accompanied by the documents referred to in sub-rule (2) of rule 3; or

(ii) that the conditions subject to which permission was accorded under rule 3 have not been complied with; or

(iii) that there is imminent danger to human life in the factory due to explosive or inflammable dust, gas or fumes and effective measures, in his opinion, have not been taken to remove such danger; or

(iv) that there is imminent danger to human life due to the building or the entrances thereto or exists there from being in a dangerous or structurally unsound condition, and effective measures in his opinion, have not been taken to remove the danger:

7B. Adjustment of excess payment of licence fee

Where the amount is paid in excess of the prescribed lee for the grant of licence or for the renewal of licence, the excess amount so paid may be adjusted towards the fee payable for renewal of licence for the subsequent year by the Chief Inspector of Factories, on request from the occupier.

8. Procedure on death or disability of licensee

If a licensee dies or becomes insolvent, 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 under rule 7 in his own name for the unexpired portion of the original licence.

9. Loss of licence

Where a licence granted under these rules is lost or accidentally destroyed, a duplicate may be granted on payment of a fee of rupees five.

10. Payment of fees

(1) 6[Every application under these rules shall be accompanied by fee paid through the on-line payment portal of the Government of Puducherry under relevant Head of Account viz., 0230-00-104-02-00-00. Fees realised under the Factories Act - Licence Fees.]

0230-Labour and Employment, 101-Fees realized under Factories Act-Licence fees.

(2) If an application for the grant or renewal of a licence is refused, the fee paid shall be refunded to the applicant by the Chief Inspector.

(3) If the Chief Inspector is satisfied that a factory has not worked even on a single day during the period of licence, he may order the refund of the licence fee collected for that period.

11. Notice of occupation

The notice of occupation shall be in Form No. 2.

12. Notice of change of manager

The notice of change of manager shall be in Form. No. 3-A.

13. Plans and licence

(1) The plans approved by the Chief Inspector under rule 3 and the licence granted for a factory under rule 4 shall be readily available in the factory for inspection by the Inspectors and Additional Inspectors appointed under section 8 of the Act.

(2) The plans and layouts or factory buildings sent to the Chief Inspector for approval under rule 3 shall be prepared and duly signed with qualification and address by a person possessing a diploma or degree in civil/Architecture/structural Engineering.

(3) No manufacturing process shall be carried on in any factory constructed, extended or taken into use as a factory or part of a factory until a certificate of stability in respect of the buildings in the form below has been sent by the occupier or management of the factory to the Inspector.

Form of Certificate of Stability

(1) Name of the factory.

(2) Village, town and district in which the factory is situated.

(3) Full postal address of the factory.

(4) Name of the occupier of the factory.

(5) Nature of manufacturing process to be carried on in the factory.

(6) Number of floors on which workers will be employed.

I certify that I have inspected the building on the.....in which.....is housed and examined the various parts including the foundations as shown in the complete plans approved by the Chief Inspector in his letter No.....dated...with special reference to the machinery, plant, etc.. that have been installed. I am of opinion that the building has been constructed/extended in accordance with the plans approved by the Chief Inspector in his Letter No.....dated... that it is structurally sound and that its stability will not be endangered by its use as a factory for the manufacture of...for which the machinery, plant, etc., installed are intended.
(Signature)
Name, designation and qualifications.

13-A. 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 and safety and welfare of all workers while they are at work in the factory.
(2) The occupier shall maintain such records, as may be prescribed by the Chief Inspector, in respect of monitoring of working environment in the factory.

CHAPTER II

THE INSPECTING STAFF

14. Qualification of Inspectors

(1) No person shall be appointed as an Inspector for the purposes of the Act, unless he has completed twenty-one years of age and possesses:
(a) a degree in Mechanical or Chemical or Industrial Engineering or Technology of a recognised University; or
(b) a diploma in Mechanical or Chemical or Industrial Engineering or Technology of a recognised Board, Institution and three years' experience in a workshop or in industrial or apprenticeship training, or;
(c) a degree in the branch of medicine:

Provided that preference shall be given,
(i) in the case of appointment to the post of Medical Inspector to a person who possesses experience in a public hospital of factory, medical department for a period of not less than two years, or a. diploma in industrial medicine; and
(ii) in the case of appointment to the post of any other Inspector to a person who has practical experience for a period of not, less than two years in a workshop or manufacturing firm recognized by the Chief Inspector of Factories:

Provided further that the State Government may subject to such conditions as they deem fit exempt any person holding the post on the date of publications of this rule in the State Gazette of Puducherry from the provisions of this rule.

(2) Where for a particular post specialised knowledge to deal with special problems is required, the State Government may, in addition to the qualifications mentioned in sub-rule (I) specify such other qualifications for such post as they deem fit.

15. Powers of Inspectors

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

(a) to photograph any worker, to inspect, examine, measure, copy, 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;

(b) in the case of an Inspector who is a duly qualified medical practitioner, to carry out such medical examinations as may be necessary for the purposes of his duties under 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; to seize or take copies of such registers/records or other documents or portion thereof as he may consider relevant in respect of an offence under this Act which he has reason to believe has been committed by the occupier or the manager:

Provided that the powers of the District Magistrates and of the Additional Inspectors appointed under sub-section (5) of section 8 shall be limited to the inspection of factories in respect of the following matters, namely:

Section 6 (1) (d) and (e) (Licence).

Section 9 (Power of Inspectors).

Sections 11 to 20 (Health).

Section 23 (Employment of young person's on dangerous machines).

Section 27 (Prohibition of employment of women and children near cotton openers).

Sections 32 to 40 (Safety precautions).

Sections 42 to 48 (Welfare).

Sections SI to 63 (Working hours of adults).

Section 66 (Restrictions of employment of women during nights).

Sections 67 to 75 (Employment of young person's).

Sections 78 to 83 (Leave with wages), section 87 (dangerous operations).

Section 91 (Power to take samples).

Section 108 (Display of notices).

Rules 114 to 121 framed under Section 112.

16. Duties of Certifying Surgeon

(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 arrangement to the managers of factories situated within the local limits assigned to him.

(2) The Certifying Surgeon shall issue his certificates in Form No. 5. The foil and counterfoil 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 panted under section 69. All counterfoils shall be kept by the Certifying Surgeon for a period of at least two years after the issue of the certificate.
(3) The Certifying Surgeon shall, upon request by the Chief Inspector, carry out such examination and furnish him with such report 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 the manufacturing process carried on, or in the substances used therein, or by reason of the adoption 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
(c) young persons are, or are about to be, employed in any work which is likely to cause injury to their health.
(4) For the purpose 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.
(5) At such visits, the Certifying Surgeon after examining a worker shall issue a certificate of fitness in Form 26. The record of examination and re-examinations carried out shall be kept in custody of the Manager of the factory. The record of each examination carried out under sub-rules (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 No. 16-A].
(6) 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 the written sanction of the Certifying Surgeon in the Health Register.

(7) The manager of a factory shall afford to the Certifying Surgeon facilities to inspect any process in which any person is employed or is likely to be employed.
(8) 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 materials) and chairs.

CHAPTER III
HEALTH
17. Cleanliness of walls and ceilings
(1) The provision of clause (d) of sub-section (1) of section 11 of the Act shall not apply to the classes of factories or descriptions of factories or parts thereof specified in the Schedule below subject to the conditions that they are kept in a clean state by washing, sweeping, brushing, dusting, vacuum-cleaning or other effective means.
(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, is not being kept in a clean state, he

may by written notice require the occupier to whitewash 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.

THE SCHEDULE

(1) Blast furnaces.
(2) Iron and steel mills.
(3) Stone, slate and, marble works.
(4) Brick and tile works in which unglazed bricks or tiles are made.
(5) Cement works.
(6) Chemical works.
(7) Gas works.
(8) Ship-building works.
(9) Gun factories.
(10) Engineering workshops or foundaries in which 85 cubic metres of air space is, provided for each person employed.
(11) Electric generating or transforming stations where machines are installed.
(12) Foundries other than, foundries in which brass casting is carried on.
(13) Rooms in factories in which sugar is refined, 'manufactured or stored.
(14) Coach and motor body works.
(15) Those parts of factories were unpainted or unvarnished wood is manufactured.

(16) Rooms in forge presses.
(17) Walls in tea factories.
(18) Walls of oil mills below a height of 1.5 metres from ground.
(19) Works in which soap manufacture is carried on.
(20) Rooms in tanneries in which salting, tanning and dressing of hides and skins are carried on.
(21) Any other factory or part thereof in which lime-washing, colour washing, painting or varnishing, is in the opinion of the Chief Inspector, unnecessary to satisfy the requirements of section 11 of the Act in regard to cleanliness.
(22) The following parts of factories:
(a) Rooms used only for the storage of articles.
(b) Rooms in which the walls or ceilings are made of galvanized iron, glazed bricks, glass, slats, asbestos, bamboo, thatch, cement plaster or polished chunam.
(c) 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.
(d) Parts in which coal, coke, oxide or iron, ochre, lime or stone is crushed on ground.
(e) Parts of walls, partitions, ceilings or tops of rooms which are at least 6.1 metres above the floor.

18. Record of whitewashing, etc.

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

19. Disposal of trade wastes and effluents

The arrangements made in every factory for the treatment of wastes and effluents due to the manufacturing processes carried on therein and shall be in accordance with those approved by the relevant Water and Air Pollution Boards appointed under the Water (Prevention and Control of Pollution) Act, 1974 and other appropriate authorities.

19-A. Ventilation and temperature

(1) Limits of temperature and air movement

In any factory the maximum wet bulb temperature of air in a workroom at a height of 1.5 meters above the floor level shall not exceed 30°C 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 workroom at the said height shall not exceed that shown in the Schedule, 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.

THE SCHEDULE

Dry Bulb	Temperature	Wet Bulb	Temperature
C30	F (86)	C29.0	F (84.2)
31	(87.8)	29.0	(84.2)
32	(89.6)	28.9	(84.0)
33	(91.4)	28.8	(83.8)
34	(93.2)	28.7	(83.6)
35	(95)	28.6	(83.5)
36	(96.8)	28.5	(83.4)
37	(98.6)	28.4	(83.2)
38	(100.4)	28.3	(83.0)
39	(102.2)	28.2	(82.7)
40	(104)	28.1	(82.6)
41	(105.8)	28.0	(82.5)
42	(107.6)	27.9	(82.3)
43	(109.4)	27.8	(82.1)
44	(111.2)	27.7	(81.9)
45	(113)	27.6	(81.7)
46	(114.8)	27.5	(81.5)

47	(116.6)	27.3	(81.1)

Provided that if the temperature measured with a thermometer inserted in a hollow globe of 15 c.m. diameter coated mat 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°C 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 also 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 (i) 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 worker 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 workroom is sufficiently high and is likely to exceed the limits prescribed in 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 readings 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.
(b) If the Inspector has reason to believe that a substantial amount of heat is added inside the 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 provide one or more globe thermometers referred to in the first provision in sub-rule (1) and further requiring him to place the globe thermometers at places specified by him and keen a record of the temperatures 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) are provided, be of as aggregate area of not less than 15 per cent 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 amount of ventilating openings if he is satisfied that having regard to the location of the factory, orientation of the workroom, prevailing winds, roofs 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 these requirements shall not apply in respect of workrooms of factories:
(i) Covered by section 15; or
(ii) In which temperature and humidity are controlled by refrigeration.
(b) Where in any factory owing to special circumstances such a 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 cannot be complied with or in the opinion of the Inspector the temperature of air in a workroom is sufficiently high and is likely to exceed the limits prescribed in sub-rule (1), 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.
(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.
(d) In regions where in summer (15th March-15th July) dry bulb temperatures of outside air in the shade during most part of the day exceed 35°C and simultaneous wet bulb temperatures are 25°C or below and in the opinion of the Inspector the manufacturing process carried on in the workroom of a factory permits thermal environments with relative humidity of 50 per cent 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.

20. 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 85 degrees;
(b) At any time when the wet bulb reading of the hygrometer in higher than that specified in the following schedule in relation to the dry bulb reading of the hygrometer at the time; or as regards a dry bulb reading intermediate between any two-dry bulb reading indicated consecutively in the schedule, when the wet bulb reading is higher than that specified in relation to the higher of these two dry bulb readings:

THE SCHEDULE

Dry Bulb	Wet Bulb	Dry Bulb	Wet Bulb
70	68	88	82.5
71	69	89	83.6
72	69.5	90	84

73	70.5	91	84.5
74	71.5	92	84.5
75	72	93	85
76	73	94	85
77	73.5	95	85.5
78	74.5	96	85.5

79	75	97	85.5
80	76	98	85.5
81	77	99	85.5
82	77.5	100	85.5
83	78.5	101	85.5
84	79.5	102	85.5
85	80	103	85.5
86	81	104	85.5
87	82	105	85.5

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 3.5 degrees;
Provided further that when the reading of the wet bulb temperature outside in the shade exceeds 80 degrees, the value of the web bulb temperature allowed in the schedule for a given dry bulb temperature may be correspondingly exceeded to the same extent.

21. Provision of hygrometer

In all departments of cotton spinning and weaving mills wherein artificial 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 Departments**:** One hygrometer for each room of less than 8,495 cubic meters capacity and one extra hygrometer for each 5,663.4 cubic meters or part thereof, in excess of this.
(c) 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.

22. Exemption from maintenance of hygrometers

When the Inspector is satisfied that the limits of humidity allowed by the schedule to rule 20 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.

23. Copy of schedule to rule 20 to be affixed near every hygrometer

A legible copy of the schedule to rule 20 shall be affixed near each hygrometer.

24. Temperature to be recorded at each hygrometer

At each hygrometer maintained in accordance with rule 21, correct wet and dry bulb temperatures shall be recorded thrice daily during each working day by competent persons 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 between4 p.m. and 5.30 p.m. In exceptional circumstances, such additional readings and between such hours, as the Inspector may specify, shall be taken. The temperatures shall be entered in a Humidity Register in the prescribed Form No. 6, maintained in the factory. At the end of each month, the pet sons who have taken the readings shall sign the register and certify the correctness of the entries. The register shall always be available fen inspection by the Inspector.

25. Specifications of hygrometer

(1) Each hygrometer shall comprise two mercurial thermometers of wet bulb and dry bulb of similar construction, and equal in dimensions, scale and divisions 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 by means of a 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 or grease.

(3) No part of the wet bulb shall be within 7.6 centimeters from the dry bulb or less than 2.5 centimeters from the surface of the water in the reservoir and the water reservoir shall be below it, or 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 61 centimeters.

(6) Each thermometer shall be graduated so that accurate readings may be taken between 50 and 120 degrees.

(7) Every degree from 50 degrees upto 120 degrees shall be clearly marked by horizontal lines on the stem each fifth and tenth degree shall be marked by longer marks than the intermediate degrees and the temperature marked opposite each tenth degree i.e., 50, 60, 70, 80, 90, 100, 110 and 120.

(8) The markings as above shall be accurate, that is to say, at no temperature between 50 and 120 degrees shall the indicated readings be in error by more than two-tenths of a degree.

(9) A distinctive number shall be indelibly marked upon the renewed once a week.

(10) The accuracy of each thermometer shall be certified by the National Physical Laboratory, London, or some competent authority appointed by the Chief Inspector and such certificate shall be attached to the Humidity Register.

26. 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.

27. 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 until it has been re-examined at prescribed and a fresh certificate obtained which certificate shall be kept attached to the Humidity register.
28. Hygrometer not to be affixed to wall etc. unless protected by wood
(1) No hygrometer shall be affixed to a wall pillar, or other surface unless protected there from by wood or other non-conducting material at least 12.7 millimeters in thickness and distant at least 2.5 centimeters from the bulb of each thermometer.
(2) No hygrometer shall be fixed at a height of more than 1.7 meters from the floor to the top of thermometer stem or in the direct draughts from a fan, window, or ventilating opening.

29. No reading to be taken within 15 minutes of renewal of water
No leading shall be taken for record on any hygrometer within 15 minutes of the renewal of water in the reservoir.
30. How to introduce steam for humidification
In any room in which steam pipe 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 pipe shill not exceed 5.1 centimeters and in the case of pipes are installed after 1st day of April, 1949, the diameter shall not exceed 2.5 centimeters.
(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 12.7 millimeters in thickness.
(d) No unrecovered jet from such pipe shall project more than 11.5 centimeters beyond the outer surface of any cover.
(e) The steam pressure shall be as low as practicable and shall not exceed 31.8 kg. per square centimeter.
(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 minimize the amount of heat radiated by them into the department.

31. Deleted
Rules 31 to 35 prescribed under sub-section (4) of section 17.

32. Lighting of interior parts

(1) The general illumination over those interior parts of a factory where persons are regularly employed shall he not less than 65 lakhs measured in the horizontal plane at a level of 90 centimeters above the floor:

Provided that in any such parts in which the mounting height of the light source for general illumination necessarily exceeds 7.6 meters measured from the floor or 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 22 lakhs and where work is actually being done the illumination shall be not less than 65 lakhs.

(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 5 lakhs 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.

33. Prevention of glare

(1) Where any source of artificial light in the factor is less than 4.9 meters above floor level, no part of the light source or of the lighting fitting having a brightness greater than 1.5 candles per square centimeters shall be visible to persons whilst normally employed within 30.5 meters of the source except where the angle of elevation from the eye to the source or part of the fitting as the case may be exceeds 20_0.

(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 tight 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 there from.

34. 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 workroom or process that any requirement of rules 32 to 33 is inappropriate or is not reason-ably practicable, he may, by order in writing, exempt the factory or part thereof, or description of workroom or process from such requirement to such extent and subject to such conditions as he may specify.

35. Deleted

Rules 36 to 41 prescribed under sub-section (4) of section 18.

36. Quantity of drinking water

The quantity of drinking water to be provided for the workers in every factory shall be at least 4.5 liters per day per worker and such drinking water shall be readily available at all times during working hours.

37. Source of supply

The water provided for drinking shall be supplied:
(a) from a public water supply system, or
(b) from any other source approved in writing by the Health Officer.

38. Storage of water
If drinking water is not supplied directly from taps either connected with public water-supply system or any other water supply system of the factory approved by the 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 platforms in shade and having suitable arrangements of drainage to carry away spilt water. Such vessels or receptacles and tanks shall be kept clean and the water renewed at least once every day. Where the water is drawn from deep protected wells or tube wells such supply may be drawn direct from supply taps.
39. Cleanliness of well or reservoir
(1) Drinking water shall not be supplied from any open well or reservoir unless it is constructed, situated, protected and maintained as to be free from the possibility of pollution by chemical or bacterial and extraneous impurities.
(2) Where drinking water is supplied from such well or reservoir the water in it shall be sterilized once a week or more frequently if the Inspector, by written order, so requires, and the date on which sterilizing is carried out shall be recorded:

Provided that this 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.
40. 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 ease to submit to the Inspector a copy of such report as soon as it is received from the Health Officer.
41. 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, during hot weather, be cooled by ice or other effective method:

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 can-teen, lunch-room and rest-room and also at conveniently accessible points throughout the factory which fur the purpose of these rules shall be called "Water Centers";
(c) the water centers shall be sheltered from the weather and adequately drained;

(d) the number of water centers to be provided shall be one "centre" for every 150 persons employed at any one lime 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;
(e) every water centre shall be maintained in a clean and orderly condition;
(f) 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 and having dust proof covers and placed on raised stands or planforms in shade and having suitable arrangements of drainage to carry away the split water. Such vessels, receptacles or tanks shall be kept clean and the water renewed at least once every day.

Provided that, the Chief Inspector may exempt any "water centre" from the requirements of this clause.
Clause (f) shall not apply to any factory in which suitable mechanically operated drinking water refrigerating units are installed to the satisfaction of the Chief Inspector.

42. Latrine Accommodation

Latrine accommodation shall be provided in every factory on the following scale:
(a) Where women are employed, there shall be at least one latrine seat for every 20 women;
(b) Where males are employed, there shall be at least one latrine scat for every 20 males;

Provided that, where the number of males employed exceeds 100, it shall be sufficient if there is one latrine seat for every 20 males up to the first 100, and one for every 50 thereafter.
In calculating the number of seats required under this rule, any odd number of workers less than 20 or 50, as the case may be, shall be reckoned as 20 or 50 and the maximum number of persons working in the factory at any time and not the total number of persons employed in the factory, shall be taken into account.

43. Latrines to conform to public health requirements

Latrines other than those connected with an efficient water borne sewage system, shall comply with the requirements of the Public Health authorities.

44. Privacy of latrines

Every latrine shall be under cover and every seat in the latrine shall be so partitioned off as to secure privacy and each partition shall have a proper door and fastenings.

45. 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 of "a woman", as the case may be.

46. Urinal accommodation

(1) Urinal accommodation shall be provided for the use of workers and shall not be less than 61 centimeters in length for every 50 workers:

Provided that, where the number of workers employed exceeds 500, it shall be sufficient if there is one urinal for every 50 workers up to the first 500 employed, and one for every 100

thereafter. Where women are employed, separate urinal accommodation shall he provided for them on the same scale as mentioned above:
Provided further that the Chief Inspector of Factories may by order in writing exempt, subject to such conditions as he may think fit to impose, small factories employing less than 20 workers from the provision of separate urinal accommodation if he is satisfied that the latrine accommodation in such factories is sufficient and suitable.
(2) In calculating the urinal accommodation required under sub-rule (1), any odd number of workers less than 50 or 100, as the case may be, shall be reckoned as 50 or 100, and the maximum number of persons working in the factory, at any time and not the total number of persons employed in the factory, shall be taken into account.

47. Urinals to conform to public health requirements
Urinals other than those connected with 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.
48. Certain latrines and urinals to be connected to sewage 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 other than septic tank latrines and any other type of latrines and urinals to be approved for this purpose by the Public Health authority, of a factory situated in such locality shall, if the factory is situated within 30.5 meters of an existing sewer, be connected with that sewage system.
49. Whitewashing and colour-washing of latrines and urinals
The walls, ceilings and partitions of every latrine and urinal shall be white-washed or colour-washed and the whitewashing or colour-washing shall be repeated at least once in every period of four months. The dates on which the whitewashing or colour-washing is carried out shall be entered in the prescribed register (Form No. 7):
Provided that this rule shall not apply to latrines and urinals, the walls, ceiling, or partitions of which are laid in glazed tiles or otherwise finished to provide a smooth polished impervious surface and that they are washed with suitable detergents and disinfectants at least once in every period of four months.
50. Construction and maintenance of drains

All drains carrying waste or spoilage water shall be constructed in masonry or other impermeable materials and shall be regularly flushed and 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 suitable manner to the satisfaction of the Health Officer.
51. Water taps in latrines
Where piped water-supply is available a sufficient number of water taps, conveniently access shall be provided in or near such latrine accommodation. Where there is no continuous supply of water, water cisterns with cans should be provided for washing purposes.
52. Number and location of spittoons

The number and location of the spittoons to be provided shall be to the satisfaction of the Inspector.

53. Type of spittoons

The spittoons shall be of either 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.

54. Cleaning of spittoons

The spittoons mentioned in clause (a) of rule 53 shall be emptied, cleaned and disinfected at least once every day and the spittoon mentioned in clause (b) of rule 53 shall be cleaned by scrapping out the top layer of sand as often as necessary or at least once every day.

CHAPTER IV

SAFETY

55. Further safety precautions

(1) 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.

(2) This rule shall come into force, in respect of any class or description of factories. where machines noted in the said schedules are in use, on such dates as the State Government may, by notification in the Official Gazette, appoint in this behalf.

(3) Register prescribed under section 22 (1): In every factory, a register shall be maintained in Form No. 34 in which this name and other particulars of every such workers as may be employed or required to perform the duties specified in sub-section (1) of section 21 shall be entered.

SCHEDULE I

TEXTILE MACHINERY EXCEPT MACHINERY USED IN JUTE MILLS

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. The schedule shall not apply to machinery in factories engaged exclusively in the manufacture of synthetic fibers.

2. Definitions: For the purposes of this schedule,

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

(b) "Embossing calendar" means a calendar with two or more tolls, 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 fiats covered with card clothing and set in relation to each other so that fibers to staple form may be separated into individual relationship. The speed of the cylinders and their direction of rotation varies. The finished pro-duct 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 material with which the surfaces of the cylinder. duffer, fiats, etc., of a card are covered and consists of a thick foundation material made of, either textile fabrics through which are pressed many fine closely spaced specially bent wires, or mounted saw-toothed wire.
(e) "Comber" means a machine for combing fibers of cotton, wool, etc. The essential parts are device for feeding forward a fringe of fibers at regular intervals and an arrangement of combs or pins, which, at the right time pass through the fringe. All tangled fibers, shore fibers, and nibs are removed and the long fibers are laid parallel.
(f) "Combined machinery" means a general classification of machinery including combers sliver lab machines, ribbon lab 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 fibers into staple lengths.
(h) "Garnet machine" means any of a 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 complement worker and stripper rolls; and a fancy roll and doffer. The action of such machines is some-what like that of a wool card, but it is much more severe in that the various rolls are covered with garnet wire instead of clothing.
(i) "Gill box" means a machine used in the worsted system of manufacturing yarns. Its function is to arrange fibers 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 ".
(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 out, 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 fibers have been straightened as much as possible.
(n) "Silver Lapper" means a machine or a part of a machine in which a number of parallel card covers are drafted slightly, laid side by side in a compact sheet and wound into a cylindrical package.
(o) "Loom" means a machine for effecting the inter-locking of two series of yarns crossing one another at right angles. The warp yarns are wound on a warp beam and pass through beadles and reeds. The filing it shot across in a shuttle and settled 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 may be used in other ways during the finishing of various fabrics

(r) "Mule" means a type of spinning frame having a bead stock and a carriage as its two main sections. The head stock is stationary. The carriage is movable and it carries the spindles which draft, and spin the ravine into yarn. The carriage extends over the whole width of the machine and moves slowly towards and sway from the head stock during the spinning operation.
(s) "Nip" is the danger zone between two rolls or and 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 stuck fur further processing.

(u) "Paddler" means a trough for a solution and two or more squeeze rolls between which cloth passes after being passed through a mordant or dye bath.
(v) "Plaiting machine" means machine used to lay cloth into floods or regular length for convenience or subsequent process or use.
(w) "Roller printing machine" means a machine consisting of a large central cylinder or pressure bowl, around the lower part of the perimeter of which is placed a series of engraved color rollers (each having a color through), a furnisher roller, doctor blades, and tic. The machine 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 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 strand rope form passes over a guide roll down the first arm of the 'V' and up 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-boul mange, a tender frame, and a number or boxes for washing and scourging. 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 most of the caustic before releasing tension.
(z) "Sanforizing machine" means a machine consisting of a large steam-heated cylinder, and endless, thick, woolen 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.
(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) "Singeing 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 fun 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 or more cylindrical dryers or an enclosed hot air dryer, and a beaming end for winding the yarn on the loom beams.
(dd) "Tender frame" means a mashing for drying cloth under tension. It essentially consists of a pair of endless travelling chains fitted with clips of fin pins and carried on tracks. The cloth is firmly held at the selvages by the two chains which diverge as they move forward so that the cloth is brought to the desired width.
(ee) "Wrapper" means a machine for preparing and arranging the yarns intended for the warp of a fabric specifically a beam warped.
3. General safety requirements
(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 shifting should be provided with a belt shifter lock or an equivalent positive locking device.
(2) Stopping and starting handles 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.
(3) All belts, pulleys, gears, chains, sprocket wheels, and other dangerous moving parts of machinery which either form part of the machinery or arc used in association with it, shall be securely guarded.
4. Openers and pickers
(1) In all opening or picker machinery, beaters and other dangerous parts shall be securely fenced by suitable guards so as to prevent contact with them. Such guards and doors or covers of openings giving access to soy dangerous part of the machinery shall be provided with interlocking arrangement;

Provided that in the case of doors or covers of openings giving access to any dangerous part other than heater 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 kept positively locked in position or fixed in such a manner that it cannot be removed without the use of hand tools.
(2) The feed rolls 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.
(3) The lap forming roller 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 so 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.

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:

Provided that the latter 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) 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 pulleys of the machine or to dismantle the interlocking mechanism. Such an arrangement shall be used only for stripping or grinding operations.

6. Garnett machines

(1) Garnett licker-ins shall be enclosed.

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

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

7. Gill boxes

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

(2) All nips of in-running rolls shall be guarded by suitable nip guards conforming to the following specification namely:

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 from of opening
0 to 38 mm	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

8. Silver and ribbon tappers (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.
9. Speed frames: Jack box wheels at the head stock shall be guarded and the guard shall have interlocking arrangement.
10. Spinning mules: Wheels on spinning mule carriages shall be provided with substantial wheel guards, extending to within 6 mm of the rails.
11. Warpers: Swiveled double-bar gates shall be installed on all warpers operating in excess of 410 meters/min. These gates shall have interlocking arrangement, except for the purpose of inching or jogging:

Provided that the top and bottom ban of the gate shall be at least 1.05 and 0.53 meters high from the floor or working platform, and the gate shall be located 38 mm from the vertical tangent to the beam head.
12. Slashers
(1) Cylinder Dryers
(a) All open nips of in-running rolls shall be guarded by nip guards conforming to the requirements in paragraph 7.
(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 the floor to control the operation from any point.
(c) Slashers operated by push button 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 dryer as in paragraph (b).
(2) Enclosed hot air dryer
(a) All open nips of the top squeezing rollers shall be guarded by nip guards 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 the floor to control the operation from any point.
(c) Slashers operated by push button 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 machine at intervals spaced not more than 1.83 meters on centers.
13. Looms: Each loom shall be equipped with suitable guards designed to minimize the danger from flying shuttles.
14. Valves of triers, tanks and other containers

(1) Each valve controlling the flow of steam, injurious gases or liquids 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 presided with a suitable locking arrangement to enable the said person to lock the valve securely in the closed position and retain the key with him before entering the Icier, tank or container.
(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 or splash shall be provided to prevent danger.
15. Shearing machines: All revolving blade on shearing machine shall be guarded so that the opening between the cloth surface and the bottom of the guard will not exceed 10 mm.
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.
17. Mercerizing range (piece goods)
(1) A stopping device shall be provided at each end of the machine.
(2) A guard shall be provided attach end of the frame between the in-running chain and the clip opener.
(3) A nip guard shall be provided for the in-running rolls of the mangle and washers and the guard shall conform to the requirements in paragraph 7 (2).
18. Tenter frame
(1) A stopping device shall be provided at each end of the machine.
(2) A guard shall be provided at each end of the machine frame at the in-running chain and the clip opener.
19. Paddlers: Suitable nip guard conforming to the requirement in paragraph 7 (2) Shall be provided to all dangerous in-running rolls.
20. Centrifugal extractors
(1) Each extractor shall be provided with a guard for the basket and the guard shall have inter-locking arrangement.

(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.
21. Squeezer or wringer extractor water mangle, starch mangle, backwasher (worsted yarn crabbing machines, and decating machines): All in-running rolls shall be guarded with nip guards conforming to the requirements in paragraph 7 (2).
22. Sanforizing and palmer machines
(1) Nip guards shall be provided on all accessible in-running rolls and these shall conform to the requirements in paragraph 7 (2).
(2) Access from the sides to the nips of in-running rolls should be fenced by suitable side guards.
(3) A safety trip rod cable or wire centre cord shall be provided across the front and back of all palmer cylinders extending the length of the fact 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.

23. Rope washers
(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 the operator, the floor, or working surface.
(2) A safety rip rod, cable or wire centre cord shall be provided across the front and 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 stands and shall be readily accessible.
24. Laundry washer, tumbler or shaker
(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 shell is open, and which will also prevent the outer door on the case or shell from being opened, without shutting off the power and the cylinder coming to a stop. This should not prevent the movement of the inner cylinder by means of a hand operated mechanism or an inching device.
(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.
25. Printing machine (Roller type)
(1) All in-running rolls shall be guarded by nip guards conforming to the requirement in paragraph 7 (2).
(2) The engraved roller gears and the large crown wheel shall be guarded.

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.
27. Rotary staple cutters: The cutter shall be protected by a guard to prevent hands reaching the cutting zone.
28. Plating machines: Access to the trip between the knife and card bar shall be prevented by a guard.
29. Hand baling machine: 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.
30. Flat work ironer: Each flat-work or collar ironer shall be equipped with a safety bar or other guard across the entire front of the seed 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 sides 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 meters.

SCHEDULE II
COTTON GINNING

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 un climbable fencing with only so many openings as are necessary for access to the shaft for removing cotton seed, cleaning and oiling, and such openings shall be provided with gates or doors which shall be kept closed and locked.

SCHEDULE III

WOOD-WORKING MACHINERY

1. Definitions: For the purposes of this schedule,

(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 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 a vertical direction but does not include a log saw or band re-sawing machine.

(d) "Planning machine" means machine for overhand planning or for thicknessing or for both operations.

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 of such a position as to be readily and conveniently Operated by the person in charge in the machine.

3. Space around machines: The space surrounding every wood-working machine in motion shall be kept free from obstruction.

4. Floors: The floor 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.

5. Training and supervision

(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 a thorough knowledge of the working of the machine.

(2) A person who is being trained to work a woodworking 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.

6. Circular saws: Every circular saw shall be fenced as follows,

(a) Behind and in direct line with the saw there shall be a moving 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 arc of a circle having a radius not exceeding the radius of the largest saw used on the bench.

(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 12.7 millimetres.

(iii) For a saw of a diameter of less than 61 centimetres, the knife shall extend upwards from the bench table to within 2.5 centimetres of the top of the saw, and for a saw of a diameter of

61 centimetres or over shall extend upwards from the bench table to a height of at least 22.9 centimetres.
(b) The top of the saw shall be covered by a strong and easily adjustable guard, within 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 teeth 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 15.2 centimetres apart and shall extend from the axis of the saw outwards to a distance of not less than two beyond the teeth of

the saw. Metal plates, if not beaded, shall be of a thickness of at least 3 millimetres or, if beaded, be of a thickness of at least 1.3 millimetres.
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.
8. Band saws: Every band saw shall be guarded as follows,
(a) Both sides of the bottom pulley shall be completely encased by sheet or expanded metal or other suitable materials.
(b) The front of the top pulley shall be covered with sheet or expanded metal or other suitable materials.
(c) All portions of the blade shall be enclosed or otherwise securely guarded except the portion of the blade between the bench table and the top guide.
9. Planning machines
(1) A planning machine (other than planning machine which is mechanically fed) shall not be used for overhand planning unless it is fitted with a cylindrical cutter block.
(2) Every planning machine 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 be easily adjusted both in a vertical and horizontal direction thicknessing, except the combined machine for overhand planning and thicknessing, shall be provided with an efficient guard.
10. Vertical spindle moulding machines
(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.
(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.
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.
12. Adjustment and maintenance of guards

The guards and other appliances required under this schedule shall be,
(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 unnecessary risk.
13. Exemptions: Paragraph 6, 8, 9 and 10 shall not apply to any wood-working machine in respect of which it can be proved 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.

