Maharashtra Factories Rules, 1963

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CHAPTER 1
Preliminary

1. Short title and extent - (1) These rules may be called the Maharashtra Factories Rules, 1963.

(2) They extend to the whole of the State of Maharashtra.

2. Definitions - In these rules, unless the context otherwise requires,-

(a) "Act" means the Factories Act, 1948;

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

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

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;

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

(e) "Degrees" (or temperature) means degrees on the Fahrenheit scale;

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

(g) "Form" means a Form appended to these rules; (h) "Fume" includes gas or vapour;

(i) "Health Officer" means the Municipal Health Officer or District Health Officer or such official as may be appointed by the State Government in that behalf;

(j) "Hygrometer" means an accurate wet and dry bulk hygrometer con-forming to the prescribed conditions as regards constructions and maintenance,

(k) "Inspector" means any Inspector appointed under the Act and includes the Chief Inspector of Factories and a District Magistrate;

(l) "Maintained" means maintained in an efficient state, in efficient working order and in good repair;

(m) "Manager" means the person responsible to the occupier for the working of the factory for the purposes of the Act.

(n) "Section " means a section of the Act.

Rules 3 to 11 prescribed under sub-section (1) of section 6

3. Approval of plans - (1) An application for obtaining previous permission for the site on which the factory is to be situated and for the construction or extension of a factory shall be made to the Chief Inspector of Factories.

Application for such permission shall be made in Form I which shall be accompanied by the following documents:-

[1][(a) A flow chart of the manufacturing process supplemented by a brief description of the process in its various stages, list of the raw materials used, intermediate products, including emission of toxic gases, etc. finished products, by-products, their quantities, methods of storage and handling, loading and transport and details of the arrangements for the disposal of trade waste and effluents, the likely hazards and the methods to control or eliminate them.][1]

(b) Plans in duplicate drawn to scale showing -

(i) the site of the factory and immediate surrounding including adjacent buildings and other structures, roads, drains etc.;

(ii) the plan, elevation and necessary cross-section of the 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 passage ways; and

(c) Such other particulars as the Chief Inspector may require:

[2][Provided that where any inflammable solvent for the extraction of oil from oil-cakes, oil seeds or any other material is to be or intended to be used, handled or treated in any manner in any process which may be conducted in any factory such application shall also be accompanied by a no objection certificate in respect of the site of the factory from the local authority concerned and any officer not below the rank of Town Planner in Directorate of Town Planning in charge of the area appointed by the State Government in this behalf.][2]

(2) If the Chief Inspector is satisfied that the plans are in consonance with the requirements of the Act, he shall, subject to such conditions as he may specify, approve them by signing and returning to the applicant one copy of each plan or he may call for such other particulars as he may require to enable such approval to be given:

[3][Provided that no such approval shall be given in respect of the site of any factory referred to in the proviso to sub-rule (1) unless the Chief Inspector of Factories and the District Magistrate concerned have personally visited the site of the factory and have approved the same, and in case of any difference of opinion among the authorities regarding the location of the plant the matter shall be referred to the State Government for decision:

Provided further that no place shall be disapproved unless the applicant is given an opportunity to be heard and the Chief Inspector or as the case may be the State Government has recorded its reasons in that behalf][3]

[4][**3A. Certificate of Stability -** (1) No manufacturing process shall be carried out in any premises of a factory constructed, reconstructed or extended or in any premises which has been taken into use as a factory or part of a factory until a certificate of stability issued by a competent person in respect of every work of engineering construction in the Form 1-A has been sent by the Occupier of the factory to the Chief Inspector of Factories, and approved by him:

Provided that, for the factories, which are in existence on the date of the notification of these rules, the certificate of stability in Form 1-A, may be sent to the Inspector of Factories within 3 months from the date of notification:

Provided further that no manufacturing process shall be carried out in any premises of a factory unless a fresh certificate of stability in Form 1-A is obtained from a competent person once in each period of 5 years or after extension, alteration, repairs or addition of any work of engineering construction or replacement or addition of machinery, plant, etc., and sent to the Chief Inspector:

Provided also that the foregoing provisions are without prejudice to the provision of sections 39 and

40 of the Factories Act.

Explanation (1) - For the purpose of this rule competent person means-

(i) A Member or Associate Member of Institute of Civil Engineers; or

(ii) A Member of Institute of Structural Engineers;

(iii) A Full Member or Associate Member of Institute of Engineers (India), in the branch of Civil Engineering or Structural Engineering;

(iv) A Civil Engineer of Public Works, not below the rank of Executive Engineer.

Explanation (2) - "Work of Engineering Construction" means "any building, tank silo, seafold, platform, chimney, bridge, supporting structural work retaining wall or any similar structure.

[5][**4. Use of premises as a factory -** No occupier shall use any premises as a factory unless -

(1) The plans are got approved from the Chief Inspector of Factories or the Deputy Inspector of Factories as the case may be, in respect of the following items namely:-

(a) site on which the factory is to be situated;

(b) buildings and extension used for the purposes of manufacturing process;

[6][(c) The layout of plant and machinery, including the storages for raw materials and finished products, intermediate by-products][6];

(d) any changes total or partial in manufacturing processes.

(2) The factory building, extensions, processes, and machinery layout are in conformity with the approved plans;

(3) The conditions subject to which plans are approved are complied with;

(4) A licence is obtained under rule 6 from the Chief Inspector of Factories or renewed under rule 8 by the Deputy Chief Inspector of Factories and the said licence is valid at the relevant time;

Explanation - For the purposes of this sub-rule a licence shall be deemed to be valid only if,

(a) the fees including additional fees, if necessary, are paid;

(b) the employment of workers for which licence is granted is not exceeded;

(c) the limit of the installed power for which licence is granted is not exceeded.