SCHEDULE IV
1. Special rule for printing presses

In printing works, every platen machine driven by power shall be fitted with an efficient, finger-guard and every guillotine machine, driven by power, with an efficient knife-guard.
2. Special rule for bricks and tiles works

In brick and tile works, a finger-guard shall be fitted at the feed end to the full length of the mould of every revolving press.
3. Special rule for decorticating factories

In decorticating factories, the beater arms and the feed mouth of the decorticator shall, as far as practicable, be guarded as follows:
A grating of 19 millimeters diameter wrought iron rods spaced 64 millimeters apart and supported by iron stiffeners 5.1 centimeters by 6 millimeters thick shall be fixed at a height of 15.2 centimeters above the tip of the beater arms.
Strong wooden plank 38 millimeters thick and iron plated on the underside shall be clamped with bolts and nuts over this grating leaving a space of 20.3 centimeters wide for the feeding of groundnuts. A grating of 2.5 centimeters diameter wrought iron rods spaced 38 millimeters apart shall be fixed at a height of 12.7 centimeters just above the feed mouth and another wooden plank 22.9 centimeters wide shall be fixed over the full length of the decorticator platform.

SCHEDULE V
RUBBER MILLS
1. Installation of machines: Mills for breaking down, cracking, grating, mixing, refining and warming rubber or rubber compounds shall be so installed that the top of the front roll is not less than forty-six inches 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 guards shall be fitted across the front of the machine in such position that the operator cannot reach the nip of the rolls.
2. Safety devices
(1) Rubber mills shall be equipped with,
(a) hoppers so constructed or guarded that it is impossible for the operators to come into contact in any manner with the nip of the rolls;
(b) horizontal safety-trip rods or tight wire cables across both front and rear, which will, when pushed or pulled, operate instantly to disconnect the power and apply the brakes, or to reverse the rolls.

(2) 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 175 centimetres above the floor or working level.
(3) Safety-trip rods and tight wire cables on all rubber mills 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.

SCHEDULE VI
POWER PRESSES
1. Application

The schedule shall apply to all types of power presses including press brakes, except when used for working hot metal.
2. Definition

For the purpose of this Schedule,
(a) "approved" 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 includes 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.
3. Starting and 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.
4. Protection of tool and disc
(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.
(2) Each disc shall be provided with a (heed 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 the press.
(3) The design, construction and mutual position of the guards referred to in sub-paragraphs (1) and (2) shall be such as to preclude the possibility of the workers hand or fingers reaching the danger zone.
(4) The machine shall be fed through a small aperture at the bottom of the guard but a wider aperture may be permitted for a second or subsequent operation if feeding is done through a chute.
(5) Notwithstanding anything contained in sub-paragraphs (1) and (2) an automatic or an inter-locked guard may he used in place of a fixed guard, but where such guards are used they shall

be maintained in an efficient working condition and if any guard develops a defect, the power press shall not be operated unless the defect of the guard is removed.
5. Appointment of persons to prepare power presses for use

(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 proving or carry out an inspection and test of any safety device thereon required by paragraph 8 unless he: (a) has attained the age 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 or the class or description of safety device to which the power press or the safety device (as the case may be) belongs;

(2) The training shall include suitable and sufficient practical instruction in the matters in relation to cash 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-presses and safety devices
(1) No power press or safety device shall he taken into use in any Factory for the first time in that 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 ease of a safety device, when in position on the power press in connection with which it is to be used.
(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.
(3) No power press shall be used unless every safety device (other than fixed fencing) thereon has within the immediately preceding 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, namely:
(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 safe device was first taken into use in the Factory;
(e) the date of each periodical thorough examination carried out as per requirements of sub-paragraph (2) above;
(f) particulars of any defects affecting the safe 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 any 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 safely 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 the safety device (as the case may be) ought not to be used after the expiration of a specified 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 a defect falling within clause (b) of this paragraph such notification shall include the period within which, in the opinion of the competent person, the defect ought to be remedied.
(2) In every case where notification has been given under this paragraph, a copy of the report made under sub-paragraph (4) of paragraph 6 shall be sent by the competent person to the Inspector for 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 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, resetting or adjustment of the tools thereon unless a person appointed or authorised for the purpose under paragraph 5 has inspected and tested every safety device thereon whack 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.

(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.
9. Defects disclosed during an inspection and test
(1) Where it 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 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.
(2) Except as provided in sub-paragraph (3) of this paragraph where any defect is disclosed in a safety device by any inspection and test under paragraph 8, the person carrying out the inspection and test shall notify the manager forthwith.
(3) Where any defect in a safety device is the subject of a notification in writing under paragraph 7 (1) (b) 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 to the said defect until the said period has expired.

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.

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.

12. Exemptions

(1) If in respect of any factory, the Chief Inspector is satisfied that owing to the circumstances or infrequency of the processes or 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 or any class or description of power press 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.

(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.

SCHEDULE VII

SHEARS, SLITTERS AND GUILLOTINE MACHINES

1. Definitions: For the purpose of this Schedule,

(a) "guillotine" means a machine ordinarily equipped with straight, beveledged 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 edge, 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 feed slicers equipped with rotary knives or cutting dirs.

2. Guillotine and Shears

(1) Where practicable, a barrier metal 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's body to reach the descending blade from above 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.
(2) At the back end of such 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 starting 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 atleast 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 machine

(1) Circulars disc-type knives on machines for cutting metal and leather, paper, rubber, textile or other non-metallic sub-stances shall, if within reach of operators standing on the floor or working level, he 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 material; 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 inch) at any time.
(2) portion of blades underneath the tables or benches of slitting machines shall be covered by guard.
4. Index cutter and Vertical Paper slotters

Index cutters, and other machines for cutting strips from the ends of hooks, 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.
5. Corner cutters

Corner cutters, used in the manufacture of paper boxes, shall be equipped with,
(a) suitable guard, fastened to the machines in front of the knives and provided with slots or perforations to afford visibility of the operations: or
(b) other guards equally efficient for the protection of the fingers of the workers.
6. Band Knives

Band wheels on band knives and all portions of the blades except the working side between the sliding guide and the table on vertical machines, or between the wheel guards on horizontal machines, shall be completed enclosed with hinged guards of sheet metal not less than I mm. (0.04 inch) in thickness or of other material of equal strength.

SCHEDULE VIII

SPECIAL RULE FOR FACTORIES IN WHICH POLISHING AND GRINDING MACHINERY ARE IN USE

Safety Devices

(a) All collars, set screws, shafts, couplings, clutches, keys, pulleys and belts in polishing and grinding machines shall be effectively guarded.

(b)

(i) Defective wheels shall not be used.

(ii) Grinding wheels shall it freely on spindles. The shall never be forced on, nor shall they be let loose on spindles.

(iii) The soft metal bushings at the center shall not extend beyond the sides of the sheds. Wheels shall he kept as true as practicable and work rests shall be kept adjusted close to wheels.

(iv) Wherever possible, a compressible medium, such as blotting paper, rubber or similar material, at least u large in diameter as that of the flanges, shall be fitted between wheel and each of its flanges.

(v) Projecting arbor ends of grinding and polishing wheels shall be effectively guarded.

(c) Except with the written permission of the Chief Inspector, no emery or abrasive wheel shall be kept unprovided with a strong iron cover guard that shall encase the wheel as far as practicable to retain fragments in the event of bursting. The guard shall be securely attached to the frame of the machine or other solid foundation.

(d) Where workers are employed continuously on dry grinding or polishing wheels, such wheels shall be provided with an efficient exhaust system capable of drawing off dust particles.

(e) Wheels shall not be operated at a speed in excess of that which is recommended by the manufacturer.

SCHEDULE IX

SAFETY OF CENTRIFUGAL MACHINES

1. Centrifugal machine shall be provided with sufficient interlocking devices that will physically prevent the lids from being opened whilst the rotating drums or baskets are in motion under power or due to power derived earlier and by then switched off and also prevent the starting of the drums or baskets under power while the lids are open.

2. The above requirements shall not apply while charging, ploughing and discharging operations are carried out when the drums or the baskets are rotated at lower speed.

3. Centrifugal machines shall not be operated at a speed in excess of the manufacturer's rating which shall be legibly stamped by the manufacturers both on the inside of the basket and on the outside of the machine casing at easily visible places.

4. All centrifugal machines shall be provided with effective breaking arrangements for bringing the cage, drum or basket to rest within a seasonable short period of time after the power to drive the motor is cut off.
5. The cages, drums or baskets shall be thoroughly examined by a competent person once in envy twelve months to check their balance and in case balance at high speed is not observed, effective steps shall be taken to restore their balance before recommissioning the machines.

SCHEDULE X
ALL FACTORIES
(a) Wherever practicable and considered necessary by the Inspector, service platforms and gangways shall be provided for overhead shafting and when required by him these shall be securely fenced with guards, rails and the boards.

(b) Safe access shall be provided to all hearing clutches, belt shifting levers and all such other appliances which are required to be handled or operated while the machinery is at work.
(c) All ladders used in replacing belts or in attending similar overhead machinery shall be specially made for that work and provided with books or an effective nonskid device.
(d) No transmission machinery in motion shall be cleaned with cotton waste, rags or similar materials held in hand.
(e) All belts shall be regularly examined to ensure that the joints are safe and the belts are kept in proper tension.
(f) Each water gauge glass of a boiler shall be fitted with an efficient guard.
(g) All condenser pipes of steam engines and exhaust pipes of oil engine; shall be adequately guarded.

56. Employment of young person's on dangerous machines
The machines specified in Sections 28, 29 and 30 and the machines mentioned below] shall be deemed to be of such dangerous character that young person's shall not work at them unless the provisions of section 23 (1) are complied with:
Power presses other than hydraulic presses;
milling machines used in the metal trades;
Guillotine machines;
Circular saws;
Platen printing machines;
Decorticator;
Oil expeller;
57.
The following pans of machines will be deemed to be machinery to be guarded by the makers for the purpose of section 26 (1):
(1) Back gears chain wheels and cog drives of lathes.
(2) Back gears and bevel gearing of drilling machines.
(3) Gear wheels and bevel drives of planning, shaping slotting and milling machines.
(4) All cog and level drives of oil expellers,

58. Hoists and lifts

(1) A Register shall be maintained to record particulars of examination of hoists and lifts and shall give particulars as shown in Form No. 7A.

(2) Exemption of certain hoists and lifts: In pursuance of the provisions of sub-section (4) of section 28. in respect of any class or description of hoist or lift specified in the 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 or description of hoist or lift shall not apply.

SCHEDULE

Class or description of hoist or lift	Requirements which shall not apply
(1)	(2)
Hoists or lifts mainly used for raising materials for charging blast furnaces or lime kilns.	Sub-section (1) (b) in so far as it 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 persons	Subsection (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 pans of the hoist or lift and any fixed structure or moving part; sub-section (1)(e).

59. Lifting machines, chains, ropes and lifting tackles

(1) No lifting machine and no chain, rope or lifting tackle, except a fiber rope or fiber rope sling, shall be taken into use in any factory for the first time in that factory unless it has been tested and all parts have been thoroughly examined by a competent person and a certificate of such a 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.

(2) 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.

(3) 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 a multiple sling, the safe working load at different angles of the legs, shall be posted in the store in which the chains, ropes or lifting tackles are kept, and in prominent positions on the premises, and no chain, rope or lifting tackle not shown in the table shall be used. This sub-rule shall not apply in respect of any lifting tackle if the safe working loads thereof or in the case of a multiple sling, the safe working load at different angles of the legs is plainly marked upon it.

(4) The register to be maintained under clause (a) (iii) of sub-section (1) of section 29 of the Act shall contain the following particulars and shall be kept readily available for inspection:
(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 sub-rules (1) and (8) 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 sub-rule (7) and by whom it was carried out.
(vii) Date of annealing or other heat treatment of the chain and other lifting tackle made under sub-rule (6) and by whom it was carried out.
(viii) Particulars of any defects found at any such thorough examination or after annealing and affecting the safe working load, and of the steps taken to remedy such defects.
(5) Passage ways for cranes
(i) To provide access to mil tracks of overhead travelling cranes suitable passage-ways of at least 50cm. width with toe boards and double hand rails 90 cm. high shall be provided alongside, and clear of the rail tracks of overhead travelling cranes, such that no moving part of the crane can strike persons on the ways, and the passage-way shall be at a lower level than the crane can strike persons on the ways, and the passage-way shall be at a lower level than the crane track itself. Safe access ladders shall be provided at suitable intervals to afford access to these passage-ways, and from passage-ways to the rail tracks.
(ii) The Chief Inspector may, for reasons to be specified in writing, exempt any factory in respect of any overhead travelling crane from the operation of any provisions of clause (i) subject to such conditions as he may specify.]
(6) All rails on which a travelling crane moves and every track on which the carriage of 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.
(7) 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 the Chief Inspector, be effectively annealed under the supervision of a competent person at the following intervals:
(i) All chains, slings, rings, hooks, shackles and swivels used in connection with molten metal or molten slag or when they are made of 12.7 millimeters bar or smaller, once at least in every six months.
(ii) All other chains, rings, hooks, shackles and swivels in general use, once at least in every twelve months:

Provided that chains and lifting tackle 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 sub-rule (4) which shall be kept available for inspection.
(8) Nothing in the foregoing sub-rule (7) shall apply to the following classes of chains and lifting tackle:
(i) Chains made of malleable cast iron.
(ii) Plate link chains.
(iii) Chains, rings, hooks, shackles and swivels made of steel or of any non-ferrous metals.
(iv) Pitched chains, working on sprocket or pocketed wheels.
(v) Rings, hooks, shackles and swivels permanently attached to pitched chains, pulley blocks or weighing machines.
(vi) Hooks and swivels having screw threaded parts or ball-bearing or other case-hardened parts.
(vii) Socket shackles secured to wire ropes by white metal capping.
(viii) Bordeaux connections.

Provided that 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 kept in accordance with sub-rule (4).
(9) All lifting machines, chains, ropes and lifting tackle, except a fiber rope or fiber rope sling, which have been lengthened, altered or repaired by welding or otherwise shall, before being again taken into use, be adequately i.e., tested 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 sub-rule (4).
(10) 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 a driver

60. Pressure vessel or Plant
1. Definition: For the purpose of this rule,
(a) 'design pressure' means the maximum pressure that a pressure vessel or plant is designed to withstand safely 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 and is determined by the technical requirements of the process;
(c) 'plant' means a system of piping that is connected to a pressure vessel and is used to contain a gas vapour or liquid under pressure greater than the atmospheric pressure, and includes the pressure vessel
(d) 'pressure vessel' means a vessel that may be used for containing, storing, distributing, transferring, distilling, processing or other-wise handling any gas, vapour or liquid under pressure greater than the atmospheric pressure

and includes any pipeline fitting or other equipment attached thereto or used in connection therewith; and
2. Exceptions

Nothing in this rule shall apply to
(a) deleted
(b) vessels made of ferrous materials having an internal operating pressure not exceeding one kilogram per square centimetre;
(c) steam boiler, steam and feed pipes and their fittings coming under the purview of Indian Boilers Act, 1923 (Central Act V of 1923);
(d) metal bottles or cylinders used for storage or transport of compressed gases or liquefied or dissolved gases, under pressure covered by the Gas Cylinder Rules, 1940 framed under the Indian Explosives Act. 1884 (Central Act IV of 1884):
(e) vessels in 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) vessel for nuclear energy application;
(h) refrigeration plant having a capacity of three tons or less of refrigeration in 24 hours; and
(i) working cylinders of steam engines or prime movers, feed pumps and steam traps; turbine castings; compressor cylinders steam separators or drivers: steam strainers; steam de-super heaters; oil separators: air receivers for fire sprinklers installations; air receivers of monotype machines provided the maximum working pressure of the air receiver does not exceed 1.33kg. 5 qcm. and the capacity 84.95 liters, air receivers of electrical circuit breakers; air receivers of electrical relays; air vessels on pumps, pipe coils, accessories of instruments and appliances, such as cylinders and piston assemblies used for operating relays and inter-locking type of guards; vessels with liquids subjected to static head only; and hydraulically operating cylinders other than any cylinder communicated 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;
(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:

Provided that a 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 certificate thereof shall be obtained from the manufacturer or from the competent person which shall be kept and produced on demand by an Inspector.
4. Safety devices

Every pressure vessel shall be fitted with:
(a) a suitable safety valve or 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 is 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 percent 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 the 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 valve connected for the exclusive purpose of attaching a test pressure gauge for checking 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 vessels 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 it shall be sufficient for the purpose of this sub-rule if the safety valve or pressure relieving device, the pressure gauge and the stop valve are mounted on a pipeline immediately adjacent to the pressure vessel and where there is a range of two or more similar pressure vessels served by the same pressure lead, only one set of such mountings need be fitted on the pressure lead immediately adjacent to the range of pressure vessels, provided they cannot be isolated.
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 pressure reducing valve or other suitable automatic device to prevent the maximum permissible working pressure of the pressure vessel being exceeded;

(b) To further protect the pressure vessel in the event of failure of the reducing valve or device, at least one safety valve 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 connecting 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 into 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 no pressure vessel or plant which has been previously used or has remained isolated or idle for a period exceeding two 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, and internally 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:

Provided, however, that the pressure vessel or plant which is so designed and constructed that it cannot be safely filled with water or liquid or is used in service 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 a 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 operation.
(b) No pressure vessel or plant shall be used in factory unless there has 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 to 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 identified 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.
(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. In service test and examinations:

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.

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 in continuous process which cannot be frequently opened, the period of internal examination may be extended to four years;
(c) hydrostatically tested once in every period of four years; and

Provided that in respect of a pressure vessel or plant with thin walls such as sizing cylinder made of copper or any other non-ferrous metal, periodic hydrostatic test may be dispensed with subject to the condition 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 in clause (a) of this sub-rule, or if owing to its construction and use a pressure vessel or plant cannot be hydrostatically tested as required in clauses (b) and (c) of this sub-rule, a thorough external examination of the pressure vessel or plant shall be carried out at least once in every period of two years; and at least once in every period of four years thorough systematic non-destructive test like ultrasonic test for

thickness or other defects of all parts the failure of which might lead to eventual rupture of the pressure vessel or plant shall be carried out.

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 5 per cent. of the original maximum permissible working pressure for every year of its use after the first five years and no such cylinder shall he allowed to continue 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 thickness of walls, or 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;

(c) Every new and second-hand pressure vessel or plant of 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 safely until the next prescribed examination, the

competent person shall enter in the prescribed register his observations, findings and conclusions with other relevant remarks with reasons and may authorize 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 or 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. 8 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 this rule 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 condition is fulfilled.

(d) The competent person making report of any examination under this rule, shall within seven days of the completion of the examination send to the Inspector a copy of the report in every case where the maximum permissible working pressure is 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 shall 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.

60A. Water sealed gas holder

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

(2) Every gas holder shall be of good construction, sound material adequate strength and properly maintained.

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

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

(5) In the ease of a gas holder of which any lift has been in use for more than 10 years, the internal state of the sheeting shall, within one year of the coming into force of this rule and thereafter at least once in 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 holder: Provided further, that if such inspection raises a doubt, an internal visual examination shall be made.

(6) All possible steps shall be taken to prevent or minimize ingress of impurities in the gas holder.

(7) No gas holder shall be repaired or demolished except under the direct supervision of a person who, by reason of his training and experience and of his knowledge of the necessary precautions against risks of explosion and of persons being overcome by gas, is competent to supervise such work.

(8)

(a) All sample discs cut under sub-rule (5) shall be kept readily available for inspection.

(b) A permanent register duly signed by the occupier or manager shall be maintained giving the following particulars, namely:

(c) The results of examinations by a competent person carried out under sub-rules (4) and (5) shall be in Form No. 8-B.

(d) A copy of the report in Form No. 8-B shall be kept in the register in Form 8A and both the register and the report shall be readily available for inspection by an Inspector.

(9) The Inspector of Factories shall inspect the gas holder at least once in a period of 12 months.

61. Excessive weights

(1) No man, woman or young person shall, unaided by another person, lift, carry or move by hand or head, any material, article, tool or appliance exceeding the maximum limit in weight set out in the following schedule:

SCHEDULE

Persons	Maximum weight of material, article, tool or appliance K. Grams
	55.0

(a) Adult male	
(b) Adult female	27.5
(c) Adolescent male	27.0
(d) Adolescent female	18.0
(e) Male child	14.0
(f) Female child	11.5

(2) No man, woman or young person shall engage in conjunction with others, in lifting, carrying or moving by hand or on head, any material, ankle, 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.

62. 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 or infra-red or ultra-violet radiations.

SCHEDULE I

Dry grinding of metal or articles or metal applied by hand to a revolving wheel or disc driven by mechanical power. Turning (external or internal) of non-ferrous metals or of cast iron, or articles of such metals or such iron where the work is done, dry, other than precision turning where the use of goggles or a screen would seriously interfere with the work, or turning by means of hand tools.

Welding or cutting of metals by means of an electric oxyacetylene or similar process.

The following processes when carried on by means of hand tools or other portable tools.

Fettling or metal involving the removal of metal.

Cutting out or cutting off cold rivets or bolts from boilers or other plant, or from ships.
Chipping or scaling of boilers or ships plates
Breaking or dressing of stone, concrete or slab.

SCHEDULE II

1. Welding or cutting of metals by means of an electrical, oxy-acetylene or similar process.
2. All work on furnaces where there is risk of exposure to excessive light or infra-red radiations.
3. Process such as rolling, casting or forging of metals where there is risk of exposure to excessive light or infra-red radiations.
4. Any other process wherein there is a risk of injury to eyes from exposure to excessive light or ultra-violet or infra-red radiations.

63. Minimum dimensions of manholes

Every chamber, tank, vat, pits- 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 40.6 centimeters long and 30.5 centimeters wide;
(b) in the case of a circular shape, be not less than 40.6 centimeters in diameter.

64. Exemptions

The requirements of sub-section (4) of section 37 shall not apply to the following processes carried on in any factory:
(a) The operation of repairing a water sealed gas holder by the electric welding process subject to the following conditions;
(i) The gas holder shall contain only the following gases separately or mixed at a pressure greater than atmospheric pressure, namely, town 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 bas been added intentionally.
(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.
(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:
(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;
(ii) the main or service shall not contain acetylene or any gas or mixture of gases to which acetylene has been added intentionally;
(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;

(iv) the site of the operation shall be free from any inflammable or explosive gas or vapour;
(v) where acetylene gas is used as a source of heat in connection with an operation, it shall be compressed and contained in a porous substance in a cylinder; and
(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.
(c) The operation of repairing an oil tank on any ship by the electric welding process, subject to the following conditions:

(i) The only oil contained in the tank shall have a flash point of not less than 150°F (close test) and a certificate to this effect shall be obtained from a competent analyst;
(ii) the analyst's certificate shall be kept available for inspection by an Inspector or by any person employed or working on the ship;
(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 30.5 centimeter below the nearest part of the surface of the oil within the tank; and
(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.

65. Fire protection
(1) Processes, equipment, plant, etc., involving serious explosion and serious fire hazards;
(a) All processes, storages, equipments, plants, etc., invoking serious explosion and flash fire hazards shall be located in segregated building where the equipment shall be so arranged that only a minimum number of employees are exposed to such hazards at any one time.
(b) All industrial processes involving serious fire hazard should 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 hazard shall, wherever possible, be so constructed and installed that in case of fire, they can be easily isolated.
(d) Ventilation ducts, pneumatic conveyors and similar equipment involving a serious fire risk should be provided with flame-arresting or automatic fire extinguishing appliances or fire resisting dampers electrically interlocked with heat sensitive/smoke detectors and the air-conditioning plant system.
(e) In all workplaces having serious fire or flash fire hazards, passages between machines, installations or piles of material should be at least 90 cm. wide. For storage piles, the clearance between the ceiling and the top of the pile should not be less than 2 m.
(2) Access for fire fighting
(a) Buildings and Plants shall be so laid out and roads, passage-ways, etc., so maintained as to permit unobstructed access for fire-fighting.
(b) Doors and window openings shall be located in suitable positions on all external walls of the building to provide easy areas to the entire area within the building for fire-fighting.
(3) Protection against lighting: Protection from lighting shall be provided 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;
(d) buildings, tall chimneys or stacks where flammable gases, fumes, dust or lint are likely to be present; and
(e) Sub-station buildings and out-door transformers and switch yards.
(4) Precautions against ignition

Wherever there is danger of fire or explosion from 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 of 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 fasteners 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, frictional sparks overheated surfaces of machinery or plant, chemical or physical chemical reaction and radiant heat.
(5) Spontaneous ignition: Where materials are likely to induce spontaneous ignition, care shall be taken to avoid formation of air pocket and to ensure adequate ventilation. The material susceptible to spontaneous ignition should be 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.
(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 cylinders shall never be stored near highly flammable substances, furnaces or hot process. 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 close fitting covers:

Provided that not more than 20 liters of flammable liquids having a flash point of 21°C or less shall be kept or stored in any work room.
(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 be 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, sums or drains and to confine any escaping liquid within safe limit.
(8) Accumulation of flammable dust, gas, fume or vapour in air or flammable 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 vapour 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 atleast one in a day or shift, and more often, when possible. Such materials shall be placed in suitable metal containers with covers wherever possible.
(9) Fire exists
(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
(ii) “travel distance" means the distance an occupant has to travel to reach an exit.
(b) An exit may be a 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 exits 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 dilute 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 not be used as exit stair-cases.
(h) Fire resisting doors or roller shutters shall be provided at appropriate places along the escape routes to prevent spread of fire and smoke, particularly at the entrance of lifts or stairs where funnel or 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 atleast 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 atleast 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 or 10 square meter 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 atleast 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 atleast 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 ten persons may be normally present, atleast two separate means of exit shall be available, as remote from each other as practicable.

(r) Every storage area shall have access to atleast 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 passage way providing continuous and protected means of egress.
(t) No exit doorway shall be less than 100 cm in width doorways shall be not be 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 or landing to less than 90 cm overhead or sliding doors shall not be installed for this purpose.
(v) An exit door shall not open immediately upon a flight of stairs. A landing atleast 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.
(w) The exit doorways shall be openable from the side which they serve without the use of a key.
(x) Exit corridors and passage ways 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 passage ways, the height of the corridors and passage ways shall not be less than 2.4 meters.
(aa) A staircase shall not be arranged round a lift shaft unless the latter is totally enclosed by a material having a fire resistance rating not lower than that of the type of construction of the farmer.
(bb) Hallow combustible construction shall not be permitted.
(cc) The minimum width of an internal staircase shall be 100 cms
(dd) The minimum width of treads without nosing shall be 25 cm. for an internal staircase. The treads shall be constructed and maintained in a manner to prevent, slipping.
(ee) The maximum height of a riser shall be 19 cm. and the number of risers shall be limited to 12 per flight.
(ff) Hand rails shall be provided with a minimum height of 100 cm. and shall be firmly supported.

(gg) 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 platform such as balconies and terraces to allow escapees to pause. A spiral staircase shall be not less than 300 cms. in diameter and have adequate head room.
(hh) The width of a horizontal exit shall be same as for the exit doorways.
(ii) The horizontal exit shall be equipped with atleast one fire door of self-closing type.

(jj) 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.
(kk) Where there is difference in level between connected areas for horizontal exit, rams not more than 1 in 8 slope shall be provided. For this purpose steps shall not be used.
(ll) Doors in horizontal exits shall be openable at all times.
(mm) Ramps with a slope of not more than 1 in 10 may be substituted for the requirements of staircase. For all slopes exceeding 1 in 10 and wherever the use is such as to involve danger of slipping, the ramp shall be surfaced with non-slipping materials.
(nn) 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-storeyed buildings where the entire area is undivided and all parts thereof are clearly visible to all occupants.
(10) First-aid fire-fighting arrangements
(a) In every factory, there shall be provided and maintained adequate and suitable firefighting equipment for fighting fires in the early stages, those being referred to as first-aid firefighting equipment in this rule.
(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, restrooms, ambulance rooms and the like;
2. Ordinary hazard: occupancies like saw mills, carpentary shop, small timber yards, book-binding shops, engineering workshop and the like;
3. Extra hazard: occupancies like large timber yards, godowns 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, solvents, grease, paint, etc.
(iii) "Class 'C' fire"- arising out of gaseous substances.
(iv) "Class 'D' fire" Fire from reactive chemicals, active metals 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 'light hazard' occupancy shall be as given in Schedule-I. 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 conform 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 equipment 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 fire-fighting equipment shall be allotted to 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:
(1) Serial number:
(2) Date of last refilling; and
(3) Date of last inspection.
(j) First-aid firefighting equipment shall be placed on plat-forms or in cabinets in such a way that their bottom is 750 mm, above the floor level. Fire buckets shall be placed on hooks attached to a suitable stand or valve in such a way that their bottom is 750 mm. above the floor level. Such equipment if placed outside the building, shall be under sheds or covers.
(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 fire-fighting equipment shall be subjected to routine maintenance, inspection and testing to be carried out by properly trained persons. Periodicity of the routine maintenance, inspection and test shall conform to the relevant Indian Standards.
(11) Other fire-fighting arrangements
(a) In every factory, adequate provision of water supply for firefighting 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 trailer pumps of adequate capacity to meet the requirement of water as calculated above shall be provided and maintained.

In the above formula;
A = the total area in square metres of all floors including galleries in all buildings of the factory;
B = the total area in square metres of all floors and galleries including open spaces in which combustible materials are handled or stored;
C = the total area in square metres of all floors over 15 metres above ground level; and
D = the total area in square metres of all floors of all buildings other than those of fire resisting construction.

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 fire fighting 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 at 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 per cent; but no account shall be taken of this reduction in calculating water supply required under clause (a).
(b) Each trailer pump shall be provided with equipment as per Schedule-II appended to this rule. Such equipment shall conform to the relevant Indian Standards.
(c) Trailer pumps shall be housed in a separate shed or sheds which shall be sited closed to a principal source of water supplies 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 vehicle 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 per cent of this water supply or 450,000 litres whichever is less, shall be in the form of static tanks of adequate capacities (not less than 450,000 litres each) distributed round the factory with due regard to the potential fire risks in the factory. Where piped supply is provided, the size of the main shall not be less than 15 centimetres diameter and it shall be capable of supplying a minimum of 4500 litres per minute at a pressure of not less than 7 kilograms per square centimetre.

(f) All trailor pumps including the equipment provided with them and the vehicles for towing them shall be maintained in good condition and subjected to periodical inspection and testing as required.
(12) Personnel in-charge of equipment and for fire-fighting, fire drills, etc.
(a) The first-aid and other firefighting equipment to be provided as required in sub-paragraph (10) 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-paragraph (11) sufficient number of persons shall be trained in driving these vehicles to ensure that trained persons are available for driving them whenever the need arises.
(c) Fire-fighting drills shall be held as often as necessary and at least once in every period of two months.
(13) Automatic sprinkler and fire hydrants shall be in addition and not in substitution of the requirements in sub-paragraphs (10) and (1 1).
(14) If the Chief Inspector is satisfied in respect of any factory or any part of the factory that owing to the exceptional circumstances such as inadequacy of water supply or infrequency of

the manufacturing processor 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) The different types of fire and first-aid firefighting equipment suitable for use on them are as under:

Class of Fire	Suitable type of Appliances
A. Fires in ordinary combustibles (wood, vegetable fibres, 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 substances under pressure	Chemical Extinguishers of carbon dioxide and dry powder types.
D. Fires in Reactive Chemicals, active metals and the like	Special type of dry powder extinguishers and sand buckets.
E. Fires in electrical equipments and dry powder type and sand buckets,	Chemical extinguishers of carbon dioxide

(2) One 9 litre water buckets shall be provided for every 100 sq.m. of the floor area or part thereof and one 9 litre 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 this indicated above.
(3) Acceptable replacements for water buckets and water type extinguishers in occupancies were Class B fires are anticipated, are as under:

Acceptable Replacement	Buckets of water		Water type Extinguishers For each 9 Ltrs. extinguishers
For one bucket		For three buckets	
Dry sand	1 bucket	3 buckets	-
Carbon-di-oxide Extinguishers	3 Kg	9 Kg. (In not less than 2extinguishers)	9 Kg (In not less than 2extinguishers)
Dry Powder	2 Kg	5 Kg (In one or more extinguishers)	5 Kg In one or more extinguishers)
Foam extinguishers	9 litres	9 litres	9 litres

(4) The following provisions shall be complied with where Class E fires are anticipated,
(a) For rooms containing electrical transformers, switch gears, motors 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 rooms 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 requirement 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 metres, one extinguisher shall be acceptable as adequate for every 3 metres 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 fire 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 equipments.
(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 a 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 a only for 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 operating instructions of the extinguishers shall not be defaced or obliterated. In case the operating instructions are obliterated or have become eligible 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 litres/minute	
1	Armoured suction hose of 9 metres length; with wrenches.
1	Metal suction strainer.
1	Basket strainer.
1	Two-way suction collecting-head.
1	Suction adaptor.
10	Unlined or rubber lined 70mm delivery hose of 25 metres length complete with quick-release couplings.
1	Dividing breaching-piece.
2	Branch-piece with 15mm nozzles.
1	Diffuser nozzle.
1	Standpipe with blank cap.
1	Hydrant key

4	Collapsible canvas buckets
1	Fire hook (preventor) with cutting edge.
1	25mm 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 lamp
1	Pair of rubber gloves

For large trailor pump of a capacity of 1800 litres/minute

1	Armored suction hose of 9 meters' length, with wrenches
1	Metal strainer
1	Basket strainer
1	Three-way suction collecting-head
1	Suction adapter
14	unlined or rubber lined 70 mm delivery hose of 25 meters' length complete with quick-release couplings
1	dividing breaching-piece
1	Collecting breaching-piece
4	Brench pipes with one 25 mm, two 20 mm and one diffuser nozzles
2	Standpipe with blank caps
2	Hydrant keys

6	Collapsible canvas buckets
1	Coiling hook (preventer) with cutting edge
1	50 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	Crawbar
1	Hurricane lamp
1	Electric torch
1	Pair rubber gloves.
1	Armored suction hose of 9 meters' length, with wrenches

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

65A. Fire Fighting Apparatus and Water Supply

[Omitted]

65B. Buildings and structures

No building, wall, chimney, bridge, tunnel, road, gallery, stairway, ramp, floor, platform, staging or other structure, whether of a permanent or temporary character, shall be constructed, situated or maintained in any factory in such a manner as to cause risk of bodily injury.

65C. Machinery and plant

No machinery, plant or equipment shall be constructed, situated, operated or maintained in any factory in such a manner as to cause risk of bodily Injury.

65D. Methods of work

No process or work shall be carried on in any factory in such a manner as to cause risk of bodily Injury.

65E. Stacking and storing of materials, etc.

No materials or equipment shall be stacked or stored in such a manner as to cause risk of bodily Injury.

65F. Fragile roofs

Provision of Crawling Boards etc.

In any factory, no person shall be required or allowed to stand on or pass over or walk on or near any roof or ceiling covered with fragile material through which he is liable to fall, in case it breaks or gives way, a distance of more than three meters, unless;

(i) suitable and sufficient ladders, duck ladders or crawling boards which shall be securely supported, arc provided and used; and

(ii) a permit to work on the fragile roof is issued to him each time he is required to work thereon, by a responsible person of the factory concerned.

65G. Reaction Vessels and Kettles

(1) This rule applies to reaction and kettles (hereinafter in this rule 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 get-ting out at control or any other circumstances.

(2) In the event of the vessel being heated by electrical means, a suitable control device shall be provided to prevent the temperature exceeding the safe limit.

(3) Where steam is used for heating purposes in reaction vessel it shall be supplied through a suitable pressure reducing valve, any other 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) A suitable safety valve or rupture disc of adequate size and capacity shall be provided to effectively, prevent the pressure being built up in the reaction 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 end shall be provided with a flame arrestor.
(5) Every reaction vessel shall be provided with a pressure gauge having the appropriate range.
(6) In addition to the devices as mentioned in the fore-going provisions, means shall be provided for automatically stopping the feed into the vessel as soon as process conditions deviate from the normal limits to an extent which can be considered as dangerous.
(7) Where necessary, an effective system for cooling, flooding or blanketing shall he provided, for the purpose of controlling the reaction and process conditions within the safe limits of temperature and pressure.
(8) An automatic auditory and visual warning device shall be provided for clear warning whenever process conditions exceed the present limits. This device, wherever possible, shall be integrated with automatic process correction systems.

(9) A notice pointing out the possible circumstances in which pressures above atmospheric pressure may be built up in the reaction vessel, the dangers involved and the precautions to be taken by the operators shall be displayed at a conspicuous place near the vessel.

65H. Safety Officers
(1) Qualifications
(a) A person shall not be eligible for appointment as a safety officer unless he,
(i) possesses a recognized degree in any branch of engineering or tech- fogy 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 a 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 5 years;
(ii) possesses a degree or diploma in 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.
(b) Notwithstanding the provisions contained in clause (a) any person who possesses,

a recognized degree or diploma in engineering or technology and has had experiences not less than 5 years, full time, on training, education, consultancy or research in the field of accident 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 a person who has been working as Safety Officer for a period not less than 3 years on the date of commencement of this rule, the Chief Inspector may subject to such conditions as he may specify, relax all or any of the above said qualifications.
(2) Conditions of Service

(a) Where the number of Safety Officers to be appointed in a factory as required by a notification in the Official Gazette exceeds one, one of them shall be designated as the chief safety officer and shall have a status higher than that of the others. The Chief Safety Officer shall be in overall charge of the safety functions as envisaged in sub-rule (3), the other safety officers working 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) as the case may be, 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 allowance to be granted to the safety officers including the Chief Safety Officer, and the other conditions of their service shall be the same as those of the other officers of corresponding status in the factory.
(d) In the case of dismissal or discharge, a Safety Officer shall have a right to appeal to the Government whose decision thereon shall be final.
(3) Duties of safety officer
(a) The duties of a safety officer shall be to advise and assist the factory management in the fulfillment of its obligations, statutory or otherwise, concerning prevention of personal injuries and maintenance of a safe working environment. These duties shall include the following, namely:
(i) to advise the concerned departments in planning and organizing measures necessary for the effective control of personal injuries;
(ii) to advise on safety aspects in all job studies, and to carry out detailed job safety studies of selected jobs;
(iii) to check and evaluate the effectiveness of the action taken or proposed to be taken to prevent personal injuries;
(iv) to advise the purchasing and stores departments in insuring high quality and availability of personal protective equipment;
(v) to provide 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 followed by workers and to render advice on measures to be adopted for removing the unsafe physical conditions and preventing unsafe actions by workers;
(vii) to render advice on matters related to reporting and investigation of industrial accidents and diseases;
(viii) to investigate selected accidents;
(ix) to investigate the cases of industrial diseases contracted and dangerous occurrences reportable under Rule 106;
(x) to advise on the maintenance of such records as are necessary relating to accidents, dangerous occurrence and industrial diseases;
(xi) to promote setting up of safety committees and act as adviser and catalyst to such committees;

(xii) to organize in association with the concerned departments, campaigns, competitions, contests and other activities which will development 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.
(4) 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.
(5) Prohibition of Performance of other duties: No Safety Officer shall be required or permitted to do any work which is inconsistent with or detrimental to the performance of the duties prescribed in sub-rule (3).

65I. Safety Committee
(1) In every factory;
(a) Wherein two hundred and fifty or more workers are ordinarily employed; or
(b) which carries on any process or operation declared to be dangerous under Section 87 of the Act and 20 or more workers are ordinarily employed; or
(c) which carries on hazardous process as defined under Section 2 (b) of the Act; there shall be a Safety Committee.
(2) The representatives of the management of Safety Committee shall include
(a) A senior official, who by his position in the organization can contribute effectively to the functioning of the Committee, shall he 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 as equal to the number of representatives of the management, as 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 on 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 work place.
(b) data on accidents as well as data 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 undertakes 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 safely of the workers.
(7) Functions 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, safely 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.

65J. Protective equipment
(i) The Inspector may, having regard to the nature of the hazards involved in work and process carried out, order the Occupier or the Manager in writing to supply to the workers exposed to particular hazard any personal equipment as may be found necessary.
(ii) All protective equipments provided to workers as required under any of the provisions of Act or the rules shall have certification by Bureau of Indian Standards.

65K. Ovens and Driers
(1) Application: This rule shall apply to ovens and driers, except those used in laboratories or kitchens of any establishment and those which have a capacity below 325 litres.
(2) Definition: For the purpose of this Rule, Oven or drier means enclosed structure receptacle, compartment or box which is used for baking drying or otherwise processing of any article or substance at a temperature higher than the ambient temperature of the air in the room 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 article or substance which is backed, dried or otherwise processed within in its.
(3) Separate electrical connection: Electrical power supplied to every over drier shall be by means of a separate circuit provided with isolation switch.

(4) Design, construction, examination and testing
(a) Every oven or drier shall be property designed on sound engineering practice of good construction, sound materials 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 parts 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 to-which it is to be used and a certificate of such examination and tests signed by that Competes 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 Competent Person has been obtained and is kept available for Inspection.
(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 at a safe level of dilution.
(b) The safe level of dilution referred to in clause (a) shall be so as to achieve concentration of the concerned flammable substance in air of not more than 25 per cent of lower explosive limit:

Provided that a level of concentration in air upto 50 per cent of the lower explosive Ifni of the concerned flammable substance may be permitted to exist subject to installation and maintenance of an automatic device which,
(i) shows continuously the concentration of the flammable substances in air present in the oven or drier at any instant;
(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 limit; and
(iii) shuts down the heating system of the oven or drier automatically when the concentration in air of 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 the oven or drier and maintained in efficient working condition.
(c) No oven or drier shall be operated 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 clause (b).

(e) Exhaust duds of safety ventilation systems should to so designed and placed that their ducts discharge the mixture of air and flammable substance away from the work-rooms and not near windows or doors or other opening 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 location where the flammable substance can accumulate in the air or become packeted 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 atleast the minimum ventilation rate required for safety when they are set in their maximum throttling position.
(6) Explosion Panels
(a) Every oven or drier having an internal total space of not less than half cubic metre 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 openings 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 centimetre for everyone cubic metre 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 centimetre.

(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 wall where persons do not remain in connection with operation of the oven or drier.
(7) Inter-locking arrangements
(a) In each oven or drier efficient inter-locking arrangements shall be provided and maintained to ensure that:
(i) all ventilating fans and circulating fans whose failure would adversely affect the ventilation rate of 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;
(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 value 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.
(iii) the above said mechanical conveyor is set in operation before the above said shut of value can be energized; and
(iv) the failure of the above said conveyor will automatically close the above said shut of valve in the case of ovens and driers heated by gas.

oil or steam and de-activate the ignition system, or cut off the electrical heaters in the case of electrically heated, ovens or furnaces.
(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 atleast 3 volume changes with fresh air by operation of 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.
(9) Temperature control: Every oven or drier shall be provided with an automatic arrangement to ensure the temperature within does not exceed a safe upper present limit to be decided in respect of the particular processing being carried on.
(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.
(11) Combustible substances not to drip on electrical heaters or burners flame: Effective arrangements shall be provided in every oven or drier to prevent dripping of combustible substances on electric heaters or burner flame used for eating.
(12) Periodic examination testing and maintenance
(a) All parts of every oven and drier shall be properly maintained and thoroughly examined and the various controls as mentioned in these rules and the working of the oven or drier tested at frequent intervals to ensure its safe operation by a responsible person designed 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 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 Operators: 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) Polymerising 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 the polymerising machines.
(b) Infra-red ray heaters of polymerising machines shall be out off while running the prints.]

65L. Examination of eye sight of certain workers
(1) No person shall be employed to operate a crane, locomotive or forklift Truck, or to give signals to a crane or locomotive operator unless his eye sight and colour

vision have been examined and declared fit by a qualified opthalmologist to work whether with or without the use of corrective glasses.
(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 upto the age of 45 years and once in every 6 months beyond that age.
(3) Any fee payable for the examination of a person under sub-rule shall be paid by the occupier and shall not be recovered from that person.
(4) The record of examination or re-examination carried out as required under sub-rule (1) shall be maintained in Form No. 35.

65M. Railways in factories
(1) This rule shall apply to railways in the precincts of a factory which are not subject to Indian Railways Act, 1890.
(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 Turngates
(a) Where building or walls contains doors or gates which open to a railway track a barrier about one metre 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. In 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 the other end opening towards the approaching train.
(b) If the distance between wall and track cannot be made to accommodate such barrier, the barrier or a turngate 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 turngate 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.

(4) Crowds
(a) Workers' 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 ceases for not less than five minutes.
(5) Locomotives
(a) locomotive shall be used in shunting operations unless it is in good working order.
(b) Every locomotive and tender shall be provided with efficient brakes all of which shall be maintained in good working order. Brake shoes shall be

examined at suitable fixed intervals and those that are worn out replaced at once.
(c) Water-guage glasses of every locomotive, whatever its boiler pressure, shall be protected with substantial glass or metal screens.
(d) Suitable steps and hand-holds 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 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 at what radius the crane is safe.
(6) Wagons
(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 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 metres of any authorized crossing.
(7) Ridding on locomotive, wagon or other rolling stock: No person shall be permitted to be upon (whether inside or outside) any locomotive, wagon or after stock except secure foothold and handhold are provided.
(8) Attention to brakes and doors
(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 scotches 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.
(9) Projecting loads and cranes
(a) If the load on a wagon projects beyond its length, a guard or dummy-track 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.
(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 the 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 such brakes. Loose-shunting shall not be performed with; or against a wagon containing passengers, livestock or explosives.

(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 Railway Act (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) A locomotive or train shall not be permitted to move at a speed greater than seven kilometres per hour.
(b) A train, locomotive, wagon or other rolling stock shall not be moved by mechanical or electrical power unless it is preceded at a distance of not less than 10 metres during the whole of its journey by a shunting jamadar. He shall be provided with signalling 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 structures and (iii) tracks and materials deposited 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 metre.
(bb) from a building or structure other than a loading platform nearest track, half the overall width of the widest wagon of that guage plus when opened outward, plus 1.5 metres.
(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 of the overall width of the widest wagon of that guage, plus half the width of its door when opened directly outward, plus 1 metre.

(b) Sleepers of a track shall be in level with the ground and at all crossings of the tract with a road or walkway, the surface of the road or walk way 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 door way or gateway in a building or in a wall which conceals an approaching train form view, between the building and the track as prescribed in clause (a) of sub-rule (3).
(e) Where tracks are carried on a gantry or other elevation, a safe footway or footways with hand rails and toe boards shall be provided at all positions where persons work or pass on foot; and where there is an opening in the stage of an elevated track for the dropping of materials 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 across 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 metres in length, shall be provided with stops at intervals not greater than 15 metres apart to enable the platform to be easily mounted from the track.
(h) Turn tables on plant railways shall be provided with lacking devices which will prevent the tables from turning while locomotives or wagons are being run on or off the tables.
(i) Workers shall be prohibited from passing under, between or above railways wagons.
(17) Crossings
(a) At all crossing of track with a road or walkway, danger or crossing signs and wherever reasonably practicable, blinking lights or alarm light shall be provided. At all important crossing, gates or barriers manned by watchman 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.
(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 defect in permanent way, locomotive or rolling stock.
(19) Young persons not to be employed as drivers of locomotive or as shunt: No person who is under 18 years of age and no person who is not sufficiently competed and reliable shall be employed as a driver of locomotive or as a shunter.
(20) The Chief Inspector may by an order in writing exempt a factory or part of from all or any of the provisions of this rule to such extent and on such conditions as he deems necessary.

65N. Thermic Fluid heaters
(1) All heaters shall be of such construction that coils are removable for periodic cleaning, visual inspection and by hydraulic test.
(2) Suitable arrangement shall be made for cooling the furnace effectively in case of power failure.
(3) Before restarting the furnace, it shall be effectively purged.
(4) Velocity of flow of the thermic fluid shall not be allowed to fail below the minimum recommended by the manufacturers while the heater is in operations.
(5) The thermic fluid shall be circulated in a closed-circuit formation with an expansion-cum-deaerator tank. This tank shall be located outside the shed where the heater is installed.
(6) Every heater shall be provided with Photo-register actuated audio-visual alarm to indicate flame failure and automatic burner cut off.
(7) The stack temperature monitor-cum-controller with audio-visual alarm shall be provided so as to warn the operator in case the outlet temperature exceeds the specified minimum.

(8) Where, inspection doors are provided on the furnace they should be inter-locked 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 outlet line of the heater tubes; and
(iv) Temperature control device for the fuel oil supply to the burner.
(10) All devices mentioned in paragraph 9 shall have inter-locking 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.
(11) All safety inter-locks when operated shall be indicated on the control panel of the heater by a suitable audio-visual alarm.
(12) Every heater unit shall be provided, as standard accessory with an arrangement for sniffing with low pressure steam for nitrogen for putting out the fire.
(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.
(14) The heater shall be located in a place segregated from other manufacturing activities.
(15) Explosion vent shall be so installed that release takes place at safe location.
(16) The heater coil shall be subjected to pressure test by Competent Person once atleast in every 12 months the test pressure shall not be less than twice the operating pressure.

(17) If repairs are carried out to the coil, it shall be tested before taking it into.
(18) The thermic fluid shall conform 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, viscocity and flash point.
(19) Cleaning of the internal surface of the heater for soot and checkup 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.
(20) A separate register containing the following information shall be maintained,
(a) weekly checks carried out confirming the effectiveness of the inter-lock.
(b) weekly checks confirming that all accessories are in good state of repairs; and
(c) information regarding fuel oil temperature, pressure, thermic fluid inlet/outlet pressure and temperature, fuel gas temperature, recorded at 4 hourly interval.
(21) the heater when in operation shall always be kept in charge of trained operator.

65O. Site Appraisal Committee
(1) Constitution
(a) The State Government may constitute a Site Appraisal Committee and re-constitute the Committee as and when necessary;

(b) The State Government may appoint a senior official of the Factories Inspectorate, preferably with knowledge and experience in the field of major hazards to be the Secretary of the Committee;
(c) The State Government may appoint the following as members of the committee:
(i) A representative of the Fire Services Organisation of the State Government;
(ii) A representative of the State Department of Industries;
(iii) A representative of the Director General of Factory Advice Service and Labour Institutes, Ministry of Labour, Government of India.
(2) No member, unless required to do so by a Court of Law, shall disclose otherwise than in connection with the purpose 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 of this Committee.
(3) Application for appraisal of sites

(a) Application for appraisal of sites in respect of the Factories covered under section 2(b) of the Act shall be submitted to the Chairman of the Site Appraisal Committee.
(b) The application for site appraisal, along with 15 copies thereof, shall be submitted in the Form 8C. The Committee may dispense with furnishing information on any particular item in the Applications Form if it considers the same to be not relevant to the application under consideration.
(4) Functions of the Committee
(a) The secretary shall arrange to register the applications received for appraisal of site on 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 the Committee within a period of one month from the date of their receipts.
(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 process and operations in different areas as per the provisions of rule 5 of the Environment (Protection) Rules, 1986, framed under the Environment Protection Act, 1986.
(e) The Committee may call for documents, examine, 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.

65P. Health and Safety Policy
(1) Occupier of every factory, except as provided for in sub-rule (2), shall prepare a written statement of his policy in respect of health and safety of workers at work.
(2) All factories
(a) covered under section 2(m) (i) but employing less than 50 workers.

(b) Covered under section 2(m) (ii) but employing less than 100 workers; are exempted from requirements of sub-rule (1):

Provided that they are not covered in the First Schedule under section 2 (b) or carrying out processes or operations declared to be dangerous under section 87 of the Act.
(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 requirement;
(b) Organizational set-up to carry out the declared policy clearly assigning the responsibility at different levels; and
(c) Arrangements for making the policy effective.
(5) In particular, the policy should specify the following:
(a) arrangements 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 the contractors, sub-contractors, transporters and other agencies entering the premises.
(d) Providing a resume of health and safety performance of the factory on 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 medical measures.
(f) Stating its intentions of integrate health and safety in all decisions, including those dealing with purchase of plant, equipments machinery and material, as well as selection and placement of personnel.
(g) Arrangements for informing, 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 Inspectorate having jurisdiction over the factory and to the Chief Inspector.
(7) the policy shall be made widely known 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
(c) any other means of communication; in a language understood by majority of workers.
(8) The occupier shall revise the Safety Policy as often as may be appropriate, but it shall necessarily be revised under the following circumstances:
(a) whenever any expansion or modification having implications on safety and health of persons at work is made; or

(b) whenever new substance (s) or articles are introduced in the manufacturing process having implications on health and safety of persons exposed to such substances.

65Q. Collection and development and dissemination of information

(1) Material Safety Data Sheet: The occupier of every factory carrying on 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 handle 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;

(ii) Hazardous ingredients of the substance;

(iii) Physical and chemical characteristics of the hazardous substance;

(iv) The physical hazards of the hazardous substance, including the potential for fire, explosion and reactivity;

(v) The health hazards of the hazardous substances, including signs and symptoms of exposure, and any medical conditions which are generally recognized as being aggravated by exposure to the substance;

(vi) The primary route (s) of entry;

(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;

65R. Disclosure of information to workers

(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 section 4T B, 41 C and 41 H of the Act;

(b) A list of ‘hazardous process’ carried on in the factory;

(c) Location and availability of all Material Safety Data Sheets as per rule 65-Q;

(d) Physical and health hazards arising from the exposure to or handling of substances;

(e) Measures taken by the occupier to ensure safety an control of physical and health hazards;

(f) Measures 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 operations;

(h) Meaning of various tables and markings used on the containers of hazardous substances as provided under rule 65-Q;

(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 spillage or leakage of a hazardous substance;

(k) Rule of workers 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 complied 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 are displayed in the factory shall be in the language understood the majority of the workers, and also explain to them.
(4) The Chief Inspector may direct the occupier to supply further information to the workers as deemed necessary.

65S. Disclosure of information to general public
(1) The occupier of every factory carrying on 'hazardous process' shall in consultation with the District Emergency Authority designated by the State Government, take appropriate steps to inform the general public who are likely to be in the area which might be affected by an accident. Such information shall, include;
(a) name of the factory and address where situated;
(b) identification, by name and position, of the person giving the information.
(c) confirmation that the factory has approval from the Factories Inspectorate and Pollution Control Board;
(d) an explanation in simple terms of the process(es) carried on in the premises;
(e) the common names of the hazardous substances used which could give rise to an accident likely to affect them, with an indication of their principle harmful characteristics;
(f) brief description of the measures to be taken to minimise the risk of such an accident in compliance with its legal obligations under relevant safety statutes;
(g) salient features of the approved disaster control measure adopted in the factory;
(h) Details of the factory's emergency warning system for the general public;
(i) General advice on the action members of the public should take on hearing the warning;

(j) Brief description of arrangements in the factory, including liaison with the emergency' services, to deal with foreseetable accidents of such nature and to minimise their effects; and
(k) Details of where further information can be obtained.
(2) The occupier shall also supply any further information;
(a) to general public as directed by the District Emergency Authority from time to time;
(b) to the elected representatives of the general public on request;
(3) The occupier shall endeavour to enter an agreement whose jurisdiction the with the District Emergency Authority for the area, within whose jurisdiction the factory is situated, for the District Emergency Authority to take appropriate step to inform the general public outside the factory who are likely to be affected by an accident as required in sub-rule (1).
(4) The information prescribed in sub-rule (1) shall be in the regional language and in English or Hindi.

65T. Disclosure of information to the local authority
The occupier of every factory carrying on a 'hazardous process' shall furnish the following information in writting to the local authority having jurisdiction over the areas in which the factory is situated;
(a) the information furnished to general public as prescribed in rule 65S;

(b) a statement of the names and quantities generally stored or in process of hazardous substances included in the list of chemicals prescribed under clauses (vi) and (vii) of sub-section (2) of section 3 of the Environment (Protection) Act; 1986.

65U. Disclosure of information to District Emergency Authority

The occupier of a factory carrying on a hazardous process, shall intimate the District Emergency Authority designated the State Government; all information having a bearing on preparation of an on-site emergency plan and a disaster control management plan in respect of the factory. Without prejudice to generality of this clauses the occupier furnish the District Emergency Authority the following:

(a) a report on status relating to risk, assessment and environmental impact assessment and the measures taken for prevention of accidents.

(b) compilation of Material Data Sheets in respect of hazardous substances used, produced or stored in the factory.

(c) a statement on all possible sources of accident involving fire, explosion, release or leakage of toxic substances and the plan of the premises where such an accident may occur.

(d) a statement on resources and facilities available for dealing with an emergency including any agreement entered into with a neighbouring factory for aid and assistance in the event of an emergency.

(e) a map of the area showing the approaches to the factory, location of emergency facilities such as hospitals, poked, fire service.

(f) the organisation of the management and the responsibility for safety medicating therein the persons responsible for on-sits emergency action.

(g) details relating to alert system.

(h) information on availability of antidotes for poisoning resulting from an accident.

(i) any other information as may be considered relevant by the occupier or asked for by the District 'Emergency Authority.

65V. Disclosure of information to the Chief Inspector

(1) The occupier of every factory carrying on hazardous process shall furnish, in writing, to the Chief Inspector a copy of the information furnished to the workers, local authority general public and the District Emergency Authority.

(2) A copy, of compilation of Material Safety Data Sheets in respect of hazardous substances used, produced or stored by the factory shall be furnished to the Chief Inspector, and the local Inspector.

(3) The occupier, shall also furnished any other information sited for by the Chief Inspector from time to time for the purpose of this Act and rules made thereunder.

65W. Emergency Plan

(1) The occupier of a factory carrying on a hazardous process shall prepare a draft on-site emergency plan and submit it to the Chief Inspector. The Chief Inspector may make such modifications in the plan as necessary in consultation with the occupier and approve the same.

(2) The occupier will submit a copy of the approved plan to the District Emergency Authority.

(3) The occupier will intimate the workers the provisions of the emergency plan and hold rehearsals of the plan periodically. He shall review the plan from time to time and make necessary changes therein under intimation to the Chief Inspector and the District Emergency Authority.
(4) The Chief Inspector may issue guidelines relating to- formulation of emergency plans, He may also direct modifications of the emergency -plan in respect of any factory as may be necessary, from time to time.

65X. Disaster Control and Management Plan
(1) The occupier of every factory carrying on hazardous process shall prepare a draft disaster control and management plan in respect of his factory and submit the same to the Chief Inspector, and the District Emergency Authority.

(2) The District Emergency Authority on receipt of the plan shall hold consultation with the occupier, representatives of the Chief Inspector, the State Pollution Control Board, local authority as well as police, health, fire brigade and other authorities concerned and finalise the plan.
(3) The District Emergency Authority shall forward a copy of the final plan to the occupier and all authorities concerned. The occupier shall intimate the workers the contents of the plan.
(4) The occupier in consultation with the District Emergency Authority will arrange rehearsals of the plan at least once a year.
(5) The Chief Inspector may issue guidelines for formulation of disaster control and management plans. The Chief Inspector as well as the District Emergency Authority may after mutual consultation also direct modifications of the disaster control and management plan in respect of a factory as may be necessary from time to time,

65Y. Information on industrial wastes
(1) The information furnished under rules 65R, 65T, 65U and 65V shall include the quantity of the solid and liquid wastes generated per day, their characteristics and the method treatment such as incineration of solid wastes, chemical and biological treatment of liquid wastes and arrangements for their final disposal.
(2) It shall also include information on the quality and quantity of gaseous waste discharged through the stacks or other openings and arrangements such as provision of scrubbers, cyclone separators, electrostatic precipitators or similar such arrangements made for controlling pollution of the environment.
(3) The occupier shall also furnish the information prescribed in the sub-rules (1) and (2) to the State Pollution Control Board.

65Z. Review of the Information furnished to workers, etc.
(1) The occupier shall review once in every calendar year and modify, if necessary, the information furnished under rules to 65 V to the workers, general public, local authority Chief Inspector and the District Emergency Authority.

(2) In the event of change in the process or operations or methods of work or when any in the process or in the event of a serious accident taking place, the information so furnished, shall be reviewed and modified the extent necessary.

65AA. Confidentiality of information

The occupier of the factory carrying on 'hazardous process' shall disclose all information needed for protecting safety and health of the workers and the general public in the neighbourhood to;

(a) his workers;

(b) District Emergency Authority; and

(c) Chief Inspector as required under rules 65R, 65O and 65V. If the occupier is of the opinion that the disclosure details regarding the process and formulations 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 an order on the representation.

An occupier aggrieved by an order of Chief Inspector may prefer an appeal before the State Government within a period of 30days. 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.

65 AB. Specific responsibility of the occupier in to hazardous process

(1) 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 fitness of the person to do the particular job;

(b) Once in a period of 6 months, to ascertain the health status of all the workers in respect of occupational health hazards to which they are exposed and in case wherein the opinion of the Factory Medical Officer it is necessary to do so, at a shorter interval in respect of any workers;

(c) The details of pre-employment and periodical medical examinations carried out as aforesaid, shall be recorded in the Health Register in Form 16-A.

(2) No person shall be employed for the first time without a certificate of fitness in Form 26 granted by the Factory Medical Officer. lf the Factory Medical Officer declares a person unfit for being employed in any process covered under sub-rule (1) such 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 is also a Certifying Surgeon, be may dispose of the application himself.

(3) 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 shall be provided with alternate placement unless he is in the opinion of the

Certifying Surgeon, fully incapacitated in which case the worker affected shall be suitably rehabilitated.
(4) A Certifying Surgeon on his own motion or on a reference from an Inspector may conduct medical examination of a worker to ascertain the suitability of his employment in a hazardous process or for ascertaining his health, status. 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.
(5) The worker taken away from employment in 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 entries to that effect in the health register.

(6) The worker required to undergo medical examination under these rules and for any medical survey conducted by or on behalf of the Central or the State Government shall not refuse to undergo such medical examination.

65 AC. Occupational Health Centres
(1) 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 scales laid down hereunder;
(a) For factories employing up to 50 workers,
(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 examination as stipulated in Rule-65 AB and under medical assistance during any emergency;
(ii) a minimum of 5 persons trained in first-aid procedures amongst whom at least one shall always be available during the working period;
(iii) a fully equipped first-aid, box
(b) For factories employing 51 to 200 workers,
(i) an Occupational Health Centre having a room with a minimum floor area of 15 sqm. with floors and walls made of smooth and impervious surface and with adequate illumination and ventilation as well as equipment as per the Schedule annexed to this rule;
(ii) a part-time Factory Medical Officer shall be in overall charge of the centre who shall visit the factory at least 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 departments.
(c) For factories employing above 200 workers,
(i) one full-time Factory Medical Officer for factories employing up to 500 workers and one more Medical Officer for every additional 1,000 workers or part thereof;
(ii) an Occupational Health, Centre having at least 2 rooms each with a minimum floor, area 15 of square metres with floors and walls made of smooth and impervious surface and adequate illumination 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.

(2) The Factory Medical Officer required to be appointed under sub-rule (1) shall have qualifications included in Schedules to the Indian Medical Degrees Act of 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,
(i) a person possessing a Diploma in Industrial Health or equivalent shall not be required to possess the certificate of training as aforesaid;
(ii) 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;
(iii) in case of a person who has been working as a Factory Medical Officer for a period of not less than three years on the date of commencement of this rule the Chief Inspector subject to the condition that the said person shall obtain the aforesaid certificate of training with a period of three years; relax- the qualification.
(3) The syllabus of the course leading to the above certificate and the organisations conducting the course shall be approved by the Directorate General of Factory Advice Service and Labour Institutes or the State Government in accordance with the guidelines issued by the Directorate General of Factory Advice Service and Labour Institutes.
(4) Within one month of the appointment of a Factory Medical Officer, the occupier of the Factories shall furnish to the Chief Inspector the following particulars;
(a) name and address of the Factory Medical Officer;
(b) qualifications;
(c) experience, if any; and
(d) the sub-rule under which appointed.

SCHEDULE
[Prescribed under sub-rule (1) (e) (ii) of rule 65 AC]
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 at least 180ms x 105 cms.
3. Means for sterlizing instruments.
4. A cough
5. Two buckets or container with close fitting lids.
6. A kettle and spirit stove or other suitable means of boiling water.
7. One bottle of spirituous ammoniac aromaticus (120 ml).
8. Two medium size sponges.
9. Two kidney trays.

10. Four cakes of toilet, preferably antiseptic soap.
11. Two glass tumblers 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 toxoid.
21. Ceramine liquid (60 ml).
22. Tables-antihistaminic, antipasmatic (25 each).
23. Syringes with needles – 2 cc, 5 cc, and 10 cc.
24. Two needle holders, (big and small).
25. Suturing needles and materials.
26. One dissecting forceps.
27. One dressing forceps.
28. One scalpels.
29. One stethoscope.
30. Rubber bandage- pressuring bandage.
31. Oxygen cylinder with necessary attachments.
32. One blood pressure apparatus.
33. One Patellar Hammer.
34. One Peak-flow meter for lung function measurements.
35. One Stomach wash set.

Any other equipment recommended by the factory Medical Officer according to specified need relating to manufacturing process.

I. In addition:

(a) For factories employing 51 to 200 workers:

1. Four plain wooden splints 900 mm x 100 mm x 6 mm
2. Four plain wooden splints 350 mm x 75 mm x 6 mm
3. Two plain wooden splints 250 mm x 50 mm x 12 mm
4. One pair artery forceps.
5. Injections-Morphine, Pethidine, Atropine, Adrenaline, Ceramine, Novacan (2 each)
6. One surgical scissors.

(b) For factories employing above 200 workers:

1. Eight plain wooden splints 900 mm x 100 mm x 6 mm
2. Eight plain wooden splints 350 mm x 75 mm x 6 mm
3. Four plain wooden splints 250 mm x 50 mm x 12 mm
4. Two pairs of artery forceps

5. Injections – Morphine, Pethidine, Atropine, Adrenaline, Ceramine, Novacan (4 each)
6. Two pair of surgical scissors.

65AD. Ambulance Van

(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, any make arrangements for procuring such facility at short notice from nearby hospitals 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 oxygen supply with equipment;
---Pillow with case—sheets—blankets--towels;
---Emmesis bag—Bed-pan—Urinal Glass.
(b) Safety equipment

--Flares with life of 30 minutes--Flood lights;
--Flash lights--Fire extinguisher dry powder type;
--Insulated gauntlets.
(c) Emergency care equipments
(i) Resuscitation

--Portable suction unit--Portable oxygen units;
--Bag-Valve-Mask, hand operated artificial ventilation unit;
--Airways--Mouth Gags--Trachustomy adoptors;
--Short spine board - I.V. fluids with administration unit;
--B.P. manometer-cum-Stethescope.
(ii) Immobilization

--Long and short padded boards--Wire ladder splints;
--Triangular bandage--Long and short spine boards.
(iii) Dressings

--Gauge pads- 4" x 4"--Universal dressing 10" x 36"

--Roll of aluminium foils--soft roller bandages
--6 x5 yards--Adhesive tape in 3" roll--safety pins;
--Bandage sheets--Burn sheet.
(iv) Poisoning

--Syrup of Specaes--Activated Charcoal pre-packed in doses--Snake bite kit;

--Drinking water
(v) Emergency Medicines

As per requirements (under the advice of Medical Officer only.)