[7][(5) Necessary Certificates under Rule 22 are obtained][7];

[8][(6) The conditions subject to which the licence is granted or renewed as the case may be are complied with.

5. Application for registration and grant of licence - (1) The occupier or manager of every factory coming within this scope of this Act after its commencement shall submit to the Chief Inspector an

application in triplicate in Form 2 for the registration of the factory accompanied by an application in Form 3 for the [9][grant of licence therefor for a period not exceeding [10][ten years][10];

Provided that the occupier or manager of a place to which the provisions of the Act are made applicable by a notification under section 85 of the Act shall submit an application within 30 days of the date of that notification.

(2) Every such application shall be accompanied by a treasury receipt or a cheque or by an Indian Postal Order or an invoice for book adjustment, as the case may be, for payment of the fees prescribed for the purpose as specified by the [11][Schedule below as applicable][11] [12][with effect from the ast January [13][1998][13];-

[16][[14][SCHEDULE [15][A][15]][14]

All factories (except Power Generating Stations and Electrical Sub-Stations)

All Factories (except power generating stations and Electrical Sub-stations) Maximum Number of person to be employed on the day during the year

Quantity of H.P. Installed (Maximum H.P.)	**Up to 9**	**From 10 to 20**	**From 21 to 50**	**From 51 to 150**	**From 151 to 250**	**From 251 to 500**	**From 501 to 1,000**	**From 1001 to 2,500**	**From 2501 to 4,000**	**From 4001 and above**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
	Rs.	**Rs.**	**Rs.**	**Rs.**	**Rs.**	**Rs.**	**Rs.**	**Rs.**	**Rs.**	**Rs.**
Nil										
Nil	100	125	250	1000	1500	3000	6000	12000	18000	24,000
Upto 10	200	400	750	2000	3000	4500	9000	18000	24000	30,000
Above 10 but not above 50	300	700	1250	3000	4500	6000	12000	22500	27500	33,000
Above 50 but not above 100	800	1250	1750	4500	6000	9000	15000	27000	30000	36,000
Above 100 but not above 500	1800	2500	3500	9000	12000	15000	22500	30000	36000	42,000
Above 500 but not above 1000	3500	4000	7500	12000	16500	19500	30000	36000	42000	48,000
Above 1000 but not above 2000	5000	7000	9500	16500	19500	24000	33000	42000	48000	54,000
Above 2000	7000	9500	16500	19500	24000	33000	42000	48000	54000	60,000][16]

[17][SCHEDULE B][17]

(Power Generating Stations)

General Capacity in Megawatts	**Numbers of Workers**			
	Upto 100	**From 101 to 500**	**From 501 to 1,000**	**Over 1,000**
	Rs.	**Rs.**	**Rs.**	**Rs.**
Upto 20 M.W.	1,200	1,800	3,000	4,500
Over 20 M.W. and Upto 50 M.W.	1,700	2,700	4,500	6,000
Over 50 M.W. and Upto 100 M.W.	2,500	3,500	6,000	7,500

Over 100 M.W. and Upto 250 M.W.	3,500	4,500	7,500	9,000
Over 250 M.W. and Upto 500 M.W.	4,500	6,000	9,000	10,500
Over 500 M.W. and Upto 750 M.W.	7,000	7,000	10,500	12,000
Over 750 M.W. and Upto 1,000 M.W.	7,000	8,000	12,000	15,000
Over 1,000 M.W.	8,000	9,000	15,000	18,000

[18][SCHEDULE C][18]

(For Electrical Sub-Stations etc.)

Rated capacity	**More than 9 workers**
Upto 20 MVA	300
Over 20 MVA and Upto 50 MVA	750
Over 50 MVA and Upto 100 MVA	1500
Over 100 MVA and Upto 250 MVA	2200
Over 250 MVA and Upto 500 MVA	3,000
Over 500 MVA and Upto 750 MVA	3,600
Over 750 MVA and Upto 1,000 MVA	4,500
Over 1,000 MVA	6,000

Provided that -

(i) fees to be charged for the following classes of factories shall, subject to a minimum of rupees five, be half of those specified above, if they do not work for more than 180 days in the aggregate in a calendar year:-

(a) Cotton Ginning and Pressing Factories,

(b) Gur Factories,

(c) Jarda Factories (tobacco processing),

(d) Cashewnut Factories,

(e) Groundnut Decorticating Factories,

(f) Rice Mills;

(ii) in the case of other factories working for a part of the year, and commencing work on or after ast day of July, the fees to be charged for the first time shall, subject to a minimum of rupees five, be half of those specified in the Schedule aforesaid.

[19][Provided further that, if the period for which the licence is applied for is one year or more but does not exceed [20][ten years][20] the fees payable therefor per year, shall be at the rates specified in this sub-rule.][19]

[21][(3) Where the fees for the grant or renewal of a licence for the year [22][1998][22] are paid before the [23][1 st January 1998][23] and the fees so paid are less than the fees payable in accordance with rates prescribed in the Schedule in sub-rule (2), then the licensee shall pay the difference on or before the [24][31st day of October, 1998.][24] If the licensee fails to pay the difference on or before the [25][31st day of October, 1998][25], he shall be deemed to have paid the fees after the expiry of the due date and an additional fee of 25 per cent, of the difference shall be payable by him.][21]

6. Grant of licence - (1) The Chief Inspector may, on application being made to him under sub-rule (1) of rule 5 and on payment of the fees prescribed in sub-rule (2) of that rule and on being satisfied that there is no objection to the grant of licence applied for, register the factory and grant a licence in Form 4, to the applicant to use as factory such premises as are specified in the application and subject to compliance with such conditions as are specified in the licence:

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

(i) that an application is not accompanied by plans-

(a) of the site on which the factory is to be situated, and

(b) for the construction or extension of the factory;

(ii) that the plans so submitted have not been approved by the Chief Inspector;

(iii) that the factory has not been constructed in accordance with the plans approved by the Chief Inspector or in compliance with the conditions subject to which the plans are provided;

(iv) that material requirement of the relevant provisions specified in Schedules to rule 114 in relation to the factory concerned have not been complied with; or

(v) that there is imminent danger to 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 the danger.