65AE. Decontamination facilities

In every factory, carrying out 'hazardous process', the following provisions shall be made to meet emergency;
(a) fully equipped first aid box;
(b) ready accessible means of water for washing by workers as well as for drenching the clothing of workers who have been contaminated with hazardous and corrosive substances; 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**
(1)	(2)
(i) Upto 50 workers	2
(ii) Between 51 to 200 workers	2+1 for every additional 50 or part thereof
(iii) Between 201 to 500 workers	5+1 for every additional 100 or part thereof
(iv) 501 workers and above	8+1 for every additional 200 or part thereof

(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.

65AF. Making available Health Records to workers

(1) The occupier of every factory carrying out a 'hazardous process' shall make accessible the health records including the record of workers exposure to

hazardous processor 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 of the Certifying Surgeon, as the case may be, is of the opinion that the worker has manifested signs and symptoms of any noticeable disease 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 the 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;
(2) A copy of the upto date health records including the record of workers' exposure to hazardous process 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.

65AG. Qualifications, etc., of supervisors
(1) All persons who are required to supervise the handling of hazardous substances shall possess the following qualifications and experience;
(a)
(i) A Degree in Chemistry or Diploma in chemical Engineering or Technology with 5 years experience; or
(ii) A Master's Degree in Chemistry or a Degree in Chemical Engineering or Technology with 2 years experience

The experience stipulated above shall be in process operation and maintenance in the Chemical Industry.
(b) The Chief Inspector may require the supervisor to undergo training in Health and Safety.
(2) The syllabus and duration of the above training and the organisations conducting the training shall be approved by the Director General Factory Advice Service and Labour Institutes or the State Government, in accordance with the guidelines issued by the Directorate General, Factory Advice Service and Labour Institute.

65AH. Issue of guidelines

For the purpose of compliance with the requirements of sub-sections (1), (4) and (7) of section 41-B or 41-C, the Chief Inspector may, if deemed necessary, issue guidelines from time to the occupiers of factories carrying on 'hazardous process' Such guideline's may be based on National Standards, Codes of Practice, or recommendations of International Bodies such as International Labour Organisation and World Health Organisation.
CHAPTER V
WELFARE
66. Washing facilities

(1) This rule 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) 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 provisions, the washing facilities shall include,
(a) a trough with taps or jets at intervals of not less than 61 centimeters, or
(b) wash-basins with taps attached thereto, or
(c) taps on stand-pipes, or
(d) showers controlled by taps, or
(e) circular troughs of the fountain type, 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,
(f) or such other washing facilities as the Inspector may consider sufficient and suitable in the circumstances of each case.
(4)
(a) Every trough and basin shall have a smooth, impervious surface and shall be fitted 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:

Number of workers	Number of taps
Up to 20	1

21 to 35	2
36 to 50	3
51 to 150	4
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

(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 27.3 liters 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 an 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 the factory.

67.

All classes of factories mentioned in the schedule annexed hereto shall provide facilities for keeping clothing not worn during working hours and for the drying of wet clothing. Such facilities shall include the provision of separate rooms, bags, lockers or other arrangements approved by the Chief Inspector of Factories.

SCHEDULE

Glass Works
Engineering Works
Iron and Steel Works
Oil Mills
Chemical Works
Automobile Workshop
Dyeing Works

68. First-aid appliances

(1) The first-aid boxes or cupboards shall be distinctively marked with a red cross on white background and shall contain the following equipment:
A. For factories in which the number of persons 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 sterilised dressing;
(ii) Three medium size sterilised dressings;
(iii) Three large size sterilised dressings;
(iv) Three large size sterilised burns 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 of scissors.
(ix) One roll of adhesive plaster (2 cms x 1 m)
(x) Six pieces of sterilised eye pads in separate sealed packets.

(xi) A bottle containing 100 tablets (each of 5grains) of aspirin or any other analgesic
(xii) Polythene wash bottle (1/2 litre 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 Labour Institutes, Government of India, Bombay.
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,
(i) Twelve small size sterilised dressings.
(ii) Six medium size sterilised dressings
(iii) Six large size sterilised burn dressings.
(iv) Six large size sterilised burn dressings
(v) Six (15 gm.) packets of sterilised cotton wool.
(vi) One (120 ml.) bottle of certimide solution (1%) or a suitable antiseptic solution.
(vii) One (120 ml.) bottle of mercurochrome solution (2%) in water.
(viii) One (60 ml.) bottle containing sal-volatile having the does and mode of administration indicated on the label.
(ix) One pair of scissors
(x) Two rolls of adhesive plaster (2 cm x 1 m)

(xi) Eight pieces of sterilised eye pads in separate sealed packets.
(xii) One tourniquet
(xiii) One dozen safety pins
(xiv) A bottle containing 100 tablets (each of 5 granis) of aspirin or any other analgesic.
(xv) One polythene wash bottle (1/2 litre i.e. 500 c.c.) for washing eyes.
(xvi) A snake-bite lancet.
(xvii) One (30 ml) bottle containing Potassium Permaganate crystals.)
(xviii) One copy of the first-aid leaflet issued by the Directorate General of Factory Advice Service and labour Institutes Government of India, Bombay.
C. For factories employing more than fifty persons, each first-aid box or cupboard shall contain the following equipments,
(i) Twenty four small sterilised dressings.
(ii) Twelve medium size sterilised dressings.
(iii) Twelve large size sterilised dressings.
(iv) Twelve large size sterilised burn dressings.
(v) Twelve (15 gm) packets of sterilised cotton wool.
(vi) One (200 ml) bottle of cetrimide solution (1%) or a suitable antiseptic solution.
(vii) One (120 ml) bottle of mercurochrome (2%) solution in water.
(viii) One (120 ml) bottle of sal-volatile having the dose and the mode of administration indicated on the label.
(ix) One pair of scissors
(x) One roll of adhesive plaster (6 cm. X 1 m.)
(xi) Two rolls of adhesive plaster (2 cm. X 1 m.)

(xii) Twelve pieces of sterilised eye pads in separate sealed packets.
(xiii) A bottle containing 100 tablets (each of 5 granis) of aspirin or any other analgesic.
(xiv) One polythene wash bottle (500 cc) 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 crystals.
(xxiv) One copy of first-aid leaflets issued by the Directorate General of Factory Advice Service and Labour Institutes, Government of India, 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 a t 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 dressing required under items (i) and (ii) there may be substituted adhesive wound dressings by the Chief Inspector of Factories and other equipment or medicines that may be considered essential and recommended by the Chief Inspector from time to time.

68A. Notice regarding first-aid
A notice containing the names of the person working within the precincts of the factory who are trained in first-aid treatment and who are trained in first-aid boxes or cupboards shall be posted in every factory at a conspicuous place and near such box or cupboard. 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.
69. Ambulance Room
(1) Every ambulance room shall be under the charge of atleast 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 where a factory works in more than one shift:

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, it is not necessary to employ a whole-time medical officer for each shift separately, may, with the previous approval of the State Government, grant exemption from the provisions of this sub-rule and permit employment of only one whole-time medical officer for more than one or all shifts, subject to the conditions that,
(a) There shall be no relaxation in respect of nursing staff.

(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 or dispensary a notice giving 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.

(2A) No Medical officer shall be required or permitted to do any work which is inconsistent with or detrimental to his responsibilities under this rule.
(3) The ambulance room 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 square meters and smooth, hard and impervious walls and floors, and shall be adequately ventilated and lighted by both natural and artificial means. There shall be attached to it as least one latrine and urinal of sanitary type. An adequate supply of wholesome drinking water shall be in the ambulance room and the room shall contain at least:
(i) A glazed sink with hot and cold water always available.
(ii) A table with a smooth top at least 180 cm X 105 cms.
(iii) Means for sterilising instruments.
(iv) A couch.
(v) Two stretchers.
(vi) Two buckets or containers with close fitting lids.
(vii) Two rubber hot water bags.
(viii) A kettle and spirit stove or other suitable means of boiling water.
(ix) Twelve plain wooden splints 900 mm X 100 mm X 6 mm.
(x) Twelve plain wooden splints 350 mm X 75 mm X 6 mm.
(xi) Six plain wooden splints 250 mm X 50 mm X 12 mm.
(xii) Six woolen blankets.
(xiii) Three pairs artery forceps.
(xiv) One bottle of spiritus Ammoniac Aromaticus (120 ml.)
(xv) Smelling salts (60gm.).
(xvi) Two medium size sponges.
(xvii) Six hand towels.
(xviii) Four “kidney” trays.
(xix) Four cakes of toilet, preferably antiseptic soap.
(xx) Two glass tumblers and two wine glasses.
(xxi) Two clinical thermometers.
(xxii) Two teaspoons.
(xxiii) Two graduated (120 ml.) measuring glasses.
(xxiv) Two minimum measuring glasses.
(xxv) One wash bottle (1000 c.c.) for washing eyes.

(xxvi) One bottle (one litre) carbolic lotion 1 in 20.
(xxvii) Three chairs.
(xxviii) One screen.

(xxix) One electric hand torch.
(xxx) Four first-aids boxes or cupboard stocked to the standard prescribed under C of rule 63.
(xxxi) An adequate supply of anti-tetanus toxiod
(xxxii) Injections – morphine, pethidine, atropine, adrenaline, coramine, novocan (6 each).
(xxxiii) Coramine liquid (60 ml.).
(xxxiv) Tablets-antihistaminic, antispasmodic (25 each).
(xxxv) Syringes with needles-2cc, 10 cc. And 50 cc.
(xxxvi) Surgical Scissors-Three.
(xxxvii) Needle holder.
(xxxviii) Suturing needles and materials.
(xxxix) Three dissecting forceps.
(xl) Three dressing forceps
(xli) Three scalpels.
(xlii) One stethescope.
(xliii) Rubber bandage – pressure bandage.
(xliv) Oxygen Cylinder with necessary attachments.
(4) The occupier of every factory to which these rules apply shall for the purpose of removing serious case of accidental or sickness, provide in the premises and maintain in good condition a suitable conveyance unless he has made arrangements of obtaining such a conveyance from a hospital.

Explanation: For the purpose of this rule, “qualified medical practitioner” means a person holding qualification granted by an specified in the Schedule to the Indian Medical Degrees Act, 1916, or in the Schedule to the Indian Medical Council Act, 1956.
(5) A record of all cases of accident and sickness treated at the room shall be kept and produced to the Inspector or Certifying Surgeon when required.
(6) The Chief Inspector may, by an order in writing exempt any factory from the requirements of this rule, subject to such conditions as he may specify in that order, if a hospital, ambulance room or dispensary is maintained at or near the factory and such arrangements are made as to ensure the immediate treatment of all injuries sustained by workers within the factory and for providing rest to the injured workers.

70. Canteens

(1) Rules 70 to 76 shall come into force in respect of any class or description or factories on such dates as the State Government may, by notification in Official Gazette, appoint in this behalf.
(2) The occupier of every factory notified by the State Government and wherein more than 250 workers are ordinarily employed shall provide, in or near the factory, an adequate canteen according to the standards prescribed in these Rules.
(3) The Manager of a 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 at a distance of not less than 15.2 meters from any latrine, urinal, boiler house, coal stacks, ash dumps and any other source of dust, smoke or obnoxious fumes:

Provided that the Chief Inspector may in any particular factory relax the provisions of this sub-rule to such an extent as may be reasonable in the circumstances and may require adequate measures to be adopted to secure the essential purpose of this sub-rule.
(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, store room, pantry and washing places separately for workers and for utensils. The minimum height of the building, shall be not less than 3.7 metres and all the walls and roofs shall be of suitable heat-resisting materials and shall be water-proof.
(6) In a canteen, the floor and inside walls upto a height of 1.2 meters 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 order manner approved by the Chief Inspector.
(7) The doors and windows of a canteen building shall be of flyproof construction and shall allow adequate ventilation.
(8) The canteen shall be sufficiently lighted at all times when any persons have access to it,
(9)
(a) In every canteen,
(i) All inside walls of rooms and all ceilings and passagers and staircases shall be lime-washed or colour-washed at least once in each year or painted once in three year dating from the period when last lime-washed, colour-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 shall 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, colour-washing, varnishing or painting is carried out shall be maintained in the prescribed 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 suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance. Suitable arrangements shall be made for the collection and disposal of garbage.

71. Dining hall
(1) The dining hall shall accommodate at a time at least 30 per cent of the workers working at a time.

Provided that, in any particular factory or in any particular class of factories, the Inspector of Factories may, by an order in this behalf; after the percentage of workers to be accommodated.

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

Provided that where the chief inspector is satisfied that satisfactory alternate arrangements are made, he may exempt any particular factory or class of factories form the provisions of the sub-rule.
(5) Soaps and towels should be provided at the washing places in the canteen for the use of the workers.

72. Equipment
(1) There shall be provided and maintained sufficient utensils, crockery, cutlery, furniture and any other equipment necessary for clothes for the employees serving the canteen shall also be provided and maintained
(2) The furniture, utensils and other equipments shall be maintained in clean and hygienic conditions. A service counter, if provided, shall have a top of smooth and impervious material. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipments.
(3) Food and food materials should be stored in fly-proof safes and handled with the help of wooden ladles or suitable metal forceps whichever is convenient. Vessels once used should be scaled before being used again.

73. Prices to be charged
(1) Food, drink and other items served in the canteen shall be on a non-profit basis and the prices charged shall be subject to the approval of the Canteen Managing

Committee. In the event of the committee not approving the price list should be sent to the Chief Inspector for approval.
(2) 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:
(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 purchases, 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 or heating foodstuffs or water; and

(g) The wages of the employees serving in the canteen and the cost of uniforms, if any, provided to them.
(3) The charges per portion of foodstuffs, beverages and any other items served in the canteen shall be conspicuously displayed in the canteen.

74. Accounts
(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.
(2) The accounts pertaining to the canteen shall be audited, once in every twelve months, by registered accountants and auditors. The balance sheet prepared by the said auditors shall be submitted to the Canteen Managing Committee not later than two months after the closing of the audited accounts:

Provided that the accounts pertaining to the canteen in a Government factory having its own Accounts Department, may be audited in such Department:
75. Managing Committee
(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 menus;
(c) the time of meals in the canteen; and
(d) any other matter pertaining to the canteen as may be directed by the Committee:
(2) The Canteen Managing Committee shall consist of an equal number of persons nominated by the occupier and those elected by the workers. The number of elected workers shall be in the proportion of 1 for every 1000 workers employed in the factory, provided than in no case shall there be more than five or less than

two workers on the Committee and in case where the workers refuse to elect their representatives the occupier shall himself nominate the worker's representatives.
(3) The occupier shall appoint form among the persons nominated him, a Chairman of the Canteen Managing Committee.
(4) The manager shall determine and supervise the procedure for elections to the Canteen Managing Committee.
(5) A Canteen Managing Committee shall be dissolved by the Manager, two years after the last election, no account being taken of a bye-election or its constitution, as the case may be.
(6) Where the workers of a factory in which a canteen has been provided by the occupier in accordance with rules 70 to 72 for the use of the workers, desire to run the canteen by themselves on a co-operative basis with share capital contributed by themselves, the management may permit them to run the canteen, in accordance with the bye-laws of Cooperative Canteen, the Puducherry Cooperative Societies Act, 1972 as extended to Puducherry and the rules framed thereunder, subject to such conditions the Chief Inspector may in consultation with the Register of Cooperative Societies Puducherry, impose.

(7) The provisions of sub-rule (1) of rule 73, sub-rule (2) of rule 74 and sub-rules (1) to (5) of rule 75 shall not apply to canteens which are run on co-operative basis by the workers themselves and which are recognized by the Chief Inspector.

76.

The provisions of rules 70 to 75 may be relaxed by the Chief Inspector, subject to such conditions as he may deem fit, in the case of factories belonging to the same business groups or amalgamation where centralized cooking in an approved industrial canteen is arranged for. Adequate arrangements to the satisfaction of the Chief Inspector shall, however, be made in such cases for the conveyance and proper distribution of the food so cooked to the workers concerned as if separate canteens had actually been provided at site in the factories covered by this relaxation.

77. Shelters, rest rooms and lunch rooms

(1) This rule shall apply to any factory wherein more than one hundred and fifty workers are ordinarily employed.

(2) The shelters, or rest rooms and lunch rooms shall conform to the following standards and the manager of a factory shall submit for the approval of the Chief Inspector plans and site plans in triplicate of the building to be constructed or adapted:

(a) The building 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 walls to a height of 91.4 centimeters shall be so laid or finished as to provide a smooth, hard and impervious surface.

(b) The height of every room in the building shall be not less than 3.7 meters from floor level to the lowest part of the roof and there shall be at least 1.1 square meters of floor area for every person employed:

Provided that (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 (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 1.1 square meters 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 also be provided and maintained sufficient and suitable natural or artificial lighting.

(d) Every room shall be adequately furnished with chairs or benches with back-rests.

(e) Sweepers shall be employed whose primary duty it is to keep the rooms, building and precincts thereof in a clean and tidy condition.

(f) Suitable provisions shall be made in every room for supply of drinking water and facilities for washing.

(3) The lunch rooms shall,

(a) Comply with the requirements laid down in clause (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.

78. Creches

(1) Rules 78 to 81 shall apply to any factory wherein more than fifty women workers are ordinarily employed.
(2) The crèches shall conform to the following standards and the manager of the factory shall submit for approval of the Chief Inspector, detailed plans in triplicate of the building to be constructed or adapted.
(3) The crèche 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 the 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.
(4) The building in which the crèche is 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 crèche to a height of 1.2 meters all round shall be so laid or finished as to provide a smooth impervious surface.
(5) The height of the rooms in the building shall be not less than 3.7 meters from the floor to the lowest part of the roof and then shall be not less than 1.9 square meters or floor area for each child to be accommodated.
(6) Effective and suitable provision shall be made in every part of the crèche for securing and maintaining adequate ventilation by the circulation of fresh air.

(7) The crèche 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) at least one chair or equivalent seating accommodation for the use of each mother while she is feeding or attending to her child and a sufficient supply of suitable toys for the older children.
(8) A suitably fenced and shady open air playground shall be provided for the older children:

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 playground.

79. Washroom

There shall be in or adjoining the creche a suitable washroom for the washing of the children and their clothing. The washroom shall conform to the following standards:
(a) the floor and internal walls of the room to a height of 91.4 centimeters 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 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 22.7 liters of water a day; and
(c) an adequate supply of clean clothes, soap and clean towels shall be made available for each child while it is in the creche.
(d) Adjoining the washroom referred to in sub-rule (1), a latrine shall be provided for the sole use of the 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 of Factories.

80. Supply of milk and refreshment

At least 284.1 ml. of clean pure milk shall be provided for each child every day it is accommodated in the creche and the mother of such a child shall be allowed in the course of her daily work two intervals of at least fifteen minutes to feed the child. For children above two years of age there shall be provided in addition an adequate supply of wholesome refreshment.

81. Crèche staff and clothes for crèche staff

(1) The occupier shall appoint a qualified nurse or midwife with sufficient number of ayahs, the number calculated at the rate of one ayah for every 30 children or part thereof for the purposes of looking after the children accommodated in the crèches and the occupier shall provide suitable equipment and the facilities for the purpose:

Provided that the occupier may appoint a nurse or midwife who is not qualified if the Chief Inspector, in consultation with the Director of Medical Services, certifies that such nurse or midwife is suitable for appointment under this sub-rule.

(2) The crèche staff shall be provided with suitable clean clothes by the occupier for use while on duty in the crèche.

81-A. Exemption from the provision 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 48 and the rules 73 to 76, if he is satisfied that alternate arrangements as stipulated under sub-rule (2) are provided by the factory.

(2)

(a) The alternate arrangements required in sub-rule (1) shall include a creche building which has a minimum accommodation at the rate of 1.85 square meters per child and constructed in accordance with the plans approved by the Chief Inspector.

(b) The creche buildings shall have:

(i) a suitable washroom for washing of the children and their clothing.

(ii) Adequate supply of soap and clean clothes and towels; and

(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.

(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 the provision of this rule.

CHAPTER VI

WORKING HOURS OF ADULTS

82. 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 sub-

section (1) of section 53 of the Act shall be so spaced that not more than two holidays are given in one week.
(2) The Manager of the factory shall display, on or before the end of the month 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.

(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 discharge or dismissal.
(4)
(a) The Manager shall maintain a register in Form No. 9.

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 enforcement of section 52 he may by order in writing, direct that birch 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 tinder this rule for that factory.
(b) The register maintained under clause (a) shall be preserved for a period of three years after the last entry in it and shall be produced before the Inspector on demand.

83. Muster-roll for exempted factories
The Manager of every factory in which workers are exempted under sub section 64 or 65 from the provisions of section 51 or 54 shall keep a muster-roll in Form No. 10 showing the normal piece-work rate of pay or the rate of pay per hour of all exempted employees. In this muster-roll shall be correctly entered the overtime hours of work and payments therefor of all exempted workers. The raster-roll in Form No. 10 shall always be available for inspection.
84. Method of calculating cash equivalent on account of concessional sale of food grains and other articles
(i) The cash equivalent of the advantage accruing through the concessional sale to a worker of food grains and other articles shall be computed at the end of every wage period fixed under the provisions of the Payment of Wages Act, 1936.
(ii) For the purpose of computing cash equivalent of the advantage accruing through the concessional sale to a worker of food grains and other articles, the difference between the value of food grains and other articles, at the average market rates prevailing during the wage period in which overtime was worked and value of food grains and other articles supplied at concessional rates shall be calculated and allowed for the number of overtime hours worked:

Provided that this rule shall not apply to any railway factory whose alternative method of computation has been approved by the State Government.
85. Overtime slips

Period of overtime work shall be entered in the overtime slip in duplicate and a copy of the slip signed by the Manager or by a person authorised by him shall be given to the worker immediately after the completion of the overtime work:
Provided that the Chief Inspector may by order in writing exempt any factory or class of factories from the provisions of this rule, subject to such conditions as he may impose,

if he is satisfied that any alternative system followed therein, is adequate to meet the requirements of this rule.

86. Restriction of double employment

An adult worker may be employed, in more than one factory on the same day, with the previous approval of the Inspector, subject to the following conditions:
(1) He shall not be employed for more than nine hours in all on any one day.
(2) He shall receive a weekly holiday in accordance with the provisions of section 52.
(3) Every worker who is required to work in another factory on the same day shall carry with him a card in which the following particulars shall be entered by the Manager of the first factory.
(a) His normal periods of work as the notice of period of work, for the day.
(b) The period or periods he has worked in the first factory for the day.

The Manager of the second factory in which he is to work for the rest of the day shall enter in the card the period or periods he has worked for the day in his factory. The Manager of both the factories in which the worker has worked for the day on the same day shall send to the Inspector, an extract of the card mentioned above not later than three days from the date on which the worker has so worked in the two factories on the same day.

87. Notice of periods of work for adults

The notice of periods of work for adults shall be in Form No. 11.

88. Register of adult workers

The Register of adult workers shall be in Form No.12.

89. Persons defined to hold position of supervision or management

The following categories of persons shall he deemed to hold position of supervision or management;
(a) All persons specified in the Schedule annexed hereto.
(b) Any other person, who, in the opinion of the Chief Inspector or Factories, holds position of supervision or management in the factory and is declared so in writing by him on application by the manager of the factory, and after hearing the person concerned under such conditions as may be imposed by the Chief Inspector.

THE SCHEDULE

List of persons to hold position of supervision or management in factories

1. Managers.
2. Assistant Managers.
3. Engineers.
4. Weaving Masters and Spinning Masters in Textile Mills.

5. Head electricians.
6. Labour or Welfare Officers.

90. Persons defined to hold confidential
The following persons shall be deemed to hold confidential positions:
(a) Stenographers and personal clerks of managers or managing agents of factories.
(b) Any other person who in the opinion of the Chief Inspector holds a confidential position in the factory and is declared so in writing by him, on application by the manager of the factory and after hearing the person concerned under such condition as may be imposed by the Chief Inspector.

91. List to be maintained of persons holding confidential positions or supervision or management
A list showing the names and designations of all persons to whom the provision of sub-section (1) of Section 64 have been applied shall be maintained in every factory.
92. Exemption of certain adult workers
(a) Adult workers engaged in factories specified in Column (2) of the Schedule to this Rule on the work specified in Column (3) thereof shall be exempted from the provisions of the Sections specified in Column (4) subject to the conditions, if any specified in Column (5) of the said Schedule.
(b) Except in the case of urgent repairs covered by item 1 of the Schedule, the exemptions shall be subject to the following conditions namely:
(1) in case of exemption from Sections 51 and 54, no worker shall work for more than ten hours per day or 56 hours per week;
(2) in case of exemption from Section 55, sufficient time, though not a fixed period, shall be given for meals to the satisfaction of the Inspector concerned;
(3) in case of exemption from Section 56, the spread over of hours of work inclusive of intervals for rest shall not exceed twelve hours in any one day; and
(4) the total overtime hours worked beyond the limits of nine hours per day and 48 hours per week shall not exceed 50 hours for such quarter of the calendar year.
(5) Double wages for overtime work done beyond nine hours per day or 48 hours per week shall be paid in all cases as required by section 59 of the Act.
(c) In the absence of a worker who has failed to report for duty in factories in which any work should be carried on continuously for technical reasons, a shift worker be allowed to work the whole or part of the subsequent shift irrespective of the restrictions imposed in Clauses (1) and (2) of sub-section (4) of Section 64 of the Act;

Provided that;

(1) the next shift of the shift-worker shall not commence, before a period of eight hours has elapsed;
(2) within 24 hours of the commencement of the subsequent shift notice shall be sent to the Inspector, explaining the circumstances under which the worker is required to work in the subsequent shift; and

(3) the exemption will be restricted to only male adult workers.

THE SCHEDULE

Section of the Act empowering grant of exemption	Class of factory	Nature of exempted work	Extent of exemption	Remarks
(1)	(2)	(3)	(4)	(5)
64 (2) (a) and 64 (3)	All factories	Urgent repairs Explanation: The following shall be considered to be urgent repairs (a) Repairs to any part of the machinery, plant or structure of 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 motive power transmission of other Essential plant of other factories. Collieries, Railways, Motor Transports, Dockhand, Harbors, Gas Electrical Generating and Transmissions Pumping or similar essential or Public Utility Services carried out in the general Engineering Works and Foundries and which are necessary to enable such concerns to maintain their main manufacturing process. Production or service during normal working hours or according to Schedule.	Section 51,52,54,55, 56 and 61	(i) No worker shall be employed on such repairs for more than15 hours on any one day, 39 hours during any three consecutive days or 66 hours during each period of seven consecutive days commencing from his first employment on such repairs. (ii) Within 24 hours of the commencement of the work, notice shall be sent to the Inspector describing the nature of the urgent repairs and the period probably required for their completion. (iii) Exemption from the provisions of Section 54 shall apply only in the case of adult male workers.

(c) Repairs to deep sea ships and repairs to commercial aircrafts done in a factory which ore essential to enable such ships or aircrafts to leave port at proper time or continue their normal operations, in sea or airworthy conditions, as the case may be. (d) Repairs in connection with a change of motive power for example, from swam to electricity, or vice versa when such work cannot possibly be done without stoppage of the normal manufacturing process.		(iv) A running record of work done on such repairs shall be maintained in the Muster Roll in Form No. 24 vide Rule 116.		
Explanation: Periodical cleaning is not included in the terms “examining " or “repairing"				
64(2)(b) and 64(3)	All factories	(1) Work in the machine shop, the smithy or the foundry or in connection with the mill gearing, electric driving or lighting apparatus, mechanical or electrical lifts or the steam or water pipes or pumps of a factory. (2) Work of examining or repairing any machinery or other part of the plant, which is necessary for carrying on work in the factory. (3) Work in boiler houses and engine rooms such as lighting fires in order to raise steam or generate gas preparatory to the commencement of regular work in the factory.	Section 51, 54, 55 56 and 61	The exemption shall be granted only in respect of a limited number of persons to be given by the Chief Inspector on application by the manager through the Inspector of Factories concerned.

(4) Clerks engaged in the preparation of payrolls. (1) Work performed by drivers, on lighting, ventilating and humidifying apparatus. (2) Work performed by fire pump men. (3) Work of persons engaged in loading or unloading or transporting raw materials or finished articles in factories where such work is intermittenet.	Section 51, 54 and 56	The exemption shall be only for the preparation of payrolls.
Cinema Studio	Workers showing reflectors, shifting furniture on set clap Sections, boys, cameraman and sound department men in the process of shooting films.	Section 51, 54 56 and 61
Do.	Election or dismantling of settings or the makeup of actors and actresses in Cinema studios.	Section 51, 54, 55 56 and 61
Iron, Steel, Brass, Copper rolling mills	Work in connection with roll changing.	Do.
64(2)(c) and 64(3)	All Factories	Section 51, 54, 55 56 and 61
Do.		
Section 51, 54, 56 and 61		
Cardamom factories	Work of persons employed in drying Cardamom.	Sections 55, 56 and 61
Salt Factories	All workers employed in the manufacture of salt.	Do.

Dal conversion (Black gram) factories and other dal factories	Work of persons employed in drying Black gram.	Do.	(1) Exemption from the provisions of section 61 apply in so far as it relates to the specification of the

period of cost Interval in the notice of work period for adults. (2) The spread over shall not exceed twelve hones on any day. The entries reseeding actual commencement and completion of their periods of work shall be entered in Form No. 24.			
Gingelly Oil (chekkus) Country Expellers	All adult workers engaged in manufacturing process.	Sections 55, 56 and 61	(1) Exemption from the amnions of section 61 will and 61 apply in so far as ii relates to the specification of the period of rest interval in the notice of work period for adults (2) The spread over shall not exceed twelve hours on any day The mines reseeding actual commencement and completion of their periods of work shall be entered in Form 24.
64 (2) (c)	News Paper Presses	Work of persons employed in the rotary, machine stores, binding and process departments.	Sections 51, 54 and 61

Those hotels and restaurants to which the factories Act, 1948, is applicable.	Work of all persons.		Section 51, 54 and 56	The spreadover shall not exceed twelve hours on any day.
64(2) (d) and 64(3)	(1) Oil tank installations	Work of persons employed in pumping operations and in connection with the pumping of oil out of, or into, a ship or with bulk transfers of oil from or into, storage tanks.	Sections 51, 52, 54,55, 56 and 61	Exemption from the provisions of section 61 will apply in so far as it relates to the specification of the period of rest interval in the notice of work period for adults.
(2) Public Electric Generating and Transforming stations	All workers engaged in continuous work for generating or transforming of Electricity.		Section 52, 54, 55 and 61	Do.
(3) All factories	Any special class of workers engaged on work considered to be essential or continuous in the nature of the duties involved.		Section 51, 52, 54, 55, 56 and 61	Exemption to be given by the Chief Inspector if he considers it necessary on application by the manager.
(4) Sugar factories	All workers engaged in continuous process work.		Sections 52, 54, 55 and 61	Exemption from the provisions of section 61 will apply in so far as it relates to the specification of the period of rest interval in the notice of work period for adults.
(5) Chemical factories	Do.		Do.	Do.

93.

All woman working in fish curing and fish canning factories shall be exempted from the provisions of sub-section (1) of section 66 of the Act, subject to the following conditions;

(1) No woman shall be employed before 6 a. m. or after 7 p. m. for more than three clays in any one week. The number of days on which a woman may be, so employed shall not exceed fifty in a year.
(2) No woman shall be employed after 11 p. m. and before 5 a. m.
(3) A period of uninterrupted, rest of at least 9 hours shall intervene between the cessation of a period of work after 7. p.m. on any day and the beginning of a fresh period of work, on the following day.
(4) A muster-roll in Form. No. 24 shall be maintained.

CHAPTER VII
EMPLOYMENT OF YOUNG PERSONS
94. Notice of periods of work for children
The notice of periods of work for child-workers shall be in Form No. 13.
95. Register for child workers
The register of child-workers shall be in Form No. 14.
CHAPTER VIII
LEAVE WITH WAGES
96. Method of calculating cash equivalent on account of concessional sale of food grains and other articles
The cash equivalent of the advantage accruing through the concessional sale of food grains and other articles payable to workers proceeding on leave shall be the difference between the value at the average market rates prevailing during the month immediately preceding his leave and the value at the concessional rates allowed of food grains and other articles he is entitled to. For the purpose of the cash equivalent, monthly average market rate of food grains and other articles shall be computed at the end of every month.
97. Leave with wages register
(1) The Manager shall keep an up-to-date Register in Form No. 15 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 enforcement of 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 of that factory.

(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.

98. Leave Book
(1) The Manager shall provide each worker who has become entitled to leave during a calendar year, with a book in Form No. 15 (hereinafter called the Leave Book) not later than the 3Ist January of that year. The Leave Book shall be the property of the worker, and the Manager or

his agent shall not demand it except to make entries and shall not keep it for more than one week at a time.
(2) If a worker loses his Leave Book the Manager shall provide him with another copy on the payment of six paisa, and shall complete it from his record.

99. Medical certificate
If any worker is absent from work due to his illness and he wants to avail himself of the leave with wages due to him to cover the period of his illness as far as possible under the provisions of sub-section (7) of section 79 of Chapter VIII as revised by the Factories (Amendment) Act, 1954, he shall if required by the Manager, produce a medical certificate signed by a registered medical practitioner or by a registered or recognised void or hakim stating the cause of the absence and the period for which the worker is, in the opinion of such medical practitioner, raid or hakim, unable to attend to his work.
100. Notice by worker
Before or at the end of every calendar year, a worker who may be required to avail of leave in accordance with sub-section (8) of section 79 of the Factories Act, 1948, may give notice to the Manager of his intention not to avail himself of the leave with wages falling due during the following calendar year. The Manager shall make an entry to that effect in the Leave with Wages Register and in the Leave Book of the worker concerned.
101. Grant of leave with wages
(1) Whenever leave with wages is given to any worker, necessary entries shall be made in the Leave with Wages Register and the Leave Book of the worker concerned.
(2) As far as circumstances permit, members of the same family shall be allowed leave at the same time.
(3) A worker may exchange the period of his leave with another worker, subject to the approval of the Manager.

102. 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 with wages not availed of shall be paid to his nominee within one week of the receipt of intimation of the death of the worker.
For this purpose, each worker shall submit a nomination in Form No. 33 duly signed by himself and attested by two witnesses. The nomination shall remain in force until it is cancelled or revised by another nomination.

103. Factories exempted under section 84
(1) Where an exemption is granted to any factory under section 84, the Manager 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.
(2) 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.

104. Exemption of certain factories

The Chief Inspector may grant exemption from all or any of the provisions of rules 97 to 102 in respect of all or any of the workers in any factory subject to such conditions as he may impose.

CHAPTER IX

SPECIAL PROVISIONS

105. Dangerous manufacturing process or operations

(1) The following operations when carried on in any factory are declared to be dangerous operations under section 87;

1. Manufacture of aerated water and processes incidental thereto.
2. Electroplating or oxidation of metal articles by use of an electrolyte containing acids or other chromium compounds.
3. Manufacture and repair of electric accumulators.
4. Glass manufacture.
5. Grinding or glazing of metals.
6. Manufacture and treatment of lead and certain compounds of lead.
7. Generation of gas from dangerous petroleum.
8. Cleaning or smoothing of articles by a jet of sand, metal shot or grit or other abrasive propelled by a blast of compressed air or steam.
9. Liming and tanning of raw hides and skins and processes incidental thereto.
10. Cellulose spraying.
11. Graphite powdering and incidental processes.
12. Certain lead process carried on in printing presses and type foundries.
13. Cashew nut processing.
14. Dyeing, stenciling and painting of mats, mailings and carpets in coir and fiber factories.
15. Handling and manipulation of corrosive substances.
16. Pottery and ceramics industry.

17. Handling and processing of asbestos, manufacture of any article of asbestos and any other process or manufacture or otherwise in which asbestos is used in any form.
18. Chemical works.
19. Manufacture or manipulation of Carcinogenic Dye intermediates.
20. Process of extracting oils and fats from vegetable and animal sources in Solvent Extraction Plants
21. Manufacture, handling and use of Benzene.
22. Carbon-disulphide plant.
23. Manipulation of stone or any other material containing free silica.
24. Highly flammable liquids and Flammable compressed gases.
25. Manufacture or manipulation of dangerous pesticides.
26. Operations in foundries.
27. Operations involving High Noise Levels.
28. Manufacture or manipulation of Manganese and its compounds.

(1-A) “First employment” means employment for the first time in a hazardous process or operation so notified under section 87, or re-employment therein after cessation of employment in such process or operation for a period exceeding three calendar months.

(2) The provisions specified in the schedules annexed hereto shall apply to any class or description of factories wherein dangerous operations specified in each schedule arc carried out.

(2A)
(a) For the medical examinations of the workers to be carried out by the certifying surgeon as required by the Schedules annexed to this rule, the Occupier of the factory shall pay fees at the rate of Rs. 10 per year per worker.
(b) The fees prescribed in sub-rule (2A) shall be exclusive of any charges for biological, radiological or other tests which may have to be carried out in connection with the medical examinations. Such charges shall be paid by the occupier.
(c) The fees to be paid for medical examination shall be paid into the local treasury under the appropriate head of account: 023-Labour and Employment-101 Fees realized under Factories Act-Licence Fees.
(3) This rule shall into force in respect of any class or description of factories, wherein dangerous manufacturing process or operations specified in each schedule are carried out.
(4) 7[The fees to be paid for medical examinations shall be paid through the on-line payment portal of the Government of Puducherry under relevant Head of Account

viz., 0230-00-104-03-00-00. Fees realised under the Factories Act – Medical Examination fees]
(5) Any register or record of medical examinations and tests connected therewith required to be carried out under any of the schedules annexed hereto in respect of any worker shall be kept readily available to the Inspector and shall be preserved till the expiry of one year after the worker ceases to be in employment of the factory.

SCHEDULE I
MANUFACTURE OF AERATED WATERS AND PROCESSES INCIDENTAL THERETO
1. Fencing of machines

All machines for filling bottles or syphons shall be so constructed, placed or fenced as to prevent at far as may be practicable, a fragment of a bursting bottle or syphon 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 engaged in filling bottles or siphons,
(a) suitable face-guards to protect the face, neck and throat, and
(b) suitable gauntlets for both arms to protect the whole hands and 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
(ii) where a machine is so constructed that only one arm of the bottle 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, crowning, screwing, wiring, foiling capsuling, sighting handling or labeling bottles or syphons:
(a) suitable face-guards to protect the fact, neck and throat, and
(b) suitable gauntlets for both arms to protect the arm and atleast 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 faceguards and gauntlets provided under the provisions of the said paragraph.

SCHEDULE II

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

1. Definitions: For the purposes of this schedule,
(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; and
(c) "employed" means employed in any process involving contact with liquid from a bath.
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 vapour 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 as to prevent the vapour or spray entering into any room or place in which work is carried on.
3. Prohibition relating to women and young persons

No woman, adolescent or child shall be employed or permitted to work at a bath.
4. Floor or workrooms

The floor of every workroom 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.
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) waterproof 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) 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 cms. for every 5 persons employed at any one time, and having a constant supply of water from taps or jets above the trough intervals of not more than 60 cms; or

(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 1,500 liters capacity shall be provided as a source of clean water for emergency use.

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. Chemicals handled in this plant are corrosive and poisonous.
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. Some of these chemicals maybe absorbed through the skin and may cause poisoning.
4. A good wash shall be taken before meals.
5. Protective devices supplied shall be used while working in this area.
6. Spillage of the chemicals on any part of the body or on the floor shall be immediately washed away with water.
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 these 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 hands, 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 rust employment. Such examination shall include X-ray of the chest and;
(a) in case of chromium plating, include examination for nasal septum perforation 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 in urine and -2 microlobulin 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 processes 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 26. 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 16-A.
(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 should also include the period for which he considers that the said person is 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 which 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. 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. Definitions: For the purposes of this schedule,

(a) "Lead process" means the melting of lead or any materials 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 or 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.

3. Prohibition relating to women and young persons

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

4. Separation of certain processes

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

(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.

5. Air-space

In every room in which a lead process is carried on, there shall be at least 14.2 cubic meters of air space for each person employed therein, and in computing this air space no height over 3.7 meters shall be taken into account.

6. Ventilation

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

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 1.5 meters.

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

The work benches at which any lead process is carried on shall,
(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 cleaned 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;
(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.
10. Exhaust draught

The following processes shall not be carried on without the use of an efficient exhaust draught;
(a) Melting of lead or materials containing lead.

(b) Manipulation of raw oxide of lead, unless done in an enclosed apparatus so as to prevent the escape of dust into the workroom.
(c) Pasting.
(d) Trimming, brushing, filing or any other abrading or cutting of pasted plates giving rise to dust.
(e) Lead burning, other than
(i) "tacking" in the formation room;
(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 maybe at its point of origin, so as to prevent its entering the air of any room in which persons work.
11. Fumes and gases from melting pots

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

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 workroom, except when dross is being deposited therein.

13. Container for lead waste

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

14. Racks or shelves in drying room

The racks or shelves provided in any drying room shall not be more than 2.4 meters from the floor not more than 61 centimeters in width: provided that as regards racks or shelves set or drawn from both sides the total width shall not exceed 1.2 meters.

Such racks or shelves shall be cleansed only after being thoroughly damped unless an efficient suction cleaning apparatus is used for this purpose.

15. Medical facilities and records of examinations and tests

(1) The occupier of every factory in which manufacture and repair of electric accumulators is carried on shall,

(a) Appoint a qualified medical practitioner for frequent medical examination 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.

16. Medical examination by the Certifying Surgeon

(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, hemoglobin content 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 processes shall be re-examined by a Certifying Surgeon at least once in every three calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests specified in sub-paragraph (1).

(3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 26. 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 16-A.
(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 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 those documents should also include the period for which he considers that the said person is unfit for work in the said processes.
(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 those processes.
17. Protective clothing

Protective clothing shall be provided and maintained in good repair for all persons employed in,
(a) Manipulation of raw oxide of lead;
(b) pasting;
(c) the formation room;

and such clothing shall be worn by the persons concerned. The protective clothing shall consist of a 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.
18. 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 mess-room shall be placed under the charge of a responsible person, and shall be kept clean.
19. Clock-room

There shall be provided and maintained for the use of all persons employed in a lead process,
(a) A clock-room for clothing put off 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.
20. 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;
(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 61 centimeters 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 61 centimeters; or
(ii) at least one wash basin for every live such persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of water laid on;
(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
(iv) a sufficient supply of soap or other suitable cleansing material and of nail 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.
21. 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 61 centimeters of trough for each such person this rule shall not apply.
22. 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.
23. Food, drinks, etc., prohibited in workrooms

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

SCHEDULE IV

GLASS MANUFACTURE

1. Exemptions

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 conditions 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 authorize 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: For the purpose of this schedule,
(a) "Efficient exhaust draught" means localized 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, yields to an aqueous solution of hydrochloric acid a quantity of soluble lead com-pound exceeding when calculated as lead monoxide, 5 percent of the dry weight of the portion taken for analysis.

The method of treatment shall be as follows:
A weighed 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 1,000 times its 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 weighed as lead sulphate.

3. Exhaust draught

The following processes shall not be carried on except under an efficient exhaust draught or under such other conditions as may be approved by the Chief Inspector:
(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 ammonical vapors are given off.
(d) All processes in the making of furnace moulds or "pots" including the grinding or crushing of used "pots"
(e) All processes involving the use of a dry lead compound.
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 or at any place where such operations are carried on.
5. Floors and work-benches

The floor and work-benches of every room in which a dry compound of lead is 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 floor shall be;
(a) of cement or similar material so as to be smooth and impervious to water;
(b) maintained in sound conditions; 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 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 being carried on thereat.

6. Use of Hydrofluoric Acid

The following provisions shall apply to rooms in which glass is treated with 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 guttaparacha and be tight and shall slope gently down to a covered drain;
(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.

7. Storage and transport of Hydrofluoric acid

Hydrofluoric acid shall not be stored or transported except in cylinders or receptacles made of lead or rubber.
8. Suitable facilities shall be readily available for sterilizing the blow-pipes used by the glass blowers and such blow-pipes shall be sterilized at the beginning of the operations of blowing, each day.
9. Food, drinks, etc., prohibited in workrooms

No food, drink, pan and supari or 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.
10. Protective clothing

The occupier shall provide, maintain in good repair and keep in a clean condition for 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.
11. Washing facilities

There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed in the processes specified in paragraph 3,
(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 61 centimeters 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 61 centimeters; or
(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
(b) a sufficient supply of clean towels made of suitable materials renewed daily with a sufficient supply of soap or other suitable cleansing material and of nail brushes; and
(c) 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.

12. Medical facilities and record of examinations and tests
(1) The Occupier of every factory in which glass manufacturing processes are carried out, shall
(a) Appoint a qualified Medical Practitioner for frequent medical examination 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 records 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.
13. Medical Examination by Certifying Surgeon
(1) Every worker employed in processes specified in paragraph 12 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 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 twelve 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 a worker shall issue a certificate of fitness in Form 26. 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 16-A.
(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 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 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 t he said person is unfit for work in the said processes.
(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 examinations, again certifies him fit for employment in those processes.

SCHEDULE V
GRINDING OR GLAZING OF METALS AND PROCESSES INCIDENTAL THERETO
1. Definitions: For the purposes of this schedule,
(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 a grindstone by a hack or similar tool.
(g) "Rodding" means the dressing of the surface of a revolving grindstone by the application of rod, bar or strip of metal to such surface.
2. Exceptions
(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.
(2) Nothing in this schedule except paragraph 4 shall apply to any grinding or glazing of metals carried on intermittently and at which no person is employed for more than 12 hours in any week.
(3) The Chief Inspector may by certificate in writing, subject to such condition 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 of the persons employed.
3. Equipment for removal of dust

No racing, dry grinding or glazing shall be performed without
(a) a hood or other appliance so constructed, arranged, placed, and maintained as substantially to intercept the dust thrown off;
(b) a duct of adequate size, air-tight and so arranged as to be capable of carrying away the dust, which dust 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 Inspector to attach thereto any instrument necessary for ascertaining the pressure of air in the said duct; and
(c) a fan or other efficient means of producing a draught sufficient to extract the dust:

Provided 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.
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 articles at any such grindstone, abrasive wheel or glazing appliance.

5. Glazing

Glazing or other processes, 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

Hacking or rodding shall not be done unless during the process either (a) an adequate supply of water is 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.

7. Examination of dust equipment

(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) A resister containing particulars of such examination and test shall be kept in Form No. 16P.

8. Medical facilities and record of examinations and tests

(1) The occupier of every factory in which grinding or glazing of metals arc carried out, 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.

9. Medical examination by Certifying Surgeon

(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.

(2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every 12 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 a worker, shall issue a Certificate of Fitness in Form 26. 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 16-A.

(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 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 those documents should also include the period for which he considers that the said person is unfit for work in the said processes.
(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. 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: For the purposes of this schedule,
(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.

The method of treatment shall be as follows:
A weighed 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 1,000 times its weight of an aqueous solution of hydrochloric acid containing 0.25 per cent. 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 liberate shall then be precipitated as lead sulphide and weighed as lead sulphate.

(b) "Efficient exhaust draught" means localized ventilation effected by heat or mechanical means, for the removal of gas, vapour, dust or fumes so as to prevent them (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, fumes or dust originate.
3. Application

This schedule shall apply to all factories or parts of factories in which any of the following operations are carried on:
(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 percent of lead.
(d) The manufacture of any oxide, carbonate, sulphate, chromate, acetate, nitrate, or silicate of lead.
(e) Handling or mixing of lead tetraethyl.
(f) Any other operation involving the use of a lead compound.
(g) The cleaning of workroom where any of the operations aforesaid are carried on.
4. Prohibition relating to women and young persons

No woman or young persons 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 compounds 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 complied with.
5. Exhaust draught

Where dust, fume, gas or vapour is produced in the process, provision shall be made for removing them by means of any efficient exhaust draught so contrived as to operate on the dust, fume, gas or vapour as closely as possible to the point of origin.
6. Medical facilities and records of examinations and tests
(1) The occupier of every factory to which the schedule applies shall,
(a) Appoint a qualified medical practitioner for frequent medical examination 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.

7. 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 for lead in blood and urine, ALA in urine, hemoglobin 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) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every three calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests specified in sub-paragraph (1).

(3) The Certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 26. 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 16-A.
(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 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 those documents should also include the period for which he considers that the said person is unfit for work in the said processes.
(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 process unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.
8. Food, drinks, etc., prohibited in workrooms

No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any workroom in which the process is carried on and no person shall remain in any such room during intervals for meals or rest.
9. Protective 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 by the persons employed.
10. Cleanliness of workrooms, tools, etc.

The rooms in which the person’s arc employed and all tools and apparatus used by them shall be kept in a clean state.
11. 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 61 centimeters for every ten 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 61 centimeters; or
(b) atleast 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 cleansing material and clean towels.
(2) The facilities so provided shall be placed under the charge of a responsible person and shall be kept dean.

12. 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 arrangement shall consist of the use of a room separate from any workroom which shall be furnished with sufficient tables and benches and unless a canteen serving hot meals is provided, adequate means for warming food. 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.

13. 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

GENERATION OF GAS FROM DANGEROUS PETROLEUM

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 generation of gas from dangerous petroleum is carried on.

2. Flame traps

The plant for generation of gas from dangerous petroleum and associated piping and fittings shall be fitted with atleast 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.

3. Generating building or room

All plants for generation of gas from dangerous petroleum 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 no 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.

4. Fire Extinguishers

An efficient means of extinguishing petrol fires shall be maintained in an easily accessible position near the plant for generation of gas from dangerous petroleum.

5. Plant to be approved by the Chief Inspector

Gas from dangerous petroleum shall not be manufactured except in a plant for generating gas from dangerous petroleum, the design and construction of which has been approved by the Chief Inspector.

6. Escape of dangerous petroleum

Effective steps shall be taken to prevent dangerous petroleum from escaping into any drain or sewer.

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 generating building or in the vicinity thereof and a warning notice in the language understood by the majority of the workers shall he pasted 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.

8. Access to dangerous petroleum or container

No unauthorized person shall have access to any dangerous petroleum or to vessel containing or having actually contained (dangerous) petroleum.

9. Electric fittings

All electric fittings shall be of flame-proof construction and all electric conductors shall either be enclosed in metal conduits or be lead sheathed.

10. Construction of doors

All doors in generating room or generating building shall be constructed to open outwards or to slide 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 generating building.

11. Repair of containers

No vessel that has contained petroleum shall be repaired in a generating room or generating building and no repairs to any such vessel shall be undertaken unless live-steam has been blown into the vessel and until the interior is thoroughly steamed out or other equally effective steps have been taken to ensure that it has been rendered free from dangerous petroleum or inflammable vapour.

SCHEDULE VIII

CLEANING SMOOTHING ROUGHENING ETC., OF ARTICLES BY A JET OF SAND METAL SHOT OR GRIT OR OTHER ABRASIVE PROPELLED BY A BLAST OF COMPRESSED AIR OR STEAM

1. Definitions: For the purposes of this schedule,

(i) "Blasting" means cleaning, smoothing, 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.

(ii) "Blast enclosures" means a chamber, barrel cabinet or any other enclosure designed for the performance of blasting therein.

(iii) “Blasting chamber" means a blasting enclosure in which any person may enter at any time in connection with any work or otherwise.

(iv) "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 dross and the general smoothing of a casting, but does not include the free treatment.

2. Prohibition of sand blasting

Sand or any other substance containing free silica shall not be introduced as an abrasive into any blasting apparatus and shall not be used for blasting:

Provided that this clause shall come into force two years after the coming into operation of this Schedule:

Provided that no woman or young person shall be employed or permitted to work any operation of sand blasting.

3. Precautions in connection with blasting operations

(1) Blasting to be done in blasting enclosure: Blasting shall not be done except in a blasting enclosure and no work other than blasting and any work immediately incidental thereto and cleaning 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.

(2) Maintenance of blasting enclosure: Blasting enclosure shall always be maintained in good condition and effective measures shall be taken to prevent dust escaping from such enclosures and from any apparatus connected therewith, into the air of any room.

(3) Provision of separating apparatus: 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 or 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 the opinion that it is not reasonably practicable to provide such separating apparatus.

(4) Provision of ventilating plant: There shall be provided and maintained in connection with every blasting enclosure efficient ventilating plant to extract, by exhaust draught effected by mechanical means, dust produced in the enclosure. The dust extracted and removed shall be disposed of by such method and in such a 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.

(5) Operation of ventilating plant: The ventilating plant provided for the purpose of sub-clause (4) shall be kept in continuous operation wherever the blasting enclosure is in use whether or

not blasting is actually taking place therein, and in the case of a blasting chamber, it shall be in operation even when any person is inside the chamber for the purpose of cleaning.

4. Inspection and examination

(1) Every blasting enclosure shall be specially inspected by a competent person atleast 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 atleast once in every month.

(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.

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.

(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 be thoroughly disinfected.

(3) Each protective helmet when in use shall be supplied with clean and not unreasonably cold air at a rate of not less than 0.17 cubic meter per minute.

(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.

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.

(2) In connection with any cleaning operation referred to in clause 5 and the removal of dust from filtering or settling devices all practicable measures shall be taken to dispose of the dust in such manner that it does not enter the air of any room. Vacuum cleaners shall be provided and used wherever practicable for such cleaning operations.

7. Storage accommodation for protective wear

Adequate and suitable storage accommodation for the helmets, gauntlets and overalls required to be provided by paragraph 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 actual use shall be kept in this accommodation.

8. Maintenance and cleaning of protective wear

All helmets, gauntlets, overalls, and other protective devices or clothing's provided and worn for the purpose 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.

9. Maintenance of vacuum cleaning plant

Vacuum cleaning plant used for the purpose of this Schedule shall be properly maintained.

10. Medical facilities and records of examinations and tests

(1) The occupier of every factory to which the schedule applies, shall

(a) appoint 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.

11. 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 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 the Certifying Surgeon considers appropriate, include pulmonary function test and chest X-ray once in every three years.

(3) The Certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 26. 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 the Health Register in Form 16-A.

(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 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 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 which case the person affected shall be suitably rehabilitated.
(6) No person who has been found unfit to work in the processes as said in sub-paragraph (5) above shall be re-employed or permitted to work unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.
12. Restriction in employment of young persons and prohibition of employment of women

No woman or person under 18 years of age shall be employed or permitted to work at blasting or assist 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 there-with or be employed on maintenance or repair work at such apparatus, enclosure or plant.
13. Power to exempt or relax
(1) If the Chief Inspector is satisfied that in any factory or any class of factories, the use of sand or other substance containing free silica as an abrasive in blasting is 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 relaxed without endangering the health of the persons employed ; or that application of any 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 factories from such provisions of this Schedule, to such an extent and subject to such conditions and for such period as he may specify in the said order.
(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.

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, and subsequently if still employed, on the first day 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 and 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" box 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.
2. Protective clothing

The occupier shall provide and maintain in good condition the following articles of protective clothing:
(a) water-proof foot-wear, leg coverings, aprons and gloves for persons employed in process involving contact with chrome solutions, including the preparation of such solution;
(b) gloves and boots for persons employed in lime-yard; and

(c) protective foot-wear, aprons and gloves for persons employed in processes involving the handling of hides or skins, other than in processes specified in clauses (a) and (b):

Provided that —
(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 fleshing by hand or employed in processes in which there is no risk of contact with lime, sodium sulphide or other caustic liquor.]
3. Washing facilities, mess-room and cloak-room

There shall be provided and maintained in a cleanly state and in good repair 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 61 centimeters 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 61 centimeters; 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 of water together with, in either case, a sufficient supply of nail brushes, soap or other suitable cleansing material, and clean towels;
(c) a suitable mess-room, adequate for 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 food and for boiling water. (1) be separate from any room or shed in which hides or skins are stored, treated or manipulated,
(2) be separated from the cloak-room and

(3) be placed under the charge of a responsible person;

The mess-room shall
(d) [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 for protective clothing and shall also make adequate arrangements for drying up the clothing in both the cases, if wet. The accommodation so provided shall be kept clean at all times and placed under the charge of a responsible person.]
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. [Medical facilities and records of examination 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;
(b) Provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a);
(c) arrange for inspection of the hands of all the persons keeping in contact with the 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.
6. 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 test for dermatoses and detection of anthrax bacillus from local lesion 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.
(2) Every worker employed in the said process shall be re-examined by a Certifying Surgeon at least once in every 12 calendar months and such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (1).
(3) The Certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 27. 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 17.
(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 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 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 which case the person affected shall be suitably rehabilitated.

(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 those processes.

SCHEDULE X
CELLULOSE SPRAYING
1. Application

The provisions of this schedule shall apply to all factories or parts of factories in which the spraying of cellulose ester paints, or lacquers is carried on.
2. Prohibition of the employment of children and adolescents

No child or adolescent shall be employed in any factory on the operation specified in paragraph 1 above.
3. Exhaust draughts

An efficient exhaust draught shall be provided by mechanical means for the process specified in paragraph 1. The draught shall operate on the vapour given off in the process as near as may be at the point of origin so as to prevent it (as far as practicable under the atmospheric conditions usually prevailing) from escaping into the air of any place in which work is carried on. The draught shall be maintained working for a period of at least five minutes after the cessation of the operation:
Provided that the Chief Inspector may grant exemption from these provisions if he is satisfied that due to the casual nature of the operation they are not necessary to seat re the health of the workers.
4. Position of spray operators

Arrangement shall, as far as practicable, be made so as to render it unnecessary for the person operating the spray to be in a position between a ventilating outfit and the article being sprayed.
SCIIEDULE XI
GRAPHITE POWDERING
1. Application

The provisions of this schedule shall apply to all factories or parts of factories in which the grinding and sieving of graphite and the processes incidental thereto are carried on.

2. Prohibition of employment of women, children and adolescents

No woman, child or adolescent shall be employed in any factory upon any of the operations specified in paragraph 1 above.

3. Medical certificates and examinations

(1) No person shall be employed in any factory for more than fifteen days in the year upon any of the operations specified in paragraph 1 above unless a special certificate of fitness in Form No. 26, granted to him by a Certifying Surgeon appointed under section 10, is in the custody of the manager of the factory.

(2) The Inspector of Factories may require that any person in respect of whom a certificate referred to in sub-paragraph (1) has been granted shall carry with him while at work a token giving reference to such certificate.

(3) Every person so employed shall be medically examined by a Certifying Surgeon at intervals of not more than six months and a record of such examination shall be entered in the special certificate granted under sub-paragraph (1).

(4) if at any time a Certifying Surgeon is of opinion that any person is no longer fit for employment upon any of the operations specified in paragraph 1 above he shall cancel the special certificate of fitness granted to that person.

(5) No person whose special certificate of fitness has been can-celled shall be employed upon any of the operations specified in paragraph 1 above unless a Certifying Surgeon again certifies him to be fit.

4. Exhaust draught

Provisions shall be made for removing the dust produced in any of the operations specified in paragraph 1 above by means of an efficient exhaust draught so contrived as to operate on the dust as closely to the point of origin as possible:

Provided that where the provision of an exhaust draught is not reasonably practicable the Inspector may require

(a) respirators of a type approved by him to be provided and maintained in a clean and efficient condition by the occupier and worn by every person working under such conditions; and

(b) the damping of floors, apparatus and material to prevent the raising of dust.

5. Floor and work benches

(1) The floor of every room in which any person is employed upon any of the operations specified in paragraph 1 above shall be of cement or other impervious material.

(2) The top of every work-bench in every such room shall be of impervious material.

(3) The said floors and work-benches shall be kept dean and in good condition.

(4) The Inspector may, by order in writing, require the said floors and work-benches to be kept wet in such manner as he may deem suitable, in order to reduce dust.

6. Washing facilities

The occupier shall provide and maintain in a clean state and in good repair for the use of persons employed upon any of the operations specified in paragraph 1 above either (a) a trough with smooth impervious surface fitted with a waste-pipe without plug, and of sufficient length to allow at least 61 centimeters 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 61 centimeters, or (b) at least one lavatory basin for every five such persons employed at any one time, fitted with a waste pipe and plug having a constant supply of water, together with, in either case a sufficient supply of nail brushes, soap or other suitable cleaning material and clean towels.

7. Food, drink, and tobacco

No food, drink, pan and supari or tobacco shall be brought into, or consumed, in any room in which any person is employed upon any of the operations specified in paragraph 1 above.

8. Protective clothing

Adequate protective clothing such as over-all in a clean condition shall be provided by the occupier to every person employed upon any of the operations specified in paragraph 1 above.

9. Exemptions

The Chief Inspector may exempt any factory or part of a factory from the provisions of paragraphs 4 to 7 to the extent he deems suitable, if he is satisfied that their observance is not necessary for safeguarding the health of the operatives:

SCHEDULE XII

PRINTING PRESS AND TYPE FOUNDRIES - CERTAIN LEAD PROCESS CARRIED ON THEREIN

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 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. Such certificate may at any time be revoked by the Chief Inspector.

2. Definitions

In these regulations — 'Lead material' means material containing not less than 5 percent of lead.

'Lead process' means

(a) the melting of lead or any lead material for casting and mechanical composing;

(b) the recharging of machines with used lead material; or

(c) any other work including removal of dross from melting pots, cleaning of plungers; and

(d) Manipulation, movement or other treatment of lead material.

'Efficient exhaust draught' means localized 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.

3. Exhaust draught

None of the following process shall be carried on except with an efficient exhaust draught:
(a) melting lead material or slugs;
(b) heating lead material so that vapour containing lead is 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 control-led melting pots.
Such 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.
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 processes

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:
(a) melting of lead or any lead material;
(b) casting of lead ingots;
(c) mechanical composing.
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 pot. Such receptacle shall be kept covered while in the work-room near the machine except when the dross is being deposited therein.
7. Floor of workroom

The floor of every work- room where 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; and
(c) shall be cleansed throughout daily after being thoroughly damped with water at a time when no other work is being carried on at the place.
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 mess -room which shall be furnished with sufficient tables and benches.
9. 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,
(a) a wash place with either,

(i) a trough with smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 61 centimeters 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 61 centimeters, or
(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
(b) a sufficient supply of clean towels made of suitable material renewed daily with a sufficient supply of soap or other suitable cleaning material.
10. Medical facilities and records of examination and tests
(1) The occupier of every factory to which the schedule applies, shall
(a) Appoint a qualified medical practitioner for frequent medical examination of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and
(b) 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.
11. Medical Examination by Certifying Surgeon
(1) Every worker employed in a lead process 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, hemoglobin, stippling of cells and steadliness 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 said processes shall be re-examined by a Certifying Surgeon at least once in every six 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 a worker, shall issue certificate of fitness in Form 26. 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 16-A.
(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 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 those documents should include the period for which he considers that the said person is unfit for work in the said processes.
(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 process unless the Certifying

Surgeon, after further examination, again certifies him lit for employment in those processes.

12. Food, 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 XIII

CASHEW-NUT PROCESSING

1. Application

The provisions of this schedule shall apply to all factories in which roasting, scrubbing or shelling of cashew-nuts or extracting oil from cashew- nuts or cashew-nuts shells is carried on.

2. Prohibition of employment of women and young persons

No woman or young person shall be employed in any of the processes specified in paragraph 1 except in shelling of roasted cashew-nuts.

3. Protective clothing and equipment

The occupier shall provide and maintain:

(i) for the use of all persons employed in roasting or scrubbing of cashew-nuts or extracting oil from cashew-nuts or cashew- nuts shells

(a) suitable rubber or washable leather gloves,

(b) suitable impervious aprons with sleeves to cover the body down to the knees and shoulders, and

(c) suitable foot-wear to afford protection to the feet and legs against cashew-nut oil;

(ii) for the workers employed in cashew- nut shelling, either,

(a) protective ointment containing 10 per cent. of shellac, 55 percent of alcohol, 10 per cent. of sodium perborate, 5 percent of carbitol and 20 percent of talc, or

(b) a sufficient quantity of kaolin and coconut oil; and

(iii) any other material or equipment which the Chief Inspector of Factories may deem to be necessary for the protection of the workers.

4. Use of protective clothing and equipment

Every person employed in the processes specified in paragraph 1, shall make use of the protective clothing and equipment supplied and arrangement shall be made by the occupier to supervise their maintenance and cleanliness.

5. Disposal of shells, ashes or oil of cashew-nut

(i) Shells, ashes or oil of cashew-nut shall not be stored in any room in which workers are employed and shall be removed atleast twice a day to any pit or enclosed place

in the case of shells and ashes and to closed containers kept in a separate room in the case of oil.

(ii) No worker shall be allowed to handle shells or oil of cashew-nut without using the protective measures provided in paragraph 3.

6. Floors of work-rooms

The floor of every work-room in which the processes specified in paragraph 1 are carried on shall be of a hard material so as to be smooth and impervious and of even surface and shall be cleaned daily; and spillage of any cashew- nut oil in any work-room shall be washed with soap and cleaned immediately.

7. Seating accommodation

Workers engaged in shelling of cashew-nuts shall be provided with adequate seats of work benches which shall be cleaned daily.

8. Mess-room

(a) There shall be provided and maintained for the use of all persons employed in the processes specified in paragraph 1, a suitable rest room furnished with a sufficient number of tables and chairs or benches;

(b) Separate lockers shall be provided where food, etc., shall be stored by workers before it is consumed in the rest room.

9. Food, drinks, etc., prohibited in work-rooms

No food, drink, pan, supari or tobacco shall be brought or consumed by any worker in any room in which the processes specified is paragraph 1 are carried out and no person shall remain in any such room during intervals for meals or rest.

10. Washing facilities

Where roasting, scrubbing and shelling of cashew- nuts or extracting oil from cashew-nuts or cashew-nuts shells is carried on, there shall be provided and maintained, in clean and good repair, washing facilities, at the scale of one tap or stand pipe for every ten workers the taps or stand pipes being spaced not less than 122 cms. apart and also a sufficient supply of soap, coconut oil, nail brushes and towels.

11. Time 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 to any person employed in the process specified in paragraph 1, for the purpose of washing.

12. Smoke or gas produced by roasting cashew-nuts

Where smoke or gas is produced in the operation of roasting, provision shall be made for removing the smoke or gas through a chimney of sufficient height and capacity or by such other arrangements as may be necessary to prevent the gas or smoke from escaping into the air or any place in which workers are employed.

13. Storage of protective equipment

A suitable room or a portion of the factory suitably partitioned off, shall be provided exclusively for the storage of all the protective equipment supplied to the workers and

no such equipment shall be stored in any place other than the room or place so provided.

14. Medical facilities and records of examinations and tests

(1) The occupier of every factory to which the schedule applies, shall
(a) Appoint a qualified Medical Practitioner for frequent medical examination of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and
(b) provide to the Medical Practitioner all the necessary facilities for the purpose referred to in clause (a).
(2) The said Medical Practitioner shall inspect daily the hands and feet of all the persons employed in the process specified in paragraph 1.
(3) The record of such examinations carried out by the 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) The first-aid box maintained shall also contain Burrough's Solution (1:20) and aqueous solution of tannic acid (10%) for treatment of cases of dermatitis.
15. 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 examinations shall include skin test for dermatitis and no worker shall be allowed to work after 15 days of his rust 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 three calendar months. Such examinations shall, wherever the Certifying Surgeon considers appropriate, include asking test for dermatitis.
(3) The Certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 26. 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 16A.
(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 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 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 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 which case the person affected shall be suitably rehabilitated.
(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 lit for employment in those processes.
16. Exemption

The Chief Inspector of Factories may grant exemption from the operation of any of these provisions where he is satisfied that their observance is not necessary for safeguarding the health of workers.

SCHEDULE XIV

DYEING STENCILING AND PAINTING OF MATS, MATTINGS AND CARPETS IN COIR AND FIBRE FACTORIES

1. Application

These provisions shall apply to all coir factories in which stenciling or painting of mats or mattings or carpets is carried on, and to all coir and fibre factories in which dyeing of yarn (other than cotton yarn) and fibre is carried on.

2. Prohibition of employment of women and young persons

No woman or young person shall be employed or permitted to work in any of the operations specified in clause 1.

3. Protective measures

The occupier shall provide free of cost and maintain in a good condition for use of all persons engaged in the operations specified in clause 1

(a) suitable rubber gloves of durable quality for both hands;

(b) rubber boots of durable quality for both legs;

(c) goggles; and

(d) any other material or appliance which in the opinion of the Chief Inspector shall be necessary for the protection of workers.