[26][(vi) that the details of the raw materials, intermediate products, finished products, quantities, methods of storages, hazards, safety measures, arrangements for trade-waste and effluents, the likely hazards and the methods to disposal etc., have not been furnished.][26]

(2) Subject to the provisions hereinafter contained with respect to [27][suspension][27] [28][and revocation][28] and unless earlier renewed under rule 8 every such licence shall remain in force until the 31st day of December next following and shall then expire.

7. Amendment of licence.(1) - A licence granted under rule 6 may be amended by the Chief Inspector [29][or Deputy Chief Inspector authorised by the State Government in this behalf.][29]

(2) A licensee shall be required to have his licence amended if there is change in the name of the factory [30][or in the site on which the factory is situated][30] or if the factory for which the licence is granted exceeds the limits specified in the licence in regard to horse-power or the number of persons employed. The licensee whose licence is required to be amended shall submit it to the Chief Inspector [31][or the Deputy Chief Inspector authorised under sub-rule (1)][31] with an application stating the nature of the amendment and reasons thereof:

Provided that no amendment of the licence shall be necessary in respect of changes in the number of workers or horse-power or both unless such changes involve higher licence or renewal fee.

(3) Where a licence is required to be amended under sub-rule(2) the fee to be paid for such amendment shall be equal to the difference between the licence or renewal fees due on the basis of the higher number of workers and horse-power and the fees for the grant of licence or renewal thereof already paid for the year or part thereof.

8. Renewal of licence - (1) An application for the renewal of licence [32][for a period not exceeding [33][five years][33] shall be made to Chief Inspector [34][or the Deputy Chief Inspector authorised by the

State Government in this behalf][34] in Form 3 accompanied by a treasury receipt or a cheque or by an Indian Postal Order or an invoice for book adjustment, as the case may be, for payment of the fees specified in the Schedule attached to rule 5, so as to reach him not later than two months before the date on which the licence is due to expire:

Provided that where a factory commences work on or after the ast day of November in any year, application for renewal of the licence shall be made on or before the ast day of January next following.

[35][(2)(a) On receipt of the application under sub-rule (1), the Chief Inspector or the Deputy Chief Inspector authorised under sub-rule (1), may, if he is satisfied that there is no objection to the renewal of the licence, renew the same for a period not exceeding [36][five][36] years or may, after recording his reasons, refuse the renewal thereof on any of the grounds specified in the proviso to sub-rule (1) of rule 6.

(b) The Chief Inspector may also refuse the renewal of the licence on the ground that the applicant has been guilty of repeated contraventions of the provisions of the Act or these rules or both, or the applicant has obtained the licence by fraud or by misrepresentation:

Provided that, in any case falling under clause (a) or (b) before refusing any licence, applicant shall be given an opportunity to show cause why the licence should not be refused:

[37][Provided further that if the period for which the renewal of licence is applied is one year or more but does not exceed three years, the fees payable under this sub-rule therefor per year, shall be at the rates specified in the Schedule attached to rule 5:][37]

[38][Provided also that where the application for the renewal of the licence is made after the expiry of the due date specified in this sub-rule, the additional graded fees at the percentage of the fees payable for the renewal of the licence specified in column 2 of the Schedule hereto shall be payable for such renewal of the licence for the period of delay specified in column 1 of that Schedule.][38]

SCHEDULE

Period of delay	**% of fees**	**Period of delay**	**% of fees**
Upto one month	5%	Upto two months	10%
Upto three months	15%	Upto four months	20%
Upto five months and above	25%"		

[39][8-A. In calculating the amount of fee payable under these rules, the fraction of a rupee less than fifty paise shall be ignored and the fraction of a rupee of fifty paise and exceeding fifty naye paise shall be rounded off upto the next complete rupee.][39]

9. When licence deemed to be granted or renewed - [40][Where an application for grant or renewal of licence is duly made in accordance with these rules and if no licence has been issued or renewed within a period of four months, the factory in respect of which the licence is to be granted or renewed shall be deemed to be duly licenced.][40]

[41][Provided that in respect of application for grant or renewal of licence which has already been refused, if it is made again, the factory in respect of which it is made, shall not be deemed to be licensed until the licence is actually granted or renewed.][41]

Explanation - For the purpose of this rule, an application for the grant or renewal of a licence shall be deemed to have been duly made only if it is in the prescribed form and is filled in with all relevant particulars and further is accompanied by a treasury receipt or a cheque or an invoice for book

adjustment, as the case may be, for payment of the fees in accordance with the Schedule annexed to rule 5.

[42][**9-A. Revocation of licence -** The Chief Inspector or the Deputy Chief Inspector authorised under sub-rule (1) of rule 8 may, at any time before the expiry of the period for which the licence has been granted or renewed, revoke the licence on any of the grounds specified in the proviso to sub-rule (1) of rule 6 or in clause (b) of sub-rule (2) of rule 8:

Provided that before revoking any licence, the licensee shall be given an opportunity to show cause why the licence should not be revoked.

10. 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 amendment of the licence under rule 7 in his own name for the unexpired portion of the original licence.

11. Loss of licence - (1) Where a licence granted under these rules is lost or destroyed a duplicate thereof may be granted on payment of a fee of rupees five.