4. Wearing of gloves, boots and goggles

All persons engaged in any of the operations specified in clause 1, shall while at work in those processes, make use of the materials and appliances provided under clause 3.

5. Food and drink

No food or drink shall be brought into or consumed in, in any room in which any of the operations specified in clause 1 is carried on.

6. Floor of work-rooms

The floor of every room in which any of the operations specified in clause 1 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; and

(c) provided with suitable and adequate arrangement for drainage.

7. Washing facilities

(i) The occupier shall provide and maintain for the use of all persons employed in operations specified in clause 1, suitable washing facilities consisting of:

(a) a masonry or steel water tank capable of holding sufficient water and having taps at the rate of one tap for every ten persons employed at any one time, the floor around the tank and below the taps being cement plastered and maintained in sound and clean condition and suitable and adequate arrangements for drainage being provided around the tanks and the taps;
(b) sufficient supply of nail brushes, non-irritable soap or other suitable cleansing materials and dean towels.
(ii) The facilities so provided shall be placed under the charge of a responsible person and shall be kept dean.
(iii) The following method shall be adopted in removing dye from the hands of employees and the occupier shall make readily available in the premises of the factory all the chemicals required for the purpose in the specified proportion:
(a) wash with sulphonated oil followed by water;
(b) wash in 1 to 2000 solution of potassium permanganate;
(c) wash in two per cent solution of sodium hydrosulphite or in two percent solution of sodium bisulphite;
(d) wash in water; and
(e) application of lanolim cream.

Note: No person shall be allowed to use turpentine, petroleum, distillates, bleaching powder and other bleaches for removing dirt and dye from his hands.
8. Medical examination
(1) Every person employed in any of the operations specified in clause 1 shall be medically examined by a Certifying Surgeon within fourteen days of his first employment in such operations and thereafter shall be examined by the Certifying Surgeon at intervals of not more than twelve months and a record of such examinations shall be entered by the Certifying Surgeon in the Health Register in Form No. 16-A.
(2) A Health Register in Form No. 16-A containing the names of all persons employed in the operations specified in clause 1 shall be kept.
(3) No person after suspension shall be employed unless the Certifying Surgeon after re-examination, again certifies him to be fit for employment.

Explanation: 'Suspension' means suspension from employment in any of the operations specified in the Health Register signed by the Certifying Surgeon who shall have power to suspend any person employed in any such operation.

9. Dermatitis
(i) The occupier shall make arrangements to give suitable jobs to workers affected by chronic dermatitis;
(ii) The occupier shall notify to the Certifying Surgeon all cases of dermatitis.
10. Exemptions

The Chief Inspector may grant exemption from the operation of clauses 3, 4, 5, 6 and 7 to the extent he deems suitable where he is satisfied that their observance is not necessary for safeguarding the health of the operatives.

SCHEDULE XV

HANDLING AND MANIPULATION OF CORROSIVE SUBSTANCES

1. Definitions: For the purpose of this Schedule

(a) "Corrosive operation" means any manufacturing process, storing, handling, processing, packing or using any corrosive substance in a factory; and

(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 corrosive substance.

2. Flooring: The floor of every workroom of a factory in which corrosive operation is carried on shall be made of impervious, corrosion and fire resistance 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 often as necessary and maintained in a 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 suitably 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 persons employed in any corrosive operations.

4. Water facilities: Where any corrosive operation is carried on, there shall be provided as close to the place of such operation as possible, a source of clean water at a height of 210 cm from a pipe of clean water at 1.25 cm 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. Whenever necessary, in order to ensure continuous water supply, a storage tank having 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 is understood by majority of the workers employed, shall be displayed prominently and close to the place where any of the operation mentioned in paragraph 2 above is carried out and where it can be easily and conveniently read by the worker. 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 the vapours thereof, may be extremely hazardous. In case of contact, immediately flood the part affected 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 or through pipes and when they are to be transported in containers, they shall be included in crates of sound construction and of sufficient strength.

(b) a container with a capacity of 11.5 litres or more of a corrosive substance shall be placed in receptacle 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 substance shall be plainly labelled.

7. Devices for handling corrosives

(a) Tilting, lifting or pumping arrangements shall be used for emptying jars, carboys and other containers of corrosives.

(b) Corrosive substances shall not be handled by bare hands but shall be handled by means of a suitable scoop or other device.

8. Opening of 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 that purpose.

9. Cleaning tanks, stills, etc.

(a) In cleaning out or removing residues from stills or other large chambers 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.

10. Storage

(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 gas.

(b) Pumping or filling overhead tanks, receptacles, vats or other containers for storing corrosive substances shall be so arranged that there is no possibility of any corrosive substance overflowing and causing injury to any person.

(c) Every container having a capacity of twenty litres 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.

11. Fire extinguishers and fire-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 ether equipment.
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.

SCHEDULE XVI
POOTERY AND CERAMICS INDUSTRY
1. Definitions: For the purposes of this Schedule,
(a) "potter" includes earthenware, stoneware, porcelain, china tiles, and any other articles made from such clay or from a mixture containing clay and other materials such as quartz, flint, feldspar and GYPSUM;
(b) "efficient exhaust draught" means localised ventilation effected by mechanical or other means for removal of dust or fume so as to prevent it from escaping into air of any place in which work is 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, sand stocking, brushing

or any other process of cleaning of pottery ware in which dust is given off;
(d) "leadless glaze" means a glaze which does not contain more than one per cent 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 per cent of its fry weight, of a soluble lead compound calculated as lead monoxide when determined in the manner described below:

A weight quantity of the material which has been fried at 100 degrees centigrade and thoroughly mixed shall be continuously shaken for one hour at the common temperature with 1000 times weight of an aqueous solution of hydrochloric acid containing 0.25 per cent by weight of hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt contained in then clear filtrate shall then be precipitated as lead sulphide and weighed as lead sulphate;
(f) "ground or powdered flint or quartz" does not include natural sands' and
(g) "potter's shop" includes all places where pottery is formed by pressing or by any other process and all places where shaping, felting or other treatment of pottery articles prior to placing for the biscuit fir is carried on.
2. Efficient exhaust draught: The following processed shall not be carried on without the use of an efficient exhaust draught,

(i) all processes involving the manipulation or use of a dry and unfretted lead compound
(ii) fettling operations of any kind, whether on green ware 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;
(iii) shifting of clay dust as any other material for making tiles or other articles by pressure, except where,
(a) this is done in a machine so enclosed as to effectual 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, and pressing from clay dust of articles other than tiles, unless the material is so damped that no dust is given off;
(v)
(a) fettling of tiles made from clay dust by pressure, except where the fettling is done wholly on, or with, damp materiel;
(b) The fettling of other articles made from clay dust, unless the material is so damp that no dust is given off;
(vi) process of loading and unloading of saggars where handling and manipulation of ground powdered flint, quartz, alumina or other material involved.

(vii) brushing of earthenware biscuit, 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;
(viii) fettling of biscuit wear which has been fixed n powdered flint or quartz except where this is done in machines so enclosed as to effectually prevent the escape of dust;
(ix) ware cleaning after the application of glaze is done by dipping or other process;
(x) crushing and dry grinding of materials for pottery bodies and saggars, unless carried on in machines so enclosed as to effectively prevent the escape of dust or is so damp that no dust can be given off;
(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;
(xii) grinding of tiles on a power driven wheel unless an efficient water spray is used on the wheel;
(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.
(xiv) Preparation or weighing out of low material lawning of dry colour dusting and colour blowing;
(xv) mould making unless the bins or similar receptacles used for holding plaster of pairs are provided with suitable covers; and
(xvi) Manipulation of calcined material unless the material has been made and remains so wet that no dust is given off.
3. Separation from one another: 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 other wet processes,

(a) crushing and dry grinding or sieving of materials, fettling, pressing of tiles, drying of clay and green ware, loading and unloading of saggars; and
(b) all processes involving the use of a dry lead compound.
4. Restriction on use of glaze: No glaze which is not a leadless glaze of a low solubility glaze shall be used in a factory in which pottery is manufactured.
5. Prohibition of the employment of women and young persons: No women or person below 18 years shall be employed or permitted to work in any of the operations specified in paragraph 2, or at any place where such operations are carried on.
6. Potter's wheel: The potter's wheel (Jolly and Jigger) shall be provided with screens or so constructed as to prevent clay scrapings being thrown off beyond the wheel
7. Prevention of dust:

(1) All practical measures shall be taken by damping or otherwise to prevent dust arising during cleaning of floors.
(2) Damp saw-dust or other suitable materials 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.
8. Floors: The floors of potter's shops slip houses, dipping houses and ware cleaning rooms shall be hard, smooth and impervious and shall be thoroughly cleaned daily by an adult male using a moist method.
9. Medical facilities and records of examinations and tests
(1) The occupier of every factory in which manufacture of pottery is carried on, shall- (a) appoint a qualified medical practitioner for frequent examination 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.
10. Medical Examination by Certifying Surgeon
(1) Every worker employed in any process mentioned under paragraph 3, 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, hemoglobin content, stippling of cells and pulmonary function test and chest X-ray for workers engaged in processes mentioned in clauses (i) and (xiv) of paragraph 2 land 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.
(2) All persons employed in any of the processes included under sub-paragraph 2(i) and 2(xiv) shall be examined by a Certifying Surgeon once in every three calendar months. Those employed in any other processes mentioned in the remaining sub-paragraphs of paragraph 2 shall be examined by a Certifying Surgeon once 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 three years
(3) The Certifying Surgeon, after examining a worker, shall issue certificate of fitness in Form 26. 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 16-A.
(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 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 those documents should also include the period for which he considers that the said person is unfit for work in the said processes.
(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 those processes.
11. Protective equipment
(1) The occupier shall provide and maintain suitable overalls and head coverings for all persons employed in process included under paragraph 2.
(2) The occupier shall provide and maintain suitable aprons of a waterproof or similar material, which can be sponged daily for the use of the dippers, dippers assistants, throwers, jolly workers, casters mould makers and filter press and plug mill workers.
(3) Aprons provided in pursuance of paragraph (2) shall be thoroughly cleaned daily by the wearers by sponging or other wet process. All overalls and heads coverings shall be washed, cleaned and mended at least once a week, and this washing, cleaning or mending shall be provided for by the occupiers.
(4) No person shall be allowed to work in emptying sacks of dusty material, weighing out and mixing of dusty materials and charging of ball mills and plungers without wearing a suitable and efficient dust respirator.
12. Washing facilities
(1) The occupier shall provide and maintain, in a clean state and in good repair for the use of all persons employed in any of the processes specified in paragraph 2a washing place under cover with,
(a) Either a trough with smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 60 centimeters for every five such persons employed at the one time, and having a constant supply of clean water from taps projects above the trough at intervals of not more than 60 centimeters;

or

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 120 centimeters apart; and
(b) a sufficient supply of clean towels made of suitable material changed

daily, with sufficient supply of nail brushes and soap.
13. Time 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 employed in any of the processes mentioned in paragraph 2.
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 messroom providing accommodation of 0.93 square metres per head and furnished with the following namely;
(i) a sufficient number of tables and chairs or benches with back rest;
(ii) arrangements for washing utensils;
(iii) adequate means for warming food; and
(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 a responsible person and shall be kept clean.
15. Food, drinks, etc. prohibited in workrooms: No food, drink, pan and supari or tobacco shall be brought into or consumed by any worked in any workroom in which any of the processes mentioned in paragraph 2 are carried on and no person shall remain in any such room during intervals for meals and rest.
16. Cloakroom, etc.: There shall be provided and maintained for the use of all persons employed in any of the processes mentioned in paragraph 2,
(a) a cloakroom for clothing put off during working hours and such accommodation shall be separate from any messroom; and
(b) separate and suitable arrangement for the storage of protective equipment provided under paragraph 11.
17. Savings: Nothing contained in this scheduled shall apply to a factory in which any of the following articles, but no other article of pottery are made,
(a) unglazed or salt glazed bricks and tiles; and
(b) architectural terra-cotta made from plastic clay and either unglazed or glazed with a leadless glaze only.
18. Exemption: 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 of 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 XVII
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

1. Application: This Schedule shall apply to all factories or parts of factories in which any of the following processes is carried on
(a) breaking, crushing, disintegrating opening, grinding, mixing or sieving of asbestos and any other processes involving handling and manipulating 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 card-board and paper;
(f) manufacture of asbestos cement goods;
(g) application of asbestos by spray method;
(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 or appliance for the collection of asbestos dust; and
(j) any other processes in which asbestos dust is given off into the work environment.
2. Definitions: For the purpose of this schedule
(a) "Asbestos" means any fibrous silicate mineral and any admixture containing actionlite, amosite, anthophyllite, dhrysotile, crocidolite, tremolite or any mixture thereof, whether crude, crushed or opened;
(b) "approved" means approved for the time being in writing by the Chief Inspector;
(c) "asbestos textiles" means yarn or cloth composed of asbestos or asbestos mixed with any other materials;
(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 localized 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. No 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 worn, exclude asbestos dust.
3. Tools and equipment: Any tools or equipment used in processes to which this schedule applies shall be such that they do not create asbestos dust above the permissible limit or are equipped with efficient exhaust draught.
4. Exhaust draught
(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;

(ii) carding, card waste and ring spinning machines and looms;
(iii) machines or other plant fed with asbestos; and
(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 machine;
(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) work places at which the filling or emptying of sacks, skips or other portable containers, weighing or other process incidental thereto which is effected by hand, is carried;
(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 sub-paragraph (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 workplace.
(3) Arrangements shall be made to prevent asbestos dust discharged from exhaust apparatus being drawn into the air of any workroom.
(4) The asbestos bearing dust removed from any workroom by the exhaust system shall be collected in suitable receptacles or filter bags which shall be isolated from all work areas.

5. Testing and examination of ventilating system
(1) All ventilating systems used for the purpose of extracting or suppressing dust as required by this schedule 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.
(2) A register containing particulars of such examinations and tests and the state of the plant and the repairs or alterations (if any) found to be necessary shall be available for inspection by an Inspector.
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.
7. Storage and distribution of loose asbestos: All loose asbestos shall while not in use, be kept in suitable closed receptacles which prevent the escape of asbestos dust there from such asbestos shall not be distributed within a factory except in such receptacles or in a totally enclosed system of conveyance.
8. Asbestos sacks
(1) All sacks used as receptacles for the purpose of transport of asbestos within the factory shall be constructed of impermeable materials and shall be kept in good repair.
(2) A sack which has contained asbestos shall not be cleaned by hand beating but by a machine, complying with paragraph 3.
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.
(2) The cleaning as mentioned in sub-rule (1) shall, so far as is practicable, be carried out by means of vacuum cleaning equipment so designed and constructed and so used that asbestos dust neither escapes nor is discharged into the air of any workplace.
(3) When the cleaning 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.
(4) The vacuum cleaning equipment used in accordance with provisions of sub-paragraph (2) shall be properly maintained and after each cleaning operation, its surface kept in a clean state and free from asbestos waste and

dust.
(5) Asbestos waste shall not be permitted to remain on the floors or other surface 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.
10. Breathing apparatus and protective clothing
(1) An approved breathing apparatus and protective clothing shall be provided and maintained in good condition for use of every person employed
(a) in chambers containing loose asbestos;
(b) in cleaning, dust settling or filtering chambers of apparatus;
(c) in cleaning the cylinders, including the doffer cylinders, or other parts of a carding machine by means of hand-stickler; and
(d) in filling, beating or leveling in the manufacture or repair of insulating mattresses; and
(e) in any other operation or 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 de- dusted 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 efficiency in protecting the wearer.
(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.

(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 the sub-paragraph unless he has been fully instructed in the proper use of that equipment.
(8) 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.
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.
12. Washing and bathing facilities
(1) There shall be provided and maintained in a clean state 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.
(2) The washing places shall have stand pipes placed at intervals of not less than one meter.
(3) Not less than one half of the total number of washing places shall be provided with bathrooms.
(4) Sufficient supply of dean 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.
(5) Sufficient supply of soap and nail brushes shall be provided.
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.
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.
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 unauthorized persons 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 fiber in air shall be carried out once at least in every shift and the record of the results so obtained shall be entered in a register specially maintained for the purpose.
18. Medical facilities and records of medical 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;
(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, for detecting asbestos body 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.
(2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least 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 three years.
(3) The Certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 28. 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 29.
(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 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 those documents should also include the period for which he considers that the said person is unfit to work in the said processes.

(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 those processes.
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 wilting, 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 XVIII

PART 1

CHEMICAL WORKS

1. Application: This schedule shall apply to all manufacture and processes incidental thereto carried on in chemical works.
2. Definition: For the purpose of this Schedule,
(a) "chemical works " means any factory or such parts of any factory as are listed in Appendix 'A' to this schedule;
(b) "efficient exhaust draught" means localized 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 bi-chromate 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 homologues 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 paragraph 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 affliction 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 129-A, exceeding the concentration specified therein would make the substance toxic;
(j) "emergency" means a situation or condition leading to a circumstance or set 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 neighborhood in a serious manner, demanding immediate action;

(k) "dangerous chemical reactions" means high speed reactions, rim-away reactions, delayed reactions, etc., and are characterized by evolution of large quantities of heat, intense release of toxic or flammable gases or vapors, 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 where hazards to the persons entering into or working inside exist or are likely to develop during working.

PART II
GENERAL REQUIREMENTS
Applying to all the works in Appendix 'I'
1. House keeping
(1) Any spillage of materials shall be cleaned up before further processing.
(2) Floors, platforms, stairways, 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.
3. Prohibition on the use of food, etc**.:** No food, drink, tobacco, pan or any edible

item shall be stored or heated or consumed on or near any part of the plant or equipment.
4. Cautionary notices 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, to which the workers' attention should be drawn for ensuring their safety and health.
(2) In addition to the above cautionary notice, arrangement shall be made to instruct and educate all the workers including illiterate workers about the hazards in 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 deal with the hazards involved in unauthorized 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 one 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 colors used on the labels struck or painted on the various types of containers and pipelines.

5. Evaluation and provisions of safeguards before the commencement of process

(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-paragraph (1) above should be sent to the Chief Inspector at the earliest but in no case less than 15 days before commencing manufacture, handling, or storage of any of items covered under Appendix 'AA' 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-paragraphs (1) to (3) shall not ad in lieu of or in derogation to, any other provisions contained in any Act governing the work.

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.

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 and 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.

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, corrosion, flammability and explosion, etc., and shall conform to the relevant BIS specifications governing their construction and use for that area.

9. Handling and storage of chemicals

(1) The containers for handling and storage of chemicals shall be of 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 the hazards and safe handling methods and shall conform to the respective BSI 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 a safe manner using appropriate means.
(2) The arrangements for the storage of chemicals including charging of chemicals in reaction 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 114 A.
(3) Without prejudice to the generality of the requirements in sub-paragraph (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 take 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 products, which are highly unstable or reactive or explosive shall be limited to the quantities

required for two months use.
(b) Whenever the quantities laid down in the above clause (d) 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 considerations of safety.
(5) Standby arrangements equal to the biggest container shall always be available to transfer the toxic substances quickly into the standby storage facility if any defect develops in any of the containers resulting in the release of toxic substances.
(6) Any storage facility constructed using non-metallic material such as Fiber Glass Reinforced Plastics (FRP), all glass vessels, etc., shall have adequate strength to withstand the stress, if any, exerted by the contents and shall be properly anchored. Working platforms, atom 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.
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 isolation facilities shall be checked for its effectiveness once in a month.
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 m a clean, sterile and hygienic condition before issue.
(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.
(3) As regards any doubt regarding the appropriateness of any personal protective equipment, the decision of the Chief Inspector will be final.
12. Alarm systems

(1) Suitable alarm 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 conducive 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.

(2) The Chief Inspector of Factories may direct such systems to be installed in case of plants or processes where toxic materials are being used and spillage or leakage of which may cause widespread poisoning to or around the plant.

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 buried pipes and equipments, to control the escape 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-paragraph (2), shall be rendered innocuous by diluting with air or water or any other suitable agent or by suitably treating the substances.

14. Control of dangerous chemical reactions: Suitable provisions, such as automatic and or remote control arrangements, shall be made for controlling the effects of "dangerous chemical reactions". In the event of failure of control arrangements automatic flooding or blanketing or other effective arrangements shall come into operation.

15. Testing, examination and repair of plant and equipment

(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 procedure. 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, corrosion 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 pyroheric 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 indicating the person by whom testing has been done and the date of test; and

(c) any vessel which fails to pass the test or 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 persons doing the work. When repairs or modification is done on pipelines and joints are required to be welded, but welding of joints shall be preferred. Wherever necessary, 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 conform 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 of persons working on the stages.
(3) All the staging constructed for the purpose of this paragraph shall have appropriate access which are safe and shall be fitted with proper hand rails to a height of one meter and to be board.
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 or 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 space
(1) The occupier of every factory to which the provision 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 safe by washing or cleaning with neutralizing agents or purging with steam or men 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 purpose by a competent person and ensure that the confined space is safe for the persons 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, resurrection 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 or 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.
19. Maintenance work, etc.
(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' employing 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 cordoned off or the presence of unconnected persons effectively controlled.
20. Permit to work system: The permit to work system shall inter alia include the observance of the following precautions while carrying out any 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 parts 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 pre-determined work procedures which integrate safety with the work. Such procedures shall be reviewed whenever any change occurs in material or equipment so that continued 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 procedure 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 resurrection 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 approved personal protective equipment shall be use while 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 of persons assigned for collecting samples by instructing them on the safe procedures. Such personnel shall be provided with proper and approved personal protective equipment, if required.
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 or could result in explosion, are not permitted to be built 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 plan to meet all such identified emergencies including arrangements for summoning outside help for rescue and fire-fighting 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 the 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 arrangement and their meaning. The arrangement must be checked for its effectiveness every month.
(5) Alternate power supply arrangements shall be made and inter-locked 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 emergency is established and shall forthwith evacuate all persons in the area except workers who have been assigned emergency duties.
(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 percent of the workers trained in the use of First-Aid Fire Fighting appliances and in the rendering of specific First-Aid measures 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 substances to the treating physician when the information is needed to administer proper emergency or first-aid treatment to exposed persons.

24. Danger due to effluents
(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 systems to ensure that they may be trapped and rendered safe 1. Source of ignition including lighting installation

PART III
FIRE AND EXPLOSIONS RISKS
(1) No internal combustion engine and no electric motor or other electrical equipment and fittings and fixtures capable of generating sparks or 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 pipes 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 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 conveyers 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 in the 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, precautions shall be taken to ensure that earthing is effective before suck filling or discharge takes place. 3. Lightning protection: Lightning protection arrangement shall be fitted where necessary, and shall be maintained.
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 pre-determined temperature below the danger temperature.
5. Leakage of flammable liquids

(1) Provision shall be made to confine by means of band 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 firefighting appliances shall be in-stalled 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 guage and a proper safety valve or other equally efficient means to relieve the pressure. These appliances shall be maintained in good condition.
7. Installation of pipe lines, 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 of flammable or explosive substances, and record kept of any defects found and repairs made.
8. Firefighting system

(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 fire-fighting and lifesaving equipment in the event of fire or other emergency. Number of persons in this squad will necessarily depend upon the size of risk involved, but in no case, shall be less than eight such trained persons to be available at any time. The squad shall consist of watch and ward personnel, fire pump man and departmental supervisors and operators trained in the operation of fire and emergency services.
(b) Squad leaders shall preferably be trained in a recognized 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 pump man shall be thoroughly conversant with the location of all appliances. He shall be responsible for maintaining all firefighting equipment in proper working order. Any defect coming to his notice shall be immediately 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.

PART IV
RISKS OF TOXIC SUBSTANCES
1. Leakage

(1) All plants shall be so designed and constructed as to prevent the escape of toxic substance. 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 localize any escape of toxic substances.
(2) Catch pits, band 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 neutralized, 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 contact of any portion of the body of a worker, shall be so constructed as to avoid physical contact.
(2) Such vessel shall, unless its edge is atleast 90 centimeters above the adjoining ground or platform, be securely fenced to a height of atleast 90 centimeters 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 centimeters in width or is 45 or more centimeters in width, but is not securely fenced on both sides to a height of atleast 90 centimeters, secure barriers shall be so placed as to prevent passage between them:

Provided that sub-paragraph (2) of this paragraph shall not apply to,
(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.
4. Continuous exhaust arrangement
(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.
5. Work bench: All the work benches used in process involving the manipulation of toxic substances, shall be waded 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 of non-absorbable material with a tightly fitting cover for depositing waste material soiled with toxic substances and the contents of such saturators shall be destroyed by burning or using other suitable receptacle 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 considerations of quality, sufficient precautions shall be taken to render them innocuous or otherwise treat them or inactivate them, before disposal
(3) The empty containers of toxic substances shall be cleaned thoroughly before disposal under the supervision of a responsible person.

PART V
SPECIAL PROVISIONS
1. Special precautions for Nitro or Amino Processes
(1) Unless the crystallized 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 draught or by adopting any other suitable means in such a manner as to prevent the escape of dust or fume in the working atmosphere.
(2) No part of the plant or equipment or implements which was in contact with intro 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 contain g 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.
2. Special precautions for chrome processes
(1) Grinding and sieving of raw materials in chorine 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) There shall be washing facilities located very near to places where wet chrome processes such as leaching, acidification, sulphate settling, evaporation crystallization, centrifugation or packing arc carried out, to enable quick washing of affected parts of body with running water.
(3) Weekly inspection of hand and fat of all persons employed in chrome pawns 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) 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.
3. Special precautions for processes carried out in all glass vessels
(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) Any spillage or emission of vapour from all glass vessel due to breakage, shall be immediately inactivated or rendered innocuous by suitable means such as dilution with water or suitable solvents so as to avoid the risk of fire or explosion or health hazards.
4. Special precautions for processes involving chlorate manufacture
(1) Crystallization, grinding or packing of chlorate shall not be done in a place used for any other purpose and such places shall have hard, smooth and impervious surface made of non-combustible material. The place shall be thoroughly cleaned daily.
(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 vessels shall not be used for the crystallization of chlorate or to contain crystallized ground chlorate.
5. Special precautions in the use of plant and equipment made from reinforced plastics
(1) All plant and equipments shall conform to appropriate Indian or any other National Standard.
(2) Care shall be taken during storage, transport, handling and installation of plant and equipments to avoid accidental damage.
(3) All plant 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.
(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.
(5) After erection, all plant 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.
(6) All plant and equipments shall be subjected to periodical test and

examination and record maintained as per paragraph 15 in Part II of this schedule.
(7) Plant and equipments during their use shall not be subjected to over filling or overloading beyond rated capacity.

PART VI
MEDICAL REQUIREMENTS
1. Decontamination facilities: In all places where toxic substances are used in processes listed in Appendix 'A', the following provisions shall be made to meet an emergency:
(a) fully equipped first-aid box.
(b) readily accessible means of drenching with water persons, part 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:

Number of persons employed Number at any time	Number of drenching showers
Upton 50 persons	2
Between 51 to 100	3
101 to 200	3+ 1 for every 50 persons thereafter
201 to 400	5+ 1 for every100 persons thereafter
401 and above	7+ 1 for every 200 persons 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 times.

2. Occupational health centre: In all the factories carrying out processes covered in Appendix 'A' there shall be provided and maintained in good order an occupational health centre with facilities as per scale laid down hereunder

(1) For factories employing up to 50 workers,

(a) the services of a qualified medical practitioner hereinafter known as Factory Medical Officer, available on 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 atleast 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 floor area of 1.5 sq. m. with floors 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 1,000 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 square meter 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.
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 fulltime driver-cum-mechanic and a helper, trained in 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.
(2) The relaxation to procure Ambulance Van from nearby places provided for in sub-paragraph (1) above will not be applicable to factories employing more than 500 workers.
4. Medical examination
(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 workers; 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:

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.
(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 register.
(4) The worker suspended from the process owing to the circum-stances covered in sub-paragraph (2) shall be employed again in the same process only after obtaining the fitness

certificate from the Certifying Surgeon and after making entries to that effect in the health register.

PART VII
ADDITIONAL WELFARE AMENITIES

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 arrangements and nail brushes or other suitable means for effective cleaning. Such facilities shall be conveniently accessible and shall be kept in a 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.

2. Mess room 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 along with the provision of cold and hygienic drinking water facilities.
(2) Such facilities shall include suitable arrangements for cleaning and washing and shall be maintained in a clean and hygienic condition.

3. Cloak room facilities

(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-paragraph (1) shall be located as far as possible near to the facilities provided for washing in pursuance of paragraph 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.

4. Special bathing facilities

(1) The occupier of any factory carrying out the process covered under Appendix 'B. shall provide special bathing facilities for all the workers employed and such facilities shall be provided at the rate of one 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 of those workers taking bath in any place other than the bathing facilities.
(3) Notwithstanding anything contained in sub-paragraph (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 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' shall not make safety device or appliance or any guarding or fencing arrangement, inoperative 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 malfunction

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 unauthorized place or carry out unauthorized work or improvise any arrangements 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

RESTRICTIONS ON THE EMPLOYMENT OF YOUNG PERSONS UNDER 18 YEARS OF AGE AND WOMEN

(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 this schedule on considerations of health and safety of women and young persons.

(2) Such persons who are restricted or prohibited from working in the process due to the order issued in pursuance of sub-paragraph (1) above shall be provided with alternate work which is not detrimental to their health or safety.

PART X

EXEMPTIONS

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 'A' if it is clearly and satisfactorily established by the occupier that the compliance with any of the requirements is not necessary to ensure the safety and health of persons employed as suitable and effective alternate arrangements are available to the requirements covered in this schedule.

APPENDIX 'A'

Any works or that part of works in which

(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, beryllium and their organic and inorganic salts, alloys, oxides and hydroxides;

(ii) ammonia, ammonium hydroxide and salts of ammonium;

(iii) the organic or inorganic compounds of sulphurous, sulphuric, nitric, nitrous, hydrochloric, hydrofluoric, hydroiodic, hydrosulphuric, hydrobromic, boric;

(iv) cyanogen compounds, cyanide compounds, cyanate compounds;

(v) Phosphorous and its compounds, other than organic phosphorous insecticides;

(vi) chlorine.

(b) Hydrogen sulphide is evolved by the decomposition of metallic sulphides, or hydrogen sulphide is used in the production of such sulphides;

(c) bleaching powder is manufactured or chlorine gas is produced in chloro-alkali plants;

(d)

(i) gas tar or coal tar or bitumen or shale oil, asphalt or any residue of such tar is distilled or is used in any process of chemicals manufacture;

(ii) tar based synthetic colouring matters or their intermediates are produced;

(e) nitric add 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.

APPENDIX 'B'

CONCERNING SPECIAL BATHING ACCOMMODATION IN PURSUANCE OF PARAGRAPH 4 OF PART IV

1. Nitro or amino processes.
2. All chrome processes.
3. Processes of distilling gas or coal tar or processes of chemical manufacture in which tar is used.
4. Processes involving manufacture, manipulation, handling or recovery of cyanogen compound, cyanide compound, cyanate compounds.
5. Processes involving manufacture of bleaching powder or production of chlorine gas in chloro-alkali plants.
6. Manufacture, manipulation or recovery of nickel and its compounds.
7. All processes involving the manufacture, manipulation or recovery of aliphatic or aromatic compounds or their derivatives o substituted derivatives.

APPENDIX V

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 tilted upwards;
Fixed suction unit with equipments;
Fixed oxygen supply with equipments;
Pillow with case;
Sheets;
Blankets;
Towels;
Emesis bag;
Bed pan;
Urinal;
Glass.

Safety equipment

Flares with life of 30 minutes;
Flood lights;
Flash lights;
Fire extinguisher dry powder type;
Insulated gauntlets

Emergency care equipments:

Resuscitation:

Portable suction unit;
Portable oxygen unit;
Bag valve-mask, hand operated artificial ventilation unit;
Airways;
Mouth gags;
Tracheostomy adaptors;
Short spine board;
I.V. Fluids with administration unit;
B.P. Manometer;
Gugg;
Stethoscope

Immobilization

Long and short padded boards;
Wire ladder splints;
Triangular bandage;
Long and short spine boards.

Dressings

Gauze pads — 4 inches x 4 inches;
Universal dressing 10 inches x 36 inches;
Roll of aluminium foils;

Soft roller bandages 6 inches x 5 yards;
Adhesive tape in 3 inches roll;
Safety pins;
Bandage sheets;
Burn sheet

Poisoning

Syrup of Ipecac and Activated charcoal Pre-packeted in doses
Snake bite kit;
Drinking water.

Emergency medicines

As per requirement (under the advice of Medical Officer only).

SCHEDULE XIX

MANUFACTURE OR MANIPULATION OF CARCINOGENIC DYE INTERMEDIATES

1. Application

This Schedule shall apply in respect of all factories or any part thereof in which process of manufacturing or manipulation of a Carcinogenic Dye Intermediates (hereinafter referred to as the said manufacturing process) is carried on:
Provided that paragraphs 25 and 26 shall only apply to a process involving manufacture or manipulation of compounds mentioned in Appendix B (hereinafter referred to as the said manufacturing process B).

PART I

2. Definitions: For the purposes of this Schedule,
(a) "Nitro or amino compound" means a nitrated or aminated compounds of aromatic hydrocarbons mentioned in Appendix A or B attached thereto.
(b) "Approved" means approved by the Chief Inspector of Factories;
(c) "Efficient Exhaust Draught" means localized ventilation effected by mechanical means for the removal of gas, vapour, dust or fume so as to prevent them from escaping into the air or 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, fumes or dust originates;
(d) "First employment" means first employment in the said manufacturing process and also re-employment in such manufacturing process following any cessation of employment for continuous period exceeding three calendar months;
(e) "Manipulation" includes mixing, blending, filling, emptying. grinding, sieving, drying, packing, sweeping, handling, using or chemical processing of a nitro or amino compound;
(f) "Air Line Respirator" means a helmet or face piece with necessary connections by means of which a person using it in a poisonous, or irritant atmosphere breathes ordinary air or any other suitable apparatus approved in writing by the Chief Inspector;
3. Cautionary Placard

Cautionary placard in the form specified in Appendix C attached to this Schedule and printed in the language of the majority of the workers employed shall be affixed in prominent places

frequented by them in the factory where the placards can be easily and conveniently read by the workers; and arrangement shall be made by the occupier to instruct periodically all workers employed in the said manufacturing proms regarding the precautions contained in the cautionary placard.

4. Prohibition relating to employment of women and 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 which a nitro or amino compound is stored.

5. Air space

In every room in which the said manufacturing process is carried on there shall be at least 15 centimeters of air space excluding any space occupied by machinery, equipments or any other article for each person employed therein and in computing this air space no height over 4.25 meters shall be taken into account.

6. Efficient exhaust draught

Unless the said manufacturing process is completely enclosed so as not to give rise to dust or fume it shall not be carried on without the use of an efficient exhaust draught when a nitro or amino compound

(a) is introduced into a tank, hopper, machine or container or filled into cartridge; or

(b) is ground, crushed, mixed, sieved or blended.

7. Floor of workrooms

The floor of every workroom in which the said manufacturing process is 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 sound condition, (c)

slope and provided gutters and (d) thoroughly washed daily by means of hose pipe and drain water shall be led into a sewer through a closed channel.

8. Work-benches

Work-benches on which a nitro or amino compound is manipulated shall (a) have a smooth impervious surface preferably of stainless steel; and (b) shall be washed daily with a hose-pipe or cleaned by means of a suction cleaning apparatus at a time when no other work is being carried on there.

9. Waste

(1) A suitable receptacle made of non-absorbable material with a tightly fitting cover shall be provided and used for depositing waste, like cloth, paper or other material soiled with a nitro or amino compound.

(2) All such contaminated waste material shall be destroyed by burning at least once a week.

10. Empty containers

Empty containers used for holding com-pounds included under Appendix A shall be thoroughly cleaned of their contents and treated with an inactivating agent before being discarded.

11. Decontamination of pit, tank, etc.
(a) Before a worker enters a tank, pit, kettle or any other confined space which contained a nitro or amino compound, it shall be thoroughly washed and decontaminated.
(b) No part of the plant which has contained a nitro or amino compound shall be repaired or opened for repairs unless it has emptied of such compound, thoroughly cleaned and decontaminated.
(c) Records of such treatment shall be maintained in a register approved by the Chief Inspector and the register shall be made available for inspection when required by an Inspector.
12. Manual handling

A nitro or amino compound shall not be required or allowed to be mixed, filled, emptied or handled except by means of a scoop with a handle which shall be thoroughly cleaned daily.
13. Protective wear

The occupier shall provide, maintain clean and in good repair protective clothing and other equipments as specified m the table below
TABLE

Process	Protective clothing and other equipment
For manipulation of compounds mentioned in Appendices A and B	(a) Long pants and shirts or overalls with long sleeves and head coverings. The shirt or overalls shall cover the neck completely
(b) Rubber gloves, rubber gum boots, rubber aprons and airline respirator	
For manipulation of compounds mentioned in Appendix B	(c) White clean clothing mentioned in (a) Above, in addition to white clean shirts, singlet and protective equipment as in (b) (d) White long sleeved aprons above

13A. Instructions as regards risks
Every worker on his first employment shall be fully instructed on the properties of the chemical he has to handle and of the dangers involved. Workers shall also be instructed in the measures to be taken to deal with any emergency.
14. Medical facilities and records of examinations and tests
(1) The occupier of every factory to which the schedule applies, shall

(a) appoint a qualified Medical Practitioner for frequent examination 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. Medical Examination by the Certifying Surgeon
(1) Every worker employed in the said processes shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for detection of methemoglobin in blood (Heamatological tests), paranitrophenol in urine, Pulmonary function tests and C.NS. tests. No worker shall be allowed to work after 15 days of hi, 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 six calendar months and such re-examinations shall, wherever the Certifying Surgeon considers appropriate, include all the tests specified in sub-paragraph (a).
(3) The Certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 27. 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 16-A.

(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 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, 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.
(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 process unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.
16. Washing and bathing facilities
(1) The following washing and bathing facilities shall be provided and maintained in cleanly state and in good repair for the use of all persons employed in the said manufacturing process:
(a) A wash place under cover with clean towels, soap and nail brushes and with atleast one stand- pipe for every five such persons having constant supply of water.

(b) Fifty percent of the stand-pipes provided under item (i) above shall be located in bathroom where both hot and cold 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 within a radius of 15 meters from the area housing the said manufacturing process.
(d) Clean towels shall be provided individually to each worker if so ordered by an Inspector.
(e) In addition to taps mentioned under item (a), one stand-pipe in which warm water made available shall be provided on each floor.
(2) Arrangement shall be made to wash factory uniforms clothes compulsorily every day.
17. Washing and bathing
(a) All workers employed in the said manufacturing process shall carefully wash their hands and face before partaking of food or leaving the factory.
(b) Bath Register: Workers employed in the said manufacturing process shall take a bath daily at the factory premises and enter their names in the bath register in token of having done so.
18. 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 manufacturing process is carried on and no worker shall remain in any such room during intervals for meals or rest.
19. Cloak-room

There shall be provided and maintained in a clean state and in good repair for the use of the persons employed in the said manufacturing process (a) a cloak-room with lockers having two compare meats, one for street clothes and the other for factory clothes and (b) a place separate from the locker room and from the mess-room for the storage of protective equipment provided under paragraph 13. The accommodation so provided shall be under the care of a responsible person and shall be kept clean.
20. Mess-room

There shall be provided and maintained for use of all persons employed in the factory and remaining in the premises during the meal intervals, a mess-room which shall be furnished with (a) tables and benches, and (b) means for warming food.
The mess-room shall be placed under the charge of a responsible person and shall be kept clean.
21. Time allowed for washing

Before each meal and before the end of the day's work at least ten minutes in addition to the regular intervals shall be allowed for washing to each person who has been employed in the said manufacturing process.
22. Drying stoves
(1) Every drying stove shall be efficiently ventilated to the outside air in such a manner that hot air from the stove shall not be drawn into any workroom.
(2) No person shall enter stove to remove the contents until a free current of air has been passed through it by mechanical means.

23. Non-sparking tools

Non-sparking tools shall be provided for the purpose of cleaning or repairing machinery or operating any process where vapors of betanaphthylamine are evolved.

24. Testing of atmosphere, etc

Aminos in the atmosphere of the workroom where the manufacturing process is carried on shall be estimated once every week and records of results of such estimations shall be made available when required by an inspector.

PART II

25. Separation of processes

The said manufacturing process B shall be carried on in rooms which shall not communicate with any other room except through a passage open entirely to outside atmosphere.

26. Limitation of exposure

(1) No worker under the age of 40 years shall be engaged in the factory for the said manufacturing process B for the first time after the date on which these rules come into force.

(2) Before the end of the day's work at least one hour shall be allowed for bathing to each person, who is employed in the said manufacturing process B including the lime allowed under paragraph 19.

27. Exemption

If in respect of any factory the Chief Inspector is satisfied that (owing to the exceptional circumstances or infrequency of the process or for any other reason) all or any of the provisions of this Schedule arc not necessary for the protection of persons employed in the factory, he may by certificate in writing, exempt such factory from all or any of such provisions subject to such conditions as he may specify therein. Such certificates may at any time be revoked by the Chief Inspector.

APPENDIX

(See paragraphs 2, 10, 13 and 15)

The benzenes, toluenes, xylenes, having undergone nitration once or several times (nitro, dinitro and trinitro benzene and its homologues) and their chlorinated compounds, naphthalenes, having undergone nitration once or several times, aniline, and its homologues (toludine, syncline, cumidine) anisdine, phenetidine and their chlorinated, nitrated and alkeylated compounds (demethylenillin toluylendiamine, toludine, phynylhydrazine, toluylhydrazin).

APPENDIX

(See paragraphs 2, 13, 15, 25 and 26)

Alphanaphthylamine.
Betanaphthylamine.
Henozidine and its salts
Dianisidinc.
Tolidine.

Dichlorobenzidine.

APPENDIX

(SEE PARAGRAPH 3)

CAUTIONARY PLACARD

Advice to workers:

(1) Nitro and amino compounds or aromatic hydrocarbons are dangerous. In this factory you have to handle them frequently.

(2) All items of protective wear provided should be made use of to safeguard your health.

(3) Maintain scrupulous cleanliness at all times. Before meal, wash hands and feet. A bath before leaving the factory is essential, taking care to wash the head well.

(4) If any chemical falls on your body, wash it off immediately with soap and water, change clothing at once, if soaked with a cyanotic nitro or amino compound. Contact the appointed doctor immediately.

(5) Do not handle any nitro or amino compound with bare hands. Use a long handled scoop.

(6) Avoid alcoholic drinks as these increase risk of poisoning.

(7) In case of illness contact the Factory Manager and the appointed doctor.

(8) Do not chew, eat, drink or smoke in the workroom or with soiled hands. Keep food and drink away from the workplace.

(9) If you work with Betanaphthylamine or benzidine or its salts, alphanaphthylamine or dianisidine

(a) remember the serious effects will follow after a number of years if great care is nor taken to observe absolute cleanliness of body, clothes, machinery and tools;

(b) at mealtime, wash face and hands twice with soap and water to remove all chemicals; wear a long-sleeved clean apron while eating;

(c) before leaving the factory take a bath using soap and water twice; after this put on your home clothes.

SCHEDULE XX

PROCESS OF EXTRACTING OILS AND FATS FROM VEGETABLE AND ANIMAL 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 recovery of vegetable oils;

(c) “flameproof enclosure” as applied to electrical machinery or apparatus means an enclosure that will withstand, when covers or other access doors and properly secured, an internal explosion of the inflammable gas or vapour which may enter or which may originate inside the enclosure without suffering damage and without communicating internal inflammation (or explosion) to the external inflammable gas or vapour;

(d) “competent person” for the purpose of this Schedule shall be at least a Member of the Institution of Engineers (India) or an Associate Member of the said Institution with 10 years’ experience in a responsible position as may be approved by the Chief Inspector.

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 a competent person:
Provided further that the Government may accept any other qualifications which in its opinion are equivalent to the qualifications aforesaid.
2. Location and layout
(a) No solvent extraction plant shall be permitted to be constructed or extended to within a distance of 30 meters from the nearest residential locality.
(b) A 1.5 meters high continuous wire fencing shall be provided around the solvent extraction plant upto a 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 houses and other buildings where open flame processes are carried on shall be located at least 30 meters from the solvent extraction point.
(e) If godowns and preparatory process are at a distance of less than 30 meters from the solvent extraction plant, these shall be at least 15 metres distance from the plant, and a continuous barrier wall of non-combustible material 1.5 meters high shall be erected at a distance of not less than 15 meters from the solvent extraction plant so that it extends to at least 30 meters of vapour travel around its ends from the plant to the possible source of ignition.
3. Electrical installations
(a) All electrical motors and wiring and other electrical equipments installed or housed in solvent extraction plant shall be of flameproof 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 energized shall be properly bonded together and connected to earth so as to avoid accidental rise in the electrical potential of such parts above the earth potential.
4. Restriction on smoking: Smoking shall be strictly prohibited within 15 meters distance from solvent extraction plant. For this purpose, “No Smoking” signs shall be permanently displayed in the area.
5. Precautions against friction
(a) All tools 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 used is of such a type that it does not permit accumulation of static electricity to a dangerous level.
(c) No person shall be allowed to enter and work in the solvent extraction plant if he is wearing clothes made of nylon or such other fibre that can generate

static electrical charge, or wearing footwear which is likely to cause sparks by friction.
6. Firefighting apparatus
(a) Adequate number of portable fire extinguishers suitable for use against inflammable liquid fires shall be provided in the solvent extraction plant.

(b) An automatic water spray sprinkler system on a wet pipe or open-head deluge system with sufficient supply of storage water shall be provided over solvent extraction plant and throughout the building which is housing such a plant.
7. Precautions against power failure: Provision shall be made for the automatic cutting off of steam in the event of power failure and also for emergency overhead water supply for feeding water by gravity to condensers which shall come into play automatically with the power failure.
8. Magnetic separators: Oil cake shall be fed to the extractor by a conveyor through a hopper and a magnetic separator shall be provided to remove any pieces of iron during its transfer.
9. Venting
(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 terminate at least 6 meters above the ground and be so located that vapours will not re-enter the building in which solvent extraction plant is located.
10. Waste water: Process 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 meters to the fence.
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 at last six air changed per hour.
12. Housekeeping
(a) Solvent shall not be stored in an area covered by solvent extraction plant except in small quantities which shall be stored in approved safety cans.
(b) Waste materials such as oily rags, other wastes and absorbants used to wipe off solvent and paints and oils shall be deposited in approved containers and removed from the premises at least once a day.
(c) Space within the solvent extraction plant and within 15 meters from the plant shall be kept free from any combustible materials and any spills of oil or solvent, shall be cleaned up immediately.
13. Examination and repairs
(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 examination shall be supplied to the Inspector with his

observation 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.
(c) Facility shall be provided for purging the plant with inert gas before opening the same for cleaning or repairs and before introducing solvent therein after repairs.
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 person to be fit for the purpose and no other person shall be allowed to operate the plant and machinery.
15. Employment of women and young persons: No woman or young person shall be employed in the solvent extraction plant.

16. Vapour detection: A suitable type of flameproof 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.
17. Exemption: 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 person, 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 as he may specify therein.

SCHEDULE XXI
MANUFACTURE OR MANIPULATION OF BENZENE
1. This Schedule is made to provide protection against hazards of poisoning from benzene and shall apply in respect of all factories or parts thereof in which Benzene or substances containing Benzene are manufactured, handled or used.
2. Definitions: For the purpose of this Schedule,
(a) 'Substances containing benzene' means substances wherein benzene content exceeds 1 percent by volume;
(b) 'Substitute' means a chemical which is harmless or less harmful than benzene and can be used in place of benzene;
(c) 'Enclosed system' means a system which will not allow escape of benzene vapors to the working atmosphere;
(d) 'Efficient exhaust draught ' means localized ventilation effected by mechanical means for the removal of gases, vapors, dusts or fumes so as to prevent them from escaping into the air of any workroom. No draught shall be deemed to be efficient if it fails to remove smoke generated at the point where such gases, vapors, fumes or dusts originate.
3. Prohibition and substitution

(a) Use of benzene and substances containing benzene is prohibited in the following processes:
(i) Manufacture of varnishes, paints and thinners; and
(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.
4. Protection against inhalation

(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, however, it is not practicable to carry out the process in an enclosed system, to workroom in which Benzene or substances containing Benzene are used, shall be equipped with an efficient exhaust draught or other means for the removal of Benzene vapors 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/m3;
(c) Air analysis for the measurement of concentration of Benzene vapors 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 vapors in air as measured by air analysis, exceeds 25 parts per million by volume or 80 mg/m3 the Manager shall forthwith report the concentration to the Chief Inspector stating the reasons for such increase;
(d) Workers who for special reasons are likely to be exposed to concentration of Benzene in the air of the workroom exceeding the maximum referred to in clause (b) shall be provided with suitable respirators or face masks. The duration of such exposure shall be limited as far as possible.
5. Measures against skin contact
(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 and where necessary, vapour-tight chemical goggles made of material not affected by Benzene or its vapors.

(b) The protective wear referred to in sub-clause (a) shall be maintained in good condition and inspected regularly.
6. Prohibition relating to employment of women and young persons

No woman or young person shall be employed or permitted to work in any workroom involving exposure to Benzene or substance containing Benzene.
7. Labelling

Every container holding Benzene or sub-stances 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 leaky and warning about inflammability of the chemical.
8. Improper use of Benzene
(a) The use of Benzene or substances 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.
9. Prohibition of consuming food, etc., in workrooms

No worker shall be allowed to store or consume food or drink in the workroom in which Benzene or substances containing Benzene are manufactured, handled, or used. Smoking and chewing tobacco or pan shall be prohibited in such workrooms.
10. Instruction 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.

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 workrooms where Benzene or substances containing Benzene are manufactured, handled or used.

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 constant supply of water with soap and a clean towel provided individually to each worker if so ordered by the Inspector;

(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 means for warming food, provided that where a canteen or other proper arrangements exist for the workers to take their meals, the requirements of mess-room shall be dispensed with.

13. Medical facilities au d 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).

(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.

14. Medical Examination by the Certifying Surgeon

(1) Every worker employed in processes mentioned in paragraph 1, shall be examined by a Certifying Surgeon within 15 days of his rust employment. Such examination shall include tests for detection of Phenol in urine and determination of urinary sulphide ratio and C.N.S. and Haemotologyical 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 said processes shall be re-examined by a Certifying Surgeon at least once in every twelve calendar months and such examinations 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 months by the factory Medical Officer.

(3) The Certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 26. 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 16-A.
(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 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 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 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 which case the person affected shall be suitably rehabilitated.
(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.

APPENDIX A
[See Clause 3(b)]
1. Production of Benzene
2. Process where Benzene is used for chemical synthesis.
3. Motor spirits (used as fuel)

APPENDIX B
(See Clause 11)
(a) The hazards
(i) Benzene and substances containing Benzene are harmful;
(ii) Prolonged or repeated breathing of Benzene vapors may result in acute or chronic poisoning;
(iii) Benzene can also be absorbed through skin which may cause skin and other diseases
(b) The preventive measures to be taken
(i) Avoid breathing of benzene vapors;
(ii) Avoid prolonged or repeated contact of benzene with the skin;
(iii) Remove benzene soaked or wet clothing promptly;
(iv) If any time you are exposed to high concentration of benzene vapors and exhibit the sign and symptoms such as dizziness, difficulty in breathing, excessive excitation and losing of consciousness, immediately inform your Factory Manager;
(v) Keep all the containers of benzene closed;
(vi) Handle, use and process benzene and substances containing benzene carefully in order to prevent their spillage on floor;

(vii) Maintain good house-keeping;
(c) The protective equipment to be used
(i) the respiratory protective equipment in places where benzene vapors are present in high concentration;

(ii) In emergency, use self-generating oxygen mask or oxygen or air cylinder masks;
(iii) Wear hand gloves, aprons, goggles and gum boots to avoid contact of benzene with your skin and body parts.
(d) The first-aid measure to be taken in the case of acute benzene poisoning.
(i) Remove the clothing immediately if it is wetted with benzene.
(ii) If liquid benzene enters eyes, flush thoroughly for at least fifteen minutes with clean running water and immediately secure medical attention.
(iii) In case of usual exposure to benzene vapour, call a physician immediately. Until he arrives do the following

If the exposed person is conscious:
(A) Move him to fresh air in open;
(B) Lay down without a pillow and keep him quiet and warm.

If the exposed person is unconscious
(a) Lay 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 shallow breathing or cyanosis (blueness of skin, lips, ears, finger nails beds) he should be provided with medical oxygen or oxygen carbondixide mixture. If needed, he should be given artificial respiration. Oxygen should be administered by a trained person only.

SCHEDULE XXII
CARBON DI SULPHIDE PLAITS
1. Application: This schedule shall apply to all electrical furnaces in which carbon disulphide is generated and all other plants where carbon di sulphide 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 Operation
(a) The buildings in which electric furnaces are installed and carbon di sulphide after generation is condensed and refined shall be segregated from other parts of the factory and shall be of open type to ensure optimum ventilation and the plant layout shall be such that only 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 di sulphide is condensed, refined and stored with all their fittings and attachments shall be of good construction, sound material and of adequate strength to sustain

the internal pressure to which the furnace or the plant may be subject and shall be so designed that carbon di sulphide 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 manufacturers' instructions and these instructions shall be clearly imparted to the personnel in charge of construction and operation.
(e) The instructions regarding observance of correct furnace temperature, sulphur doze, admissible current/power consumption and periodical checking of charcoal level shall be strictly complied with.
3. Electrodes
(a) Where upper ring electrode(s), made of steel are used in the electric furnace, they shall be seamless tube construction and shall have arrangement for being connected to cooling water system through a siphon built /in the electrodes or through a positive pressure water-pump.
(b) The arrangement for cooling water referred to in clause (a) shall be connected with automatic alarm system which will actuate in the event of interruption of cooling water in the electrodes and give Visible and audible alaram 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. Charcoal level indicator and vibrator: Means shall be provided on each electric furnace for indicating the correct level of charcoal in the furnace and for vibrating the charcoal. This means shall be employed as often a necessary to maintain correct charge and level of the charcoal.
5. Charcoal separator: A cyclone type of charcoal separator shall be fitted on the off-take pipe between the electric furnace and sulphur separator to prevent entry of pieces of charcoal into the condensers and piping.
6. Rupture discs and safety seal
(a) At least two rupture 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 seal shall be provided and tapped from a, point between the charcoal separator and the sulphur separator.
7. Pyrometer and manometers
(a) Each electric furnace shall be fitted with adequate n- p pyrometers to make a correct assessment of the tern at various points in the furnace. The dials for reading the e tut shall be located in the control room.
(b) Manometers shall be provided for indicating pressure,

(i) in the off-take pipe before and after the sulphur and
(ii) in primary and secondary condensers.
8. Check valves: All piping carrying carbon disulphide shall be fitted with valves at suitable positions so as to prevent gas from back into any electric furnace in the event of its shut down.
9. Inspection and maintenance of electric furnace

(a) Every electric furnace shall be inspected internally by a competent person;
(i) Before being placed in service after installation;
(ii) before being placed in service after reconstruction or repairs; and
(iii) periodically every time the furnace is opened for cleaning or deashing or for replacing electrodes.
(b) When an electric furnace is shut down for cleaning or deashing;
(i) the brick lining shall be checked for continuity and any part found defective removed;
(ii) after removal of any part of the lining, referred to in (a) the condition of the shell shall be closely inspected; and
(iii) any plates forming shall found corroded to the extent that safety of the furnace is endangered shall be replaced.
10. Maintenance of records

The following hourly records shall be maintained in a log books:
(i) Manometer readings at the points specified in 7 (b) and (ii);
(ii) Gas temperature indicated by pyrometers and all other vital points near the sulphur separator and primary and, secondary condensers.
(iii) Water temperature and flow of water through the siphen in the electrodes;
(iv) Primary and secondary voltages and current and energy consumed.
11. 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.
12. Prohibition relating to smoking: No person shall smoke or carry matches, fire or naked light or 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 other means of producing naked light or spark into such rooms.
13. 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 stair cases of adequate width shall be provided in every building housing the furnaces at reasonable intervals at opposite

ends. These shall always kept clear of all obstructions and so designed as to afford easy passage.
14. Warnings in case of fire: There shall be adequate arrangements, for giving warnings in case fire or explosion which shall operate on electricity and in case of failure construction, adequately and so designed as to provide a minimum of electricity by some mechanical means.
15. Fire-fighting equipment
(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 materials stored;
(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.

16. 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 off by nearly 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 handling of bulk sulphur.
(b) All enclosures for bulk sulphur shall of non-combustible ledges on which dust may lodge.
(c) The bulk sulphur in the enclosures shall be handled id such a manner as to, minimise the formation of dust clouds and no flame, smoking and matches or other sources of ignition shall be employed during handling and non-sparking tools shall be used whenever sulphur is shevelled or otherwise removed by hand.
(d) No repairs involving flames heat or, use or hand or power tools shall be made in the enclosure where bulk Sulphur is stored.
17. Liquid Sulphur: Open flames, electric sparks and other sources of ignition, including smoking and matches, shall be excluded from the vicinity of molten sulphur.
18. Training and supervision
(a) All electric furnaces and all plants in which carbon disulphide is condensed, refined supervision at all times while the furnaces and plant are in operation.
(b) Workers incharge of operation and maintenance of electric furnaces and the plants shall be properly qualified and adequately trained.
19. 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 at least one tap or stand-pipe, having a, constant supply of clean water for every 4 five such persons, the taps or stand-pipes being spaced not less than 120 centimetres apart with a sufficient supply of soap and clean towels, provided that towels shall be supplied individually to each worker if so ordered by the Inspector.

All the workers employed in the sulphur storage, handling and melting operations shall be provided with a nail brush.
20. Personal protective equipment
(a) Suitable goggles and protective clothing consisting of overalls without pockets, gloves and foot-wear shall be provided for the use of operations;
(i) when operating valves or cocks controlling fluids etc.
(ii) drawing of molten sulphur from sulphur pots, and
(iii) suitable respiratory protective equipment shall be provided and stored in the appropriate place for use during abnormal conditions or in an emergency.
(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.
21. Cloak-rooms: There shall be provided and maintained for the use of all persons employed in the processes a suitable cloak room for clothing put off during work hours and a suitable place separate from the cloak room for the storage of overalls or working cloths. The accommodation so provided shall be placed in the charge of a responsible person and shall be kept clean.

22. Unauthorised persons: Only maintainance and repair personnel persons directly connected with the plant operation and those accompanied by authorised persons shall be admitted into the plant.

SCHEDULE XXIII
MANIPULATION OF STONE OR ANY OTHER MATERIAL CONTAINING FREE SILICA
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, chipping, dressing, winding, sieving, mixing, grading 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 five percent by weight of free silica;
3. Precautions In manipulations

No manipulation shall be carried out in a factory or part of a factory unless one or more of the following measures, namely:
(a) damping the stone or other material being processed,

(b) providing water spray,
(c) enclosing the process,
(d) isolating the process, and
(e) providing localized exhaust ventilation,

are adopted so as to effectively control the dust in any place in the factory where any person is employed, at a level equal to, or below the maximum permissible level for silica dust as laid down in Table 2 appended to Rule 102-A:
Provided that such measures as above said are not necessary if the process or operation itself is such that the level of dust created and prevailing does not exceed the permissible level referred to.
4. Maintenance of floors
(1) All floors or places where 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.
(2) The surface of every floor of every work-room or place where any work is carried on or where any person has to pass during the course of its 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 in the process of cleaning.
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 on.

6. Medical facilities and records of examination 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 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.

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 fifteen 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 fifteen 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 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 three years.

(3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form No. 26. 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 No. 16-A.

(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 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 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 which case the person affected shall be suitably rehabilitated.

(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 those processes.

8. 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 issue 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.

SCHEDULE XXIV

HIGHLY FLAMMABLE LIQUIDS AND FLAMMABLE COMPRESSED GASES AND

1. Application

This rule will be applicable to all factories where flammable liquefied or compressed gases or highly flammable liquids are manufactured, stored, handled used.

2. Definitions: For the purposes of this Schedule,

(a) “highly flammable liquid " means any liquid including its solution, emulsion or suspension which when tested in a manner specified by sections 14 and 15 of the Petroleum Act, 1934 (Central Act XXX of 1934) gives off flammable vapours at temperature less than 32 degrees Centigrade:

(b) "flammable compressed gas " means flammable compressed gas as defined in rule 2 of the Static and Mobile Pressure Vessels (Unfired) Rules, 1981 framed under the Explosives Act, 1884;

3. Storage

(1) Every flammable liquid of 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) 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) 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 marked “Danger-Highly Flammable Liquid” or “Danger-Flammable Compressed Gas.”

4. Enclosed systems for conveying Highly Flammable Liquids: Wherever it is reasonably practicable, highly flammable liquids shall be conveyed within a factory in totally enclosed systems consisting of pipes lines, pumps and similar appliances from the storage tank or vessel 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.

5. Preventing Formation of Flammable Mixture with Air: Wherever there is a possibility for leakage or spill of highly flammable liquid or flammable compressed gas from an equipment, pipe line, valve, joint or other part of a system, all practicable measures shall be taken to contain, drain or dilute such spills or leakage as to prevent formation or flammable mixture with air.

6. Prevention of Ignition

(1) In every room, work place or other location where highly flammable liquid or flammable combustible gas is stored, conveyed, handled or used or where there is danger of fire or explosion from accumulation of highly flammable liquid from accumulation of highly flammable

liquid or flammable compressed gas in air, all practicable measures 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 their being a source of ignition;

(b) Effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;
(c) No person shall wear or be allowed to wear any footwear 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 material lighters or smoking materials shall be prohibited;
(e) Transmission belts with iron fasteners 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, frictions sparks, overheated surface of machinery or plants, chemical or physical-chemical reaction and radiant heat.
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.
8. Fire Fighting: In every factory where highly flammable liquid or flammable compressed gas is manufactured, stored, handled or used, appropriate and adequate means of fighting a fire shall be provided. The adequacy and suitability of such means which expression includes the fixed and portable fire extinguishing systems, extinguishing material, procedures and the process of firefighting, shall be to the standards and levels prescribed by the Indian Standards applicable, and in any case not inferior to the stipulations under Rule 65 (A).
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 reasons, all or any of the provision of this Schedule is not necessary for protection of the workers in the 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.

SHEDULE XXV
MANUFACTURE OR MANIPULATION OF DANGEROUS PESTICIDES
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. Definition: 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 growth of such pests including any of its formulations which is considered toxic under and is covered by the Insecticides Act, 1968 and the rules made thereunder and any other product, as may be notified from time

to time by the State Government.
(b) “manipulation” includes mixing, blending, formulating, 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 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;
3. Instruction to workers: Every worker is his first employment shall be fully instructed about the propertied including dangerous properties of the chemicals handled in the said manufacturing process and the hazards involved thereunder. The employees shall also be instructed about the measures to be adopted to deal with any emergency. Such instructions shall be repeated periodically.
4. Cautionary notice and placards: Cautionary notices and placards in the form specified in appendix II 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 the methods of protection therefrom. Such notices shall include brief instructions regarding the periodical clinical tests required to the undertaken for protecting health of the workers.
5. Prohibition relating to employment of women or young persons: No woman or young 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 store.
6. Food, drinks and smoking prohibited
(1) No food, drinks, tabacco, pan or supari shall be brought into or consumed by any worker in any workroom in which the said manufacturing process is carried out
7. Protective clothing and protective equipments
(1) Protective clothing consisting of long pants and shirts or overalls with long sleeves and head covering shall be provided for all workers employed in the said manufacturing process.
(2)
(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 and aprons used shall be made from synthetic rubber where a pesticide contains oil.
(3) Protective clothing and equipment shall be worn by the workers supplied

with such clothing and equipment.
(4) Protective clothing and equipment shall be washed daily both inside and outside if the workers handle pesticides containing nicotine or phosphorous and shall be washed frequently if they handle other pesticides.
(5) Protective clothing and equipment shall be maintained in good repair.
8. Floors and workbenches

(1) Floors in every workroom where dangerous pesticides are manipulated shall be of cement or other impervious material giving a smooth surface.
(2) Floors shall be maintained in good repair, provided with adequate slope leading to a drain and thoroughly washed once a day with hose pipe.
(3) Workbenches where dangerous pesticides are manipulated shall be made of smooth, non-absorbing material preferably stainless steel and shall be cleaned at least once daily.
9. Spillage and waste
(1) If a dangerous pesticide during its manipulation splashes or spills on the workbench, floor or on the protective clothing worn by a worker, immediate action shall areas or articles.
(2) Cloth, rags, paper or other material soaked or soiled with dangerous pesticide shall be deposited in a suitable receptacle with tight fitting cover. Contaminated waste shall be destroyed by burning it at least once a week.
(3) Suitable deactivating agents, where available, shall be kept in a readily accessible place for use while attending to a spillage.
(4) Easy means or access shall be provided to all parts of the plant for cleaning, maintenance and repairs.
10. Empty containers used for dangerous pesticides: Containers used for dangerous pesticide shall be thoroughly cleaned of their contents and treated with a deactivating agent before being discarded or destroyed.
11. Manual handling
(1) A dangerous pesticide shall not be required or allowed to be manipulated by hand except by means of a long handle scoop.
(2) Direct contact of any part of the body with a dangerous pesticide during its manipulation shall be avoided.
12. Ventilation
(1) In very 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 the process is completely enclosed, the following operations during manipulation of a dangerous pesticide shall not be undertaken without an efficient exhaust draught,
(a) emptying a 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 as provided above 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 at least ten minutes in addition to the regular rest intervals shall be allowed for washing to each worker engaged in the manipulation of dangerous pesticide.
(2) Every worker engaged in the manipulation of dangerous pesticides shall have a thorough wash before consuming any food and also at the end of the day's work.
14. Washing and bathing facilities

(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.
(2) The washing place shall have standpipes place at intervals of not less than one meter.
(3) Not less than one half of the total number of washing places shall be provided with bathrooms
(4) Sufficient supply of clean towels made of suitable material shall be provided:

Provided that such towels shall be supplied one for each worker if so ordered by the Inspector.
(5) Sufficient supply of soap and nails brushes shall be provided.
15. Cloakroom: 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 cloakroom for clothing out off during working hours with adequate arrangements for drying the said clothing, if wet; and
(b) separate and suitable arrangements for the storage of protective clothing provided in paragraph 7.
16. Mess-room
(1) There shall be provide 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 mess-room 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 place under the charge of a responsible person and shall be kept clean.
17. Manipulation not to be undertaken: Manufacture or manipulation of a pesticide shall not be undertaken in any factory unless a certificate regarding its dangerous nature or otherwise is obtained from the Chief Inspector.
18. 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).
(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 mentioned in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination in respect of Halogenated Pesticides, shall include tests for determination of the chemical in blood and in fat tissues, EEG abnormalities and memory tests, in respect of organo phosphorous compounds,

such examination shall include test for depression of cholinesterase in plasma and red blood cells. 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 six calendar months. Such examinations shall, wherever the Certifying Surgeon considers appropriate, include the tests specified in sub-paragraph (1). Further every worker employed in the said processes shall also be examined once in every three months by the factory Medical Officer.
(3) The Certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 28. 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 16-A.
(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 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 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 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.
(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 XXVI
OPERATIONS IN FOUNDARIES
1. Application

Provisions of this schedule shall apply to all parts of factories where any of the following operations or process are carried on:
(a) The production of iron casting or, as the case may be, steel castings by casting in moulds made of sand, loam, moulding composition or other mixture of materials, or by shell 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 or materials, or by shell mouldings, die-casting (including pressure die-casting), centrifugal casting or continuous casting and any process incidental to such production;

(c) the melting and casting of non-ferrous metal land/or ferrous metal) for the production of ingots, billets, slabs or other similar products and the stripping thereof; but shall not apply with respect to,
(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 we; or
(c) any smelting process in which metal is obtained by a reducing operation or any process incidental to 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.
2. Definition: For the purpose of this Schedule,
(a) "approved respirator" means a respirator of a type approved by the Chief Inspector;
(b) " Cupola or furnace " includes a receiver associated there with;
(c) "dressing or fettling operations "includes stripping and other removal of adherent sand, corers, 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 knockout 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 steel 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 arc 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 fettling 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;
(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.
3. Prohibition of use of certain materials as parting materials
(1) A material shall not be used as a parting material if it is a material containing compounds of silica calculated as silica to the extent more than five per cent, by weight of the dry material:

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:

(a) Zirconium silicate (zircon).
(b) Calcined china clay.