(2) The Chief Inspector may require a licensee to obtain a duplicate licence on payment of rupees five, if the original licence is defaced or spoiled:

Provided that, the Chief Inspector may issue a duplicate licence without charge if he is satisfied that there are good and sufficient reasons for doing so.

12. Mode of payment of fees - (1) Every application under these rules shall be accompanied by a treasury receipt showing that the appropriate amount of fee has been paid into the local treasury under the head of account [43][0230-Labour and Employment-104-fees realised under the Factories Act, 1948 (0230-0045)][43] or by a crossed cheque or crossed Indian Postal Order for the appropriate amount of fees drawn in favour of Chief Inspector:

Provided that, in the case of the factories in Greater Bombay, the application shall always be accompanied by a crossed cheque or a crossed Indian Postal Order:

Provided further that, in the case of a Government factory, the payment of the appropriate amount of fees shall be made in the same manner as payments of amounts due by one Government department to another are ordinarily made.

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

(3) Where such application is granted, any amount paid by the applicant in excess of the prescribed fee shall be refundable only after the expiry of one year from the date of such grant or the same may be adjusted against payment of any fees due for the next succeeding year.

13. [44][Suspension of licence on request of licensee][44] - (1) If before the 31st October of any year an occupier notifies his intention in writing to the Chief Inspector or the Deputy Chief Inspector authorised by the State Government in this behalf that during the following year the premises in respect of which licence is issued will not be used for the working of the factory, the Chief Inspector [45][or the Deputy Chief Inspector so authorised][45] may suspend the licence granted in respect of such factory.

(2) A licence suspended under sub-rule (1) may be on receipt of an application for renewal in Form 3, accompanied by the licence, for the remaining part of the year, on payment of surcharge of 10 per

cent in addition to the fees specified in these rules.

Form prescribed under sub-section (1) of section 7

14. Notice of occupation - The notice of occupation shall be in Form 2.

15. Notice of change of Manager - Notice of change of Manager shall be in Form 5.

CHAPTER II
The Inspecting staff

Rule prescribed under sub-section (1) of section 8

16. Appointment of Inspectors - No person shall be appointed as Inspector for the purposes of the Act, unless he possesses the qualification prescribed for such Inspectors in the Bombay Civil Services Classification and Recruitment Rules at the time of his appointment.

Rules prescribed under section 9

17. 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 the factory;

(b) in the case of a Inspector who is 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:

Provided that the powers of the District Magistrates and such other public officers as are appointed to be Additional Inspectors shall, unless otherwise expressly provided in the notification under sub-section (5) of section 8, be limited to the inspection of factories in respect of the following matters, namely:-

Cleanliness (section II), Over-crowding (section 16), Lighting, (section 17), Drinking water (section 18), latrines and urinals (Section 19), Spitoons (section 20), Precautions in the case of fire (section 38), Welfare (Chapter V), Working hours of adults (Chapter VI-except the power of exemption under the proviso to section 62), Employment of young persons (Chapter VII), Leave with wages (Chapter VIM) and Display of Notice (section 108):

Provided further that-

(i) the District Magistrate shall not pass any original orders or remarks under sections 11,17 and 38 of the Act but shall limit and confine his orders or remarks under those sections to the points to which the full-time Inspector of factories had already directed the attention of manager or occupier of the factory, as the case may be,

(ii) all Additional Inspectors except District Magistrates shall report the defects found and remedies suggested for enforcing compliance with requirements of sections referred to above, to the Chief Inspector who shall pass final orders in each case.

Rule prescribed under sub-section (4) of section 10

18. 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 arrangements to the managers of factories situated within the local limits assigned to him.

(2) The Certifying Surgeon shall issue his certificates in Form 6. 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 on the fitness of the person examined he shall sign the foil and initial the counterfoil and shall deliver the foil to the person in whose name the certificate is granted. The foil so delivered shall be the certificate of fitness granted under section 69. All counterfoils shall be kept by the Certifying Surgeon for a period of at least two years after the issue of the certificate.

(3) If a certificate of fitness issued to a young person is lost, on receipt of application for the grant of duplicate, the Certifying Surgeon, after making such inquiries as he deems fit, may grant a duplicate thereof. Such application shall be forwarded through the occupier of the factory where the young person is employed.

(4) (a) [46][A fee of rupees ten][46] shall be payable for the issue of every certificate of fitness issued under sub-rule (2) and shall be paid by the occupier.

(b) [47][A fee of rupees two][47] shall be payable for the issue of every duplicate of a certificate issued under sub-rule (2) and shall be paid by the occupier.

(5) 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 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 a 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.

(6) 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.

(7) At such visits the Certifying Surgeon shall examine the persons employed in such processes and shall record the result of his examination in a register known as the Health Register in Form 7 which shall be kept by the factory manager and produced to the Certifying Surgeon at each visit.

(8) If the Certifying Surgeon finds as a result of his examination that any person employed in such process in 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.

(9) 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.

(10) 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

Exemptions under sub-section (2) of section II

19. Cleanliness of walls and ceilings - (1) Clause (d) of sub- section (1) of section 11 of the Act shall not apply to the class or description of the factories or parts of factories specified in the Schedule hereto:

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

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

(i) as respect factories or parts of factories specified in Part A of the said Schedule, to work-rooms in which amount of cubic space allowed for every person employed in the room is less than 15 cu. metres;

(ii) as respects factories or parts of factories specified in Part B of the said Schedule, to work-rooms in which the amount of cubic space allowed for every person employed in the room is" less than 15 cu. metres;

(iii) to engine-houses, fitting-shops, lunch-rooms, canteens, shelters, creches, cloak rooms, rest rooms and wash-places; and

(iv) to such parts of walls, sides and tops of passages and staircases as are less than six metres above the floor stair.

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

SCHEDULE
Part A

Blast furnaces.

Brick and tile works in which unglazed bricks or tiles are made.

Cement works.

Chemical works.

Copper mills.

Gas works.

Iron and steel mills.

Stone, slate and marble works.

The following parts of factories:-

Rooms used only for the storage of articles.

Rooms in which the walls or ceiling consist of galvanised iron, glazed bricks, glass, slate, asbestos, bamboo, thatch.

Parts in which dense steam is continuously evolved in the process Parts in which pitch, tar or like material is manufactured or is used to a substantial extent, except in brush works. The parts of a glass factory known as the glass house. Rooms in which graphite is manufactured or is used to a substantial extent in any process.

Parts in which coal, coke, oxide or iron, ochre, lime or stone is crushed or ground.

Parts of walls, particulars, ceilings or tops of rooms which are at least seven meters above the floor.

Ceilings or tops of rooms in print works, bleach works, or dye work with the exception of finishing rooms or warehouses.

Inside walls of oil mills below a height of 1.5 metres from the ground floor level. Inside walls in tanneries below a height of 1.5 metres from the ground floor level where a wet process is carried on.

Part B

Coach and motor body works. Electric generating or transforming stations.	Foundries other than foundries in which brass casting is carried on.
Engineering works.	Gur Factories.
Factories in which sugar is refined or manufactured.	Ship-building works.

Those parts of factories where unpainted or unvarnished wood is manufactured.

Register prescribed under sub-section (1) of section 11

20. Record of white-washing, etc. - The record of dates on which white-washing, colour-washing, varnishing, etc., are carried out shall be entered in a Register maintained in Form 8.

Rule prescribed under sub-section (1) of section 11 and section 12

21. Compound to be kept clean - The compound surrounding every factory shall be maintained in a sanitary and clean condition free of rubbish, filth or debris.

Rule prescribed under sub-section (2) of section 12

22. Disposal of trade waste and effluents - (1) In the case of a factory where the drainage system is proposed to be connected to the public sewerage system, prior approval of the arrangements made shall be obtained from the Local Authority.

[48][(2) For the areas notified under Water (Prevention and Control of Pollution) Act, (6 of 1974) necessary approval to arrangements made for the treatment and disposal of all types of trade-waste and effluents shall be obtained from Maharashtra Water (Prevention and Control of Pollution) Board, constituted under that Act.][48]

[49][3][49] In the case of factories other than those mentioned in sub-rule (1) prior approval of the arrangements made for the disposal of trade-wastes and, effluents shall be obtained from the Health Officer.

Rule 22-A Prescribed under sub-section (2) of section 13

[50]**[22-A. Ventilation and temperature -** (l) Limits of temperature and air movement - In any factory the maximum wet-bulb temperature of air in a work-room at a height of 1.5 metres above the floor level shall not exceed 300°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 work-room at the said height shall not exceed more than that shown in the Schedule hereto, or as regards a dry-bulb reading intermediate between the two dry-bulb readings, that specified in relation to the highter of these two dry bulb readings:

SCHEDULE

Dry bulb temperature	**Wet Bulb temperature**
30°C to 34°C	29°C
35°C to 39°C	28.5°C
40°C to 44°C	28°C
45°C to 47°C	27.5°C

Provided that if the temperature measured with a thermometer inserted in a hollow globe of 15 centimeters 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 further that this requirement shall not apply in respect of factories covered by section 15 of the Act and in respect of factories where the nature of work carried on involves production of excessively high temperature referred to in clause (ii) of sub-section (i) of section 13 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 the rule:

Provided also that the Chief Inspector, having due regards to the health of the workers, may in special and exceptional circumstances, by an order in writing exempt any factory or part of a factory from the foregoing requirements; subject to such conditions as he may specify.

(2) Provision of thermometers - (a) If it appears to the Inspector that in any factory, the temperature of air in a work-room is sufficiently high and is likely to exceed the limits prescribed in sub-rule (1), he may serve on the factory manager an order in writing requiring him to provide sufficient number of whirling hygrometers or any other type of hygrometers and direct that the dry-bulb and wet-bulb reading in each such work-room shall be recorded at such positions and at such intervals, as approved by the Inspector, by a person specially 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 work-room by radiation from walls, roof or other surroundings, he may serve on the factory manager an order requiring him to provide one or more globe thermometers referred to in the first proviso in sub- rule (1) and further requiring him to place the globe thermometers at places specified by him and keep a record of the temperature in a register showing the spots, the timings and the temperature observed.

(3)(a) In every factory the number of ventilation openings in the workroom below the caves shall, except where mechanical means of ventilation as required by sub-clause (b) below are provided be of an 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 out of this total ventilation area, ventilation opening equivalent to at least 10 per cent of the floor area shall, be located at not more than one meter sill level height from the floor level:

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

Provided also that this requirement shall not apply in respect of workrooms of factories which are covered by section 15 of the Act, or in which temperature and humidity are controlled by refrigeration or air-conditioning or both.

(b) Where in any factory due to special circumstances such as situation with respect to adjacent building or internal obstructions like partitions etc. the height of the building or floor space, the requirements of ventilation openings under clause(a) cannot be complied with for any work-room or where the span of work-room, having necessary ventilation openings exceeds 18 metres or where any work place is at a distance exceeding 9 metres from a ventilation opening at working level or in the opinion of the Inspector the temperature of air in a work-room is sufficiently high and is likely to exceed the limits prescribed in sub-rule (1), additional ventilation by mechanical means shall be provided.

(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 work-room and shall be distributed evenly throughout the work-room 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 temperature are 25°C or below and in the opinion of the Inspector the manufacturing process carried on in the work-room of factory permits thermal environments with relative humidity of 5 per cent or more, the Inspector may serve on the factory manager 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.]

Rules 23 to 33 prescribed under sub-section (1) of section 15

23. 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 is higher than that specified in the

following Schedule in relation to the dry bulb reading of the hygrometer at that time; or as regards a dry bulb reading intermediate between any two dry bulb readings indicated consecutively in the Schedule when the dry bulb reading does not exceed the wet bulb reading to the extent indicated in relation to the lower or of these two dry bulb readings:-

Dry bulb	Wet bulb	Dry bulb	Wet bulb	Dry bulb	Wet bulb
60.0	58.0	77.0	75.0	94.0	86.0
61.0	59.0	78.0	76.0	95.0	87.0
62.0	60.0	79.0	77.0	96.0	87.5
63.0	61.0	80.0	78.0	97.0	88.0
64.0	62.0	81.0	79.0	98.0	88.5
65.0	63.0	82.0	80.0	99.0	89.0
66.0	64.0	83.0	80.5	100.0	89.5
67.0	65.0	84.0	81.0	101.0	90.0
68.0	66.0	85.0	82.0	102.0	90.0
69.0	67.0	86.2	82.5	103.0	90.5
70.0	68.0	87.0	83.0	104.0	90.5
71.0	69.0	88.0	83.5	105.0	91.0
72.0	70.0	89.0	84.0	106.0	91.0
73.0	71.0	90.0	84.5	107.0	91.5
74.0	72.0	91.0	85.0	108.0	91.5
75.0	73.0	92.0	85.5	109.0	92.0
76.0	74.0	93.0	86.0	110.0	92.0

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.

24. Provisions of Hygrometer - In all departments of cotton spinning and weaving mills wherein artificial humidification is adopted, hygrometers shall be provided and maintained in such position 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 8,500 cu. meters capacity and one extra hygrometer for each 5,600 cu. metres 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.

25. Exemption from maintenance of hygrometers - When the inspector is satisfied that the limits of humidity allowed by the Schedule to rule 23 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.

26. Copy of Schedule to rule 23 to be affixed near every hygrometer - A legible copy of the schedule to rule 23 shall be affixed near each hygrometer.

27. Temperature to be recorded at each hygrometer - At each hygrometer maintained in accordance with rule 24; correct wet and dry bulb temperatures shall be recorded daily during working hours, except intervals for rest, by competent persons nominated by the Manager and approved by the Inspector. The temperature shall be taken between 7 a.m./p.m. and 9 a.m./p.m. between 11 a.m./p.m. and 2 p.m./a.m. and between 4 p.m./a.m. and 5.30 p.m./a.m. if the factory is working during these hours. 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 Form 9 maintained in the factory. At the end of each month, the persons who have taken the readings, shall sign the Register and certify the correctness of the entries. The Register shall always be available for inspection by the Inspector.

28. 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 divisionals of scale. They shall be mounted on a frame with a suitable reservoir containing water.

(2) The wet bulb shall be closely covered with a single layer of muslin kept wet by means of 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 75 mms. from the dry bulb or less than 25 mms. from the surface of the water in the reservoir and the water reservoir shall be below it, on the side of it away from the dry bulb.

(4) The bulb shall be spherical and of suitable dimensions and shall be freely exposed on all sides to the aid of the room.

(5) The bores of the stems shall be such that the position of the top of the mercury column shall be really distinguishable at a distance of 60 cms.

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

(7) Every degree from 50 degrees up to 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 thermometer.

(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.

29. 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 tube 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 mills in certain localities;

(c) no water shall be applied directly to the wick or covering during the period of employment.

30. An inaccurate thermometer not to be used without fresh certificate - If an Inspector gives notice in writing that a thermometer is not accurate it shall not, after one month from the date of such notice, be deemed to be accurate unless and until it has been re-examined as prescribed and a fresh certificate obtained which certificate shall be kept attached to the Humidity Register.

31. 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 therefrom by wood or other non-conducting material at least half an inch in thickness and distant at least one inch from the bulb of each thermometer.

(2) No hygrometer shall be fixed at a height of more than 170 centimetres from the floor to the top of thermometer stem or in the direct droughts from a fan, window or ventilating opening.

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

33. How to introduce steam for humidification - In any room in which steam pipes are used for the introduction of steam for the purposes of artificial humidification of the air the following provision shall apply:-

(a) The diameter of such pipes shall not exceed 5 mm. and in the case of pipes installed after ast day of January 1950 the diameter shall not exceed 25 mm.

(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 15 mm. in thickness.

(d) No uncovered jet from such pipes shall project more than 100 mm. beyond the outer surface of any cover.

(e) The steam pressure shall be as low as practicable and shall not exceed 5 kgs. per square centimetre.

(f) The pipes 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.

Rules 34 to 38 prescribed under sub-section (4) of section 17

[51][Rules 34][51]

[52][35. Standards of lighting of factories - (i) In every factory, where natural lighting is not such that day light conditions are fairly uniform over the working or other areas and/or daylight illumination is not sufficient, additional lighting, which shall be of uniform level, widely distributed to avoid hard shadows or strong contrast and free from direct or reflected glare, shall be provided. The minimum intensity of illumination for the different areas and work-rooms of the type given under column No.2 shall be as given under column No.3 of the Schedule 'A' appended hereto;

(ii) Notwithstanding the above, in every factory, where intense local lighting is further necessary on

account of the nature of work as mentioned in the column No.2 of the Schedule 'B' appended hereto, the same shall be obtained by a combination of general lighting and supplementary lighting at the point of work. The minimum intensity of illumination for different tasks shall be as given under column No.4 of the said schedule.

(iii) In case of any doubt or dispute in regard to the classification of areas or tasks specifically mentioned in Schedule 'A' or corresponding to the examples mentioned in Schedule 'B' respectively, the decision to the Chief Inspector of Factories shall be final.

(iv) In regard to cotton ginning factories, where the electric power is not available and when additional lighting for the interior of the factory is necessary, the same shall be provided by the candles placed in glass lanterns of a pattern approved by the Inspector and at the rate of not less than one such lantern for every two gins.

SCHEDULE 'A'

Sl. No.	**Area and Work-room.**	**Minimum intensity of illumination in Lux**
1.	Stock-yards, main entrance and exit roads, cat-walks of outdoor plants, coal unloading and storage areas	20
2.	Passage-ways, and corridors and stairways, warehouses, stock-rooms for large and bulky materials, platforms of outdoor plants, basements	50
3.	Engine and boiler rooms, passengers and freight elevators, conveyers crating and boxing departments, store-rooms and stock-rooms for medium and fine materials, lockers rooms, toilet and wash rooms.	100

SCHEDULE 'B'

Sl. No.	**Nature of work**	**Examples**	**Minimum intensity if illumination in Lux**
1.	Where discrimination of detail is not essential	Handling of material of coarse nature, rough sorting, grinding of clay products, handling coal or ashes.	50
2.	Where slight discrimination of detail is essential.	Production of semi-finished iron and steel products, rough assembling, milling of grains, opening, carding, drawing, slubbing, roving, spinning (ordinary) counts of cotton.	100
3.	Where moderate discrimination of detail is essential.	Medium assembling, rough bench work and machine work, inspection and testing of products, canning, sawing, venering planning of lumber, sewing of light coloured textiles and leather products, weaving light thread, warping, slashing doubling (fancy) spinning fine counts.	200
4.	Where close discrimination of detail is essential.	Medium bench and machine work fine testing, flour grading, leather finishing, weaving cotton goods, or light coloured woollen goods, welding sub-assembly, drilling, rivetting, book- binding and folding.	300
5.	Where discrimination of fine detail is involved under a fair degree of contract for long periods of time.	Fine assembling, fine bench and machine work, fine inspection, fine polishing and bevelling of glass, fine wood working, weaving dark coloured woollen goods.	500

6.	Where discrimination of extremely fine detail is involved under conditions of extremely poor contrast for long periods of time.	Extra fine assembling, extra fine inspection, testing of extra fine instruments, jewellery and watch manufacturing, grading and working of tobacco products, dark cloth hand tailoring, final perching in dye works, make-up and proof reading in printing plants.	1000

36. Prevention of glare - (1) Where any source of artificial light in the factory is less than five metres above floor level, no part of the light source or of the lighting fitting having a brightness greater than 5 lamberts shall be visible to persons whilst normally employed within 30 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.

(2) Any local light, that is to say, an artificial light designed to illuminate particularly the area or part of the area of work of a single operative or small group of operatives working near each other, shall be provided with a suitable shade of opaque material to prevent glare or with other effective means by which the light source is completely screened from the eyes of every person employed at a normal working place, or shall be so placed that no such person is exposed to glare therefrom.

37. 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 [53][rules 35 and 36][53] is inappropriate or is not reasonably 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.

[54]**[38. Exemption from rule 35 -** Nothing in rule 35 shall apply to the parts of factories specified in the schedule annexed hereto.

SCHEDULE

Parts of factories in which light sensitive photographic materials are made or used in an exposed condition or where such exposing operations are carried on][54]

Rules 39 to 44 prescribed under sub-section (1) of section 13

39. Quantity of drinking water - The quantity of drinking water to be provided for the workers in every factory shall be at least five litres a day per worker employed in the factory and such drinking water shall be readily available at all times during working hours.

40. Source of supply - The water provided for drinking shall be supplied:

(a) from the taps connected with a public water supply system, or

(b) from any other source approved in writing by the Health Officer.

41. Storage of water - If drinking water is not supplied from taps connected with a public water supply system which is continuous, such water shall be kept in suitable vessels with taps and dust-proof cover, placed on raised platforms in the shade with drains to carry away the waste water. Such vessels shall always be kept scrupulously clean and the water renewed at least once every day. Where the water is drawn from the tube-wells, such water may be drawn in vessels direct from supply taps.

42. Cleanliness of wells or reservoir - (1) Drinking water shall not be supplied from any open well or reservoir unless it is so constructed, situated, protected and maintained as to be free from the

possibility of pollution by chemical or bacterial and extraneous impurities.

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

Provided that 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.

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

44. Water centres - In every factory wherein more than 250 workers are ordinarily employed-

(a) the drinking water supplied to the workers shall from the ast of March to 30th of November in every year be cooled by ice or other effective method:

Provided that if ice is placed in the drinking water, the ice shall be cleaned and wholesome and shall be obtained only from a source approved in writing by the Health Officer;

(b)(i) the cooled drinking water shall be supplied in every canteen, lunch room and rest-room and also at conveniently accessible points throughout the factory which for the purpose of these rules shall be called "Water Centres";

(ii) at least one such centre shall be provided on each floor if the factory has more than one floor;

(c) the "Water Centres" shall be sheltered from the weather and adequately drained;

(d)(i) the number of "Water Centres" to be provided shall be one "Water Centre" for every 150 workers or part thereof employed at any one time in the factory:

Provided that in the case of a factory where the number of workers employed exceeds 450, it shall be sufficient if there is one "Water Centre" as aforesaid for every 150 workers up to the first 450 and one for every 450 workers or part thereof thereafter, and in counting the number, account shall be taken of the maximum number of workers working at any time during the day;

(ii) where drinking water is provided through taps or through drinking fountains each "Water Centre" shall have at least three such taps or fountains. The taps or fountains shall be at least 60 cms. apart, and shall have a trough to drain away the spilt water. The trough and the walls and platform near the tap shall be laid in glazed tiles:

Provided that where mechanical refrigerating units with drinking water fountains distributed throughout the factory, are provided, the number of "Water Centres" may not be according to the standard prescribed under sub-clause (i) above, as long as the total number of fountains provided is in accordance with the prescribed standard if the number of "Water Centres" as prescribed in sub-clause (i) were provided:

(e) (i) every "Water Centre" shall be maintained in clean and orderly condition;

(ii) every "Water Centre" shall be in charge of a suitable person who shall distribute the water and who shall be provided with clean clothes while on duty:

Provided that in respect of factories where mechanical refrigerating units and taps are provided to the satisfaction of the Chief Inspector, he may exempt such a factory on an application made by the manager from the provisions of sub-clause (ii) on such conditions as he may deem fit.

Rules 44 to 53 prescribed under sub-section (3) of section 19

45. Latrine accommodation - Latrine accommodation shall be provided in every factory on the following scale:-

(a) where females are employed, there shall be at least one latrine for every 25 females;

(b) where males are employed, there shall be at least one latrine for every 25 males: provided that where the number of males employed exceeds 100, it shall be sufficient if there is one latrine for 25 males up to the first 100, and one for every 50 thereafter.

In calculating the number of latrines required under this rule, any odd number of workers less than 25 or 50, as the case may be, shall be, reckoned as 25 or 50 and the number of workers to be considered shall be the maximum number employed at any time during the day.

46. Privacy of latrines - Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastening.

47. Sign-boards 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.

[55]**[48. Urinal accommodation -** There shall be at least one urinal for every 50 male workers or part thereof employed at a time; provided that where the number of males employed exceeds 500 it shall be sufficient if there is one urinal for every 50 males up to the first 500 and one for every 100 or part thereof thereafter.

[56]**[49. Drainage system for latrines and urinals -** Latrines and urinals shall either be of flush type or aqua-privy type and connected with an underground sewerage system as prescribed under rule 50 or connected to an efficient system of septic tanks:

Provided that, in respect of existing factories having any other type of latrines and urinals, the State Government, or the Chief Inspector of Factories, subject to the control of the State Government, may permit their continued use for a limited period which may be extended by him at his discretion on such conditions as the Government or the Chief inspector may think fit][56].

[57]**[50. Certain latrines and urinals to be connected to sewerage system -** Where any general system of underground sewerage with an assured water supply for any locality is provided by a local authority all latrines and urinals of a factory situated in such locality shall be connected with that sewerage system.][57]

51. White-washing, colour-washing of latrines and urinals - The walls, ceiling and partition of every latrine and urinal shall be white-washed or colour washed and the white-washing or colour-washing shall be repeated at least once in every period of four months. The dates on which the white-washing or colour-washing is carried out shall be entered in the prescribed Register in Form 8:

Provided that this rule shall not apply to latrines and urinals, the walls, ceilings 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.

52. Construction and maintenance of drains - All drains carrying waste or sullage water shall be constructed in masonry or other impermeable material and shall be regularly flushed and the effluent disposed of by connecting such drains with a suitable drainage line:

Provided that, where there is no such drainage line, the effluent shall be deodorized and rendered innocuous and then disposed of in a suitable manner to the satisfaction of the Health Officer.

53. Water taps in latrines - Water taps, conveniently accessible, shall be provided in or near such latrine accommodation. There shall be at least one tap for every ten latrines or part thereof. The water taps shall be connected to the Municipal water supply or to an overhead storage tank of sufficient capacity, so that water is available from the taps during all hours when the workers are in the factory.

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

SCHEDULE

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

Rules 54 to 56 prescribed under sub-section (2) of section 20

54. Number and location of spittoons - The number and location of the spittoons to be provided shall be to the satisfaction of the Inspector. Such spittoons shall be placed on a stand or a bracket 90 centimetres high.

55. 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.

56. Cleaning of Spittoons - The spittoons mentioned in clause (a) of rule 55, shall be emptied, cleaned and disinfected at least once every day; a spittoon mentioned in clause (b) of rule 55 shall be cleaned by scrapping out the top layer of sand as often as necessary or at least once every day.

CHAPTER IV
Safety

Further precautions prescribed under sub-section (2) of section 21

[59]**[57. Further safety precautions -** Without prejudice to the provisions of sub-section (1) of section 21 in regard to the fencing of machines, the further precautions specified in the schedules annexed hereto, shall apply to the machines noted in each schedule.

SCHEDULE 1
Textile including Cotton, Silk, Asbestos, Staple Fibre or any Artificial Fibre and Jute

1. All openers, scutchers, combined openers and scutchers, lap machines, hard waste breakers, cleaners, blenders, hopper feeders and similar machines - (a) All Openers, Scutchers, Combined Openers and Scutchers, Scutcher Lap Machines, Hard Waste Breakers, Cleaners, Blenders, Hopper Feeders and similiar machines shall be driven by separate motors or from separate counter shafts provided with the fast and loose pulleys and efficient belt shifting devices.

(b) In all openers, scutchers, combined openers and scutchers, scutcher lap machines, Hard Waste Breakers, Cleaners, Blenders, Hopper Feeders and similar Machines, the beater covers and doors which give access to any dangerous part of the machine shall be fitted with effective interlocking arrangements, which shall prevent the covers and doors being opened till the dangerous parts of the machine come to rest and also prevent the machine being restarted till the covers and doors are closed.

(c) In all openers, scutchers, combined openers and scutchers, scutcher lap machines, Hard waste breakers, cleaners, blenders, hoppers, feeders and similar machines, the