(c) Calcined aluminious fireclay.
(d) Sillimanite.
(e) Calcined or fused alumina.
(f) Olivine.
(g) Natural sand.
(2) Dust or other matter deposited from a fettling or blasting process shall not be used as a parting material or as a constituent in a parting material.
4. Arrangement and storage

For the purposes of promoting safety and cleanliness in workrooms, the following requirements shall be observed:
(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 purpose of such storage.
5. Construction of floors
(1) Floors or indoor workplaces in which the processes are carried on, other than parts which are of sand, shall have an even surface of hard material.
(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.
(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.
6. Cleanliness of Indoor workplaces
(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 meters from the floor at least 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 preceding washing, cleaning or other treatment).
(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 arc carried on, other than pans which are of sand; and the parts which are of sand shall be kept in good order.
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 all parts of which were any person walks while engaged in the operation shall be on the same level:

Provided that, where necessary to enable the operation to be per-formed 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.
8. Gangways and pouring aisles
(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 dearly 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;
(c) if not used for carrying molten metal, shall be atleast 920 millimeters in width;
(d) if used for carrying molten metal shall be,
(i) Where truck ladles are used exclusively, atleast 600 millimeters wider than the overall width of the ladle;
(ii) Where hand shanks are carried by not more than two men, atleast 920 millimeters in width;
(iii) Where hand shanks are carried by more than two men, atleast 1.2 meters in width; and
(iv) Where used for simultaneous travel in both directions by men carrying hand shanks, atleast 1.8 meters in width.
(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,
(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;
(c) if molten metal is carried in hand ladles or bull ladles by not more than two men per ladle, shall be atleast 460 millimeters wide, but where any moulds alongside the aisle arc more than 510 millimeters above the floor of the aisle, the aisle shall be not less than 600 millimeters wide;
(d) if molten metal is carried in hand ladles or bull ladles by more than two men per ladle, shall be atleast 760 millimeters wide;
(e) if molten metal is carried in crane, trolley or truck ladles, shall be of a width adequate for the safe performance of the work.
(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.

(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.

9. Work near cupolas and furnaces

No person shall carry out any work within a distance of four meters 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 meters 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 or maintenance of a cupola or furnace that work should be carried out within 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.

10. Dust and fumes

(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.

(2) No open coal, coke or wood fires shall be used for drying moulds except in circumstances in which the use of such fires is un-avoidable.

(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 ventilating plant used for the purpose of extracting, suppressing or controlling dust or fumes shall be properly maintained.

(2) All ventilation plant used for the purpose of extracting, suppressing or controlling dust or fumes shall be examined and inspected once every week by a responsible person. This 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 a register approved by the Chief Inspector of Factories which shall be kept readily 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 to the Occupier or Manager of the Factory.

12. Protective equipment

(1) The occupier shall provide and maintain suitable protective 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 sub-paragraph (1) (b) 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 there from 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 metal; 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 materials (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 arrangements for cleaning and 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 or 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 foundry,

(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 at least sixty centimeters for every 10 such persons employed at any one time

and having a constant supply of dean water from taps or jets above the trough at intervals of not more than sixty centimeters; or
(ii) atleast one tap or stand pipe for every ten such persons employed at any one time, and having a constant supply of dean water, the tap or stand pipe being spaced not less than 1.2 meters 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 bathrooms;
(c) a sufficient supply of clean towels made of suitable material changed daily, with sufficient supply of nail brushes and soap.

(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.
14. Disposal of dross and skimming

Dross and skimmings removed from molten metal or taken from a furnace shall be placed forthwith in suitable receptacles.
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.
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 reasonably practicable, such access shall be by roadways or pathways or which shall be properly maintained. Such roadways or pathways shall have a firm and even surface and shall, so far as reasonably practicable be kept free from obstruction.
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 sub-paragraph (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.
18. Medical Examination by Certifying Surgeon
(1) Every worker employed in a foundry shall be examined by a Certifying Surgeon within fifteen 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 fifteen 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 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 three years.

(3) The Certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 26. 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. There cord 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 16-A.
(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 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 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 which case the person affected shall be suitably rehabilitated.
(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 those processes.
19. Exemption

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 XXVII

OPERATIONS INVOLVING HIGH NOISE LEVELS

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 90 dB or above.
(c) 'Decibel' means one-tenth of 'Bel' which is the fundamental divisions of a logarithmic scale used to express the ratio of two specified or implied quantities, the number of ‘Bels’ denoting such a ration being the logarithm

to the base of 1 of this ratio. The noise level (or the sound pressure level) corresponds to a reference pressure of 20 X 10.6 newtons per square meter or 0.0002 dynes per square centimeter which is the threshold of hearing, that is the lowest sound pressure level necessary to produce the sensation of hearing in average healthy listeners. The decibel in abbreviated form is dB.
(d) "Frequency" is 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 meter operating on the A-weighting network with slow meter response.
(f) 'A-weighting' means making graded adjustments in the intensities of sound of various frequencies for the purpose of noise measurement, 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 measures shall be taken to ensure, so far as is reasonably practicable, that no worker is exposed to sound levels exceeding the maximum permissible noise exposure levels specified in Tables 1 and 2.

TABLE 1
PERMISSIBLE EXPOSURE IN CASES OF CONTINUOUS NOISE

Total time of exposure (continuous or a member of short term exposures) per day, in hours.	Sound pressure level in dBA
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
¾	107
½	110
¼	115

Explanation
(1) No exposure in excess of 115 dBA is to be permitted.

(2) For any period of exposure falling in between any figure and the next higher 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 OF IMPULSIVE OR IMPACT NOISE

Peak sound pressure level in dB	Permitted number of impulses or Impacts per day
140	100
135	315
130	1,000
125	3,160
120	10,000

Explanation
(1) No exposure in excess of 140 dB peak sound pressure level is permitted.
(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 impacts per day is to be determined by extrapolation on a proportionate basis.
(2) For the purposes of this schedule, if the variations in the noise level involve maximum at intervals of one second or less, the noise is to be considered as a continuous one and the criteria given in Table I would apply. In other cases, the noise is to be considered as impulsive or impact noise and the criteria given in the Table 2 would apply.
(3) 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 the fractions

C1/ T1 + C2/T2 + Cn/Tn ….. Exceeds unit p-1
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.
(4) Where it is not possible to reduce the noise exposure to the levels specified in sub-rule (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-rule (1).

(5) Where the ear protectors provided in accordance with sub-paragraph (2) 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 sound pressure level, to a level permissible under Table I or fable 2 as the case may be, the noise exposure period shall be suitably reduced to correspond to the permissible noise exposures specified in sub-paragraph (1).

(6)
(a) In all cases where the prevailing sound levels exceed the permissible levels specified in sub-paragraph (1) there shall be administered an effective hearing conservation programme which shall include among other hearing conservation measures, pre-employment and periodical audit surveys conducted on workers exposed to noise exceeding the permissible levels, and rehabilitation of such workers either by reducing the exposure to the noise levels or by transferring them to places where noise levels are relatively less or by any other suitable means.
(b) Every worker employed in areas where the noise exceeds the maximum permissible exposure levels specified in sub-rule (1) shall be subjected to an auditory examination by a Certifying Surgeon within 14 days of his first employment and thereafter shall be re-examined at least once in every 12 months. Such initial and periodical examinations shall include tests which the Certifying Surgeon may consider appropriate, and shall include determination of auditory thresholds for pure tones of 125, 250, 500, 1,000, 2,000, 4,000 and 8,000 cycles per second.

SCHEDULE XXVIII
MANUFACTURE OR MANIPULATION OF MANGANESE AND ITS COMPOUNDS
1. Application

This schedule shall apply to every factory in which or in any part of which any manganese process is carried on;
2. Definitions: For the purpose of this Schedule,
(a) "Manganese Process" means processing, manufacture or manipulation of manganese or any compound of manganese or any ore or any mixture containing manganese.
(b) "Manipulation" means mixing, blending, filling, emptying, grinding, sieving, drying, packing, sweeping or otherwise handling of manganese or a compound of manganese or any mixture containing manganese;
(c) “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 fume 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.
3. Isolation of a process
4. 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 or process may not be affected by the same.
5. Ventilation of process
6. No process, in which any dust, vapour or mist containing manganese is generated, shall be carried out except under an efficient exhaust ventilation which shall be applied as near to the point of generation as practicable.

7. Personal Protective Equipment
(1) The Occupier 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.
(2) The Occupier of the factory shall provide suitable respiratory protective equipment for use by workers in emergency to prevent inhalation of dusts, fumes or mists sufficient number of complete sets of such equipment shall always be kept near the workplace and the same shall be properly maintained and kept always in a condition to be used readily.
(3) The Occupier 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.
8. Prohibition relating to women and young persons

No woman or young person shall be employed or permitted to work in any manganese process.
9. Food, drinks prohibited in the workrooms

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 is carried on.
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.
11. Washing facilities

There shall be provided and maintained in a clean state and in good condition, for the use of persons employed on manganese process a wash place under cover, with either

(1) a trough with a smooth impervious surface fitted with a waste pipe without plug. The trough shall be of sufficient length to allow at least 60 centimeters for every ten such persons employed at any one time, and having a constant supply of water from tap or jets above the trough at intervals of not more than 60 centimeters, or 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; and
(2) sufficient supply of soap or other suitable cleaning material and nail brushes and clean towels.
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 the clothing put off during working hours with adequate arrangement for drying the clothing.
13. Cautionary placard instructions

Cautionary notices 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 arrangements shall be made by the occupier to instruct periodically all workers employed in a manganese process regarding the health hazards connected with their duties and the best preventive measures and methods to protect themselves. The notices shall always be maintained in a legible condition.

14. 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).

(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. Medical Examination by Certifying Surgeon

(1) Every worker employed in any manganese processes shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for detection of serum calcium, serum phosphate and manganese in blood and urine and also include steadiness tests and other neuromuscular co-ordination 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 a manganese process shall be re-examined by a Certifying Surgeon at least once in every three calendar months and such

examinations shall, wherever the Certifying Surgeon considers appropriate, include all the tests in sub-paragraph (1).

(3) The Certifying Surgeon after examining a worker shall issue a certificate of fitness in Form 26. 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 16-A.

(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 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 in 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, 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.
(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 process unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.
16. 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 this discretion revoke, exempt such factory from all or any of the provisions on such conditions and for such period as he may specify in the said order.

APPENDIX

CAUTIONARY NOTICE (See para 11)

Manganese and Manganese Compounds

1. Dust fumes and mists of Manganese and Compounds are toxic when inhaled or when ingested.
2. Do not consume food or drink near the work place.
3. Take a good wash before taking meals.
4. Keep the working area clean.
5. Use the protective clothing and equipments provided.

6. When required to work in situations where dusts, fumes, or mists are likely to be inhaled, use respiratory protective equipments provided for the purpose.
7. If you get severe headaches, prolonged sleeplessness or abnormal sensations on the body, loose gait, speech interference and loss of virility, report to the Manager who would make arrangements for your examination and treatment.

106. Notification of accidents and dangerous occurrence

(1) When any accident which results in the death of any person or which results in such bodily injury to any person as is likely to cause his death, or any dangerous occurrence specified in the schedule takes places 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.
(2) When any accident or any dangerous occurrence specified in the schedule, which results in the death of any person or which results 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 nearest police station, and
(c) The relatives of the injured or deceased person.
(3) Any notice given as required under sub-rule (1) and (2) shall be confirmed by the Manager of the factory to the authorities mentioned in those sub-rules within 12 hours of the accident or the dangerous occurrence by sending them a written report in Form 17 in the case of an

accident or dangerous occurrence causing death or bodily injury to any person and Form 17A in the case of a dangerous occurrence which has not resulted in any bodily injury to any person.
(4) When any accident or dangerous occurrence specified in the schedule takes place in a factory and it causes such bodily injury to any person as prevents 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 17 within 24 hours after the expiry of 48 hours from the time of the accident or the dangerous occurrence:

Provided that if in the case of an accident or dangerous occurrence death occurs of any person injured by such 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 conformed in writing within 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 or occurs in more than one spell, the report referred to shall be sent to the inspector, the Deputy Chief Inspector and the Chief inspector in the prescribed Form 17 within 24 hours immediately following the

hour when the actual total period of disability from working resulting from the accident or the dangerous occurrence becomes 48 hours.
SCHEDULE
1. The following classes of dangerous occurrences, whether or not they are attended by personal injury or disablement:
(a) Bursting of a plant used for containing or supplying steam under pressure greater then atmospheric pressure.
(b) Collapse or failure of a crane, derrick, which, hoist or other appliances used in raising or lowering persons or goods, or any part thereof, or the overturning of a crane.
(c) Explosion, fire bursting out, leakage or escape of any molten metal, or hot liquor or gas causing bodily injury to any person or damage to any room or place in which persons are employed, or fire in rooms of cotton pressing factories when a cotton opener is in use.
(d) Explosion of a receiver or container used for the storage at a pressure greater than atmospheric pressure of any gas or gases (including air) or any liquid or solid resulting from the compression or gas.
(e) Collapse or subsidence of any floor, gallery, roof, bridge, tunnel, chimney, wall, building or any other structure.

107. Notice of poisoning or disease
A notice in Form 18 shall be sent forthwith but not later than four hours to the Chief Inspector, the Certifying Surgeon and the Administrative Medical Officer, Employee's State Insurance Scheme, Panaji, Goa by the manager of a factory in which there occurs a case of lead, phosphorous, mercury, manganese, arsenic, carbon, disulphide or benzene poisoning; or of

poisoning by nitrous fumes or by halogens or halogen derivatives of the hydrocarbons of the aliphate series; or of chrome ulceration, anthrax, silicosis, toxic anaemia, toxic jaundice, primary epitheliomatous cancer of the skin, or of pathological manifestations due to radium or other radio-active substances or X-rays.

CHAPTER X

SUPPLEMENTAL

108. Procedure in appeals

(1) All appeal presented under Section 107 shall lie with the Chief Inspector, or in cases where the order appealed against is an order passed by that officer, to the Secretary to Government, Labour Department, Puducherry and shall be in the form of a memorandum setting forth concisely the grounds of objection to the order and only and shall be accompanied by a copy, of the order appealed against certified correct and attested by the Inspector concerned and duly stamped with a Timber Instance Judiciare of the value of fifty paise only.

(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 the appeal should be heard with the aid of assessors, call upon the body declared under 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 appoint a second assessor itself. It shall then fix a date for the hearing of the appeal and shall give due notice of such date to the appellant and to the Inspector whose such order is appealed against, and shall call upon the two assessors to appear upon such date to assist in the hearing of the appeal.

(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 considers as the best fitted to represent the industry concerned.

1. The Puducherry Chamber of Commerce.
2. The Puducherry Mill Owners' Association.

(4) Remuneration of assessors: 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 appellate' 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 tire appellant.

109. Display of notices

An abstract of the following provisions of the Act and Rules shall be displayed in a conspicuous and convenient place at or near the main entrance in every factory.

110. 8[Returns

The Manager of every factory shall furnish to the Inspector having jurisdiction over the area where the factory is located the following returns, namely:

(1) Annual yearly returns: On or before the 31st January of each year, a combined annual return, in duplicate, in Form No. 19;

(2) Half-yearly returns: On or before the 31st January and 31st July of each year, a half-yearly return in duplicate in Form No. 20."]

9["provided that the returns under sub-rules (1) and (2) said above, shall be made through the on-line portal of the Chief Inspectorate of Factories and Boilers, Puducherry and shall be maintained in electronic form or personally delivered to the Office of the Chief Inspectorate of Factories and Boilers"

Provided further that during inspection, the Inspector may require the production of books, registers and other documents maintained in electronic form.

Explanation: For the purposes of this rule, the expression "electronic form" shall have the same meaning as assigned to it in clause (r) of section 2 of the Information Technology Act, 2000 (21 of 2000)."]

111. 10[x x x x]

112. 11[Seasonal Factories-Return

In the case of a factory in which work is carried on only during certain period or period of the year the Manager shall, if so required by the State Government or if, the State Government so directs, through the Chief Inspector shall submit the annual or half-yearly returns mentioned in rule 110 within fifteen days after the close of that period or after the close of the last of those periods in the year, as the case may be.]

113. Service of notices

The dispatch 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

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 or an inspection has been duly carried out. Any demand by an Inspector for any such information if made during the course of inspection, shall be complied with forthwith, or if made in writing, shall be complied with within seven days or receipt thereof.

114A. Permissible levels of certain chemical substances in work environment

Without prejudice to the requirements in any other provisions in the Act or the Rules, the requirements specified in this Schedule shall apply to all factories.

SCHEDULE

1. Definitions: For the purpose of this Schedule,

(a) "mg/m3" means milligrams of a substance per cubic meter of air;

(b) "mppcm" 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 25^0C and 760 mm of mercury pressure;
(d) “time weighted average concentration” means the average concentration of a substance in the air any work location in a factory computed from evaluation of adequate number of air samples taken at that location, spread over the entire shift in 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 Concentration = $C_1T_1+C_2T_2+…CnTn/T_1+T_2+…..Tn$
Where C_1 represents the concentration of the substance for duration T1(in hours); and

C_2 represents the concentration of the substance for duration T_2(in hours);
C_n represents the concentration of the substance for duration T_n (in hours)
(e) “wok 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’
2. Limits of concentrations of substances at work locations
(1) The time weighted average concentration of any substance listed in Table 1 or 2 of the Schedule, at any day work location in a factory during the 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 limits of the time weighted average concentration for the substance for short periods not exceeding 15 minutes at a time, subject to the condition that,
(a) such periods during which the concentration exceeds the prescribed time weighted average concentration are restricted to not more than 4 per shifts;
(b) the time interval between any two such periods of higher exposure shall not be less than 60 minutes and
(c) at no time the concentration of the substances in the air shall exceed the limit of short term maximum concentration.
(2) In the case of any substance given in Table 3 the concentration of 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.
(3) In the cases where the word “skin” has been indicated against certain substance mentioned in Table 1 and 3, appropriate measures shall be taken to prevent absorption through cutaneous routes particularly skin, mucous membranes, and eyes as the limits specified in these Tables are for conditions where the exposure is only through respiratory tract.
(4)
(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 substances during the shift should be such, that when these times 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 exceed unity

i.e. $C_1 + C_2 + \ldots C_n / L_1 + L_2 \ldots L_n$ should not exceed unity
When C_1, C_2 …… Cn are 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.
(b) In case the air at any work location contains a mixture of substances, mentioned in Table 1, 2 or 3, and these do not have similar toxic properties, then the times weighted concentration of each of these substances shall not exceed the permissible time weighted average concentration specified in the above mentioned tables, for the particular substance.
(c) The requirement in clause (a) and (b0 shall be in addition to the requirements in paragraph 2(1) and 2(2).
3. Sampling and evaluation procedures
(1) Not-withstanding provision in any other paragraphs, the sampling and evaluation procedure to be adopted for checking compliance with the provisions in the Schedule are specified.
(2) Notwithstanding the provisions in paragraph 5, the following conditions regarding the sampling and evaluation with the provisions in this Schedule are specified,
(a) For determination of the number of particles per cubic metre in item 1(a)(I)(1) in Table 2, samples are to be collected by standard or midget impinger and the counts made by light-filled technique.
(b) The percentage of quartz in the 3 formulas given in item 1(a) (I) of Table 2 is to be determined from airborne samples.
(c) For determination of number of fibres as specified in term 2 (a) of Table 2, the membrance filter method [at 430 X magnification (94 mm objective) with phase contrast illumination] should be used.
(d) Both for determination of concentration and percentage of quartz for use in the formula given in item 1(a) (I) (2) of Table 2, the fraction passing thorough a size-selector with the following characteristic should only be considered.

Aerodynamic diameter (unit density sphere)	Percentage allowed by size-selector
2.0	90
2.5	75
3.5	50
5.0	25
10.0	00

4. Power to require assessment of concentration of substances

(1) An Inspector may, by an order in writing, direct the occupier or manager of a factory to get before any specified date, 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.
(2) The results of such assessment as well as the method followed for air sampling and analysis for such assessment shall be sent to the Inspector within 3 days from the date of completion of such assessment and also a record of the same shall be kept readily available for inspection by an Inspector.
5. Exemptions: 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 location, to a substance or substances specified in Tables 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.

TABLE 1

Substances		Permissible limits of exposure	
Time weighted average concentration (TWA) (8 hrs)		Short term maximum concentration (STEL) (15 min). *	
ppm	Mg/m3	ppm	Mg/m3
(2)	(3)	(4)	(5)	(6)
Acetic acid	10	25	15	37
Acrolein	0.1	0.25	0.3	0.8
Aldrin-skin	-	0.25	-	0.75
Anilline-skin	2	10	5	20
Anisidine (o,p-isomers)-Skin	0.1	0.5	-	-
Arsenic & compounds (as As)	-	0.2	-	-
Benzene	10	30	-	-
Bromine	0.1	0.7	0.3	2
2-Butanone (Methyl ethyl Ketone-MEK)	200	590	300	885

n-Butyl acetate	150	710	200	950
Sec/Tert Butyl acetate	200	950	250	1190
Cadmium Dusts and salts (as Cd)	-	0.05	-	0.2
Calcium Oxide	-	2	-	-

Carbaryl (Sevin)	-	5	-	10
Carbofuran (Furadan)	-	0.1	-	-
Carbon disulphide-Skin	20	60	30	90
Carbon Monoxide	50	55	400	440
Carbon tetrachloride-Skin	10	65	20	130
Carbonyl Chloride(phosgene)	0.1	0.4	-	-
Chlordane-Skin	-	0.5	-	2
Chlorine	1	3	3	9
Bis (Chlororomethly) ether (H.C.)	0.001	-	-	-
Chromic acid and chromates (as Cr)	-	0.05	-	-
Chromium Sel. Chromic, Chromous salts (as Cr)	0.5	-	-	-
Copper Fume	-	0.2	-	-
Cotton dust, raw	-	0.2	-	-
Cresol, all isomers-Skin	5	22	-	-
Cyanides (as CN)-Skin	-	5	-	-
Cyanogen	10	20	-	-
DDT (Dichlorodiphenyl trichloroethane)	-	1	-	-
Demeton Skin	0.01	0.1	0.03	0.3
Diazinon Skin	-	0.1	-	0.3
Dibutyl phthalate	-	5	-	10
Dichlorvos (DDVP)-Skin	0.1	1	0.3	3
Dieldrin-Skin	-	0.25	-	075
Dinitrobenezene (all isomers)Skin	0.15	1	0.5	3
Dinitrotoluene-Skin	-	1.5	-	5

Diphenyl	0.2	1.5	0.6	4
Endosulfan (Thipdan)-Skin	-	0.1	-	0.3
Endrin-Skin	-	0.1	-	0.3
Ethyl acetate	400	1,400	-	-
Ethyl alcohol	1,000	1,900	-	-
Ethylamine	10	18	-	-
Flurorides (as F)	-	2.5	-	-

Fluorine	1	2	2	4
Hydrogen cyanide Skin C	10	11	15	16
Hydrogen sulphide	10	15	15	27
Iodine C	0.1	1	-	-
Iron Oxide Fume ($Fe2O_3$) (as Fe)	-	5	-	10
Isoamyl acetate	100	525	125	655
Isomyl alchohol	100	360	125	450
Isobutyl alcohol	50	150	75	225
Lead, inorg dusts and fumes (asPb)	-	0.15	-	0.45
Lindane-Skin	-	0.5	-	1.5
Malathion –Skin	-	10	-	-
Manganese fume (as Mn)	-	1	-	3
Mercury (as Hg)-Skin	-	0.05	-	0.15
Mercury (Alkyl compounds) skin (as Hg)	0.001	0.01	0.003	0.03
Methyl alcohol (Methanol)-Skin	200	260	250	310
Methyl cellosolve (2-Methoxyethanol)-Skin	25	80	35	120
Methyl isobutyl ketone-skin	100	410	125	510
Nephthalene	10	50	15	75
Nickel carbonyl (as Ni)	0.05	0.35	-	-
Nitric acid	2	5	4	10
Nitric oxide	25	30	35	45

Nitrobenzene-Skin	1	5	2	10
Oil mist mineral	-	5	-	10
Parathion skin	-	0.1	-	0.3
Phenol-skin	5	19	10	38
Phorate (Thimet)-Skin	-	0.05	-	0.2
Phosgene (Carbonyl chloride)	0.1	0.4	-	-
Phosphorous (yellow)	-	0.1	-	-
Phosphorous Pentechloride	-	1	-	3
Phosphorous trichloride	0.5	3	-	-
Picric acid – Skin	-	0.1	-	0.3

Phyridine	5	15	10	30
Silane (Silicon tetrahydride)	0.5	0.7	1	1.5
Styrene, monomer (phenylethlene0	100	420	125	525
Sulphur dioxide	5	13	-	-
Sulphuric acid	-	1	-	-
Toluene (Toluol)Skin	100	375	150	560
O-Toludine	5	22	10	44
Trichloroethylene	100	535	150	800
Welding fumes	-	5	-	-
Xylene (o-, m-, p-isomers)	100	435	150	655

TABLE 2

Substance	Permissible time weighed average concentration
1. Silica	
(a) Crystalline	

(i) Quartz	
(1) In terms of dust count	(10600)/(%Quartz+10) mppcm
(2) In terms of respirable dust	10/(% respirable Quartz+2 mg/m3
(3) In terms of total dust	30/ (% Quarts+3) mg/m_3
(ii) Cristobalite	Half the limits given against quartz
(iii) Tridymite	Half the limits given against quartz
(iv) Silica, fused	Same limits as for quartz
(v) Tripoli	Same limit as in formula in item (2) given against quartz.
(b) Amorphous	705 mppcm
2. Silicate having less than 1% free silica by weight	
(a) Asbestos (fibre longer than 5 microns)	2 fibres per cubic centimetre

(b) Mica	705 mppcm

(c) Mineral wool fibre	10mg/m3
(d) Porlite	1060 mppcm
(e) Portlant cement	1060 mppcm
(f) Soap stone	705 mppcm
(g) Tac (monabostiform)	705 mppcm
(h) Talc (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 by weight	2 mg/m3
(2) For airborne dust over 5% silicon dioxide	Same limit as prescribed by formula in item (2) against quartz

TABLE 3

Substance	Permissible limit of exposure in time weighed average concentration
Ppm	Mg/m2

Acetic anhydride	5	20
O-Didilorobenzene	50	300
Formaldehyde	2	3
Manganese and compounds (as Mn)	-	5
Nitrogen dioxide	5	9
Nitroglycerin-skin	0.2	2
2,4,6 Trinitrotoluene (TNT)	-	0.5

115. Muster roll

The manager of every factory shall maintain a muster roll of all the workers employed in the factory in Form 23 showing,

(a) the name of each worker,

(b) his designation and

(c) the daily attendance of, the worker and such entries shall be made at the commencement of each period of work:

Provided that, if the daily attendance is noted in the Register of Adult Workers in Farm No. 12, or the particulars required under this rule are noted in any other register; a separate muster roll required under this rule need not be maintained.

The manager shall make it readily available for inspection during all working hours of the factory and such muster roll shall be preserved for a period of 3 years after the last entry.

116.

In every factory in which all or any class of adult workers are exempted from all or any of the provisions of sections 52, 54, 55 and 56 of the Act, a muster roll shall be maintained in Form No. 24. This roll shall show the time of beginning and ending of each period of work during, the day or night or both and shall be entered at the commencement of each period of work.

Further in the case of urgent repairs full particulars should be given of work done by each worker on each day of such repairs including periods of normal work, if any.

The manager shall make it readily available for inspection during all working hours of the factory and such muster—roll shall be preserved for a period of three years after the last entry.

117. Register of accidents and dangerous occurrences

The manager of every factory shall maintain and make available for inspection during all working hours of the factory, a register of all accidents and dangerous occurrences which occur, in the factory, in Form. No. 25 showing the;

(a) Name of injured person. (if any)

(b) Date of accident or dangerous occurrence.

(c) Date of report on Form No. 17 to Inspector.

(d) Nature of accident or dangerous occurrence.

(e) Date of return of injured person to work.

(f) Number of days of absence from work of injured person and such register shall be preserved for a period of three years after the last entry.

118. Maintenance of inspection Book

The manager of every factory shall maintain a bound inspection book containing the following particulars and shall produce it when so required byte Inspector or Certifying Surgeon:
(a) The exemptions granted or availed of by the factory in Form No. 27.
(b) The particulars of rooms in the factory in Form No. 28, and
(c) The particulars of lime-washing, colour-washing, painting, varnishing or tarring as the case may be, in Form No. 7.

The book referred to in this rule shall be readily available for inspection during all working hours of the factory and such book shall be preserved for a period of three years after the last enrty.

118 A. [12]**[Maintenance of registers**

"All the books, registers and records required to be maintained under the said rules, stipulated under the Factories Act, 1948 shall at the discretion of the occupier/manager may be maintained in electronic form.
Provided that during inspection, the Inspector may require the production of books, registers and other documents maintained in electronic form.
Explanation: For the purposes of this rule, the expression "electronic form" shall have the same meaning as assigned to it in clause (r) of section 2 of the Information Technology Act, 2000 (21 of 2000)."]

119.

The particulars of measurements of each room in the factory in which workers are employed shall be entered in Form No. 28.

120.

(1) The maximum number of workers who may be employed in each work-room or work-hall shall be posted prominently by means of a notice painted on the internal wall in each such room or hall. When determining the maximum number of persons permissible in addition to the breathing space required to be provided by section 16 (2), floor space of 2.3 square feet in the case of existing factories and 3.3 square feet in factories built after the commencement of the Act, shall also be provided for each worker working at any one time in the room, but such floor space shall be exclusive of the space occupied by machinery, fixtures and materials in the room.
(2) The Chief Inspector may for reasons to be recorded in writing relax the provisions of this rule to such extent as he may consider necessary wherein his opinion, such relaxation can be made having regard to the health of the persons employed in any room.

121. Intimation of intended closure of factory

(1) The occupier or manager of every factory shall report to the Inspector any intended closure of the factory or any section or department thereof fifteen days before such closure:

Provided that in the event of a factory or any section or department thereof being forced to be closed for reasons beyond the control of the Occupier or the Manager, the report shall be sent as early as possible and at any rate within twenty-four hours of the closure.
(2)
(a) The report shall contain the following particulars, namely:
(i) the date of closure of the factory, department or section;
(ii) the reasons for the closure;
(iii) the number of workers on the register on the date of the report;
(iv) the number of workers likely to be affected by the closure; and

(v) the probable period of the closure;
(vi) Quantity of stored chemicals and action taken or proposed to be taken to ensure safety from these chemicals while in storage during such closure.
(b) In the event of a factory, closing permanently and ceasing to exist or closing for over two months, such report shall be accompanied by the licence granted or renewed under the provisions of these rules.
(3) In the event of the closure referred to in sub-rule (1) being in respect of a section or department of a factory, if that section or department should start working again, the Occupier or the Manager shall submit a report within 24 hours of its re-opening furnishing the following particulars, namely:
(i) the date of resumption of work;
(ii) the number of workers on the register on the date of resumption of work; and
(iii) the number of workers on the register on the date of closure now re-employed.

122. Power to cancel the licence and registration upon receipt of report
The Chief Inspector may, on the receipt of a report in respect of any factory under sub rule (1) of rule 121, and after making such enquiry as he thinks fit, by order, cancel the licence and registration in respect of such factory with effect from such date as may be specified in the order.
123. Preservation of records
The records specified in column (1) of the Table below shall be preserved in the office of the Chief Inspector of Factories, Puducherry, for the periods specified in the corresponding entries in column (2) thereof:
THE TABLE

Records (1)	Period of retention (2)
Applications presented under rules 4 and 6 of the Puducherry Factories Rules, 1964	Five years from the date of disposals of the applications
Counterfoils and licenses issued under the said rules	Five years from the date of issue of licenses

Challans	Five years from the date of issue of licenses

124. Manner of destruction of records

After the period of retention specified in rule 123, the records shall be destroyed either by tearing or by burning in the presence of the head of the office.

125. Exhibition of name board of the factory

The name board of a factory shall be exhibit a name board of the factory at the front entrance of the factory premises. Such name board shall be in Puducherry and Karaikal regions, in Malayalam in Mahe region and in Telugu in and in Yanam region. Wherever other languages are also used, the version in such language shall be written below the Tamil/Telugu/Malayalam versions, as the case may be.

[1] Substituted vide the Puducherry Factories (Amendment) Rules, 2017, Published in Gazette dated 6-11-2017. Wherever the word, "Pondicherry" occurs the word "Puducherry" shall be substituted.
[2] Substituted by G.O. Ms. No. 07/2019/Lab., Puducherry, dated 8th August 2019.
[3] Inserted by G.O. Ms. No. 07/2019/Lab., Puducherry, dated 8th August 2019.
[4] Inserted by G.O. Ms. No. 07/2019/Lab., Puducherry, dated 8th August 2019.
[5] Substituted by G.O. Ms. No. 07/2019/Lab., Puducherry, dated 8th August 2019.
[6] Substituted by G.O. Ms. No. 07/2019/Lab., Puducherry, dated 8th August 2019.
[7] Substituted by G.O. Ms. No. 07/2019/Lab., Puducherry, dated 8th August 2019.
[8] Substituted vide the Puducherry Factories (Amendment) Rules, 2017, Published in Gazette dated 6-11-2017.
[9] Proviso included by G.O. Ms. No. 07/2019/Lab., Puducherry, dated 8th August 2019.
[10] Rule 111 deleted vide the Puducherry Factories (Amendment) Rules, 2017, Published in Gazette dated 6-11-2017.
[11] Substituted vide the Puducherry Factories (Amendment) Rules, 2017, Published in Gazette dated 6-11-2017.
[12] Inserted by G.O. Ms. No. 07/2019/Lab., Puducherry, dated 8th August 2019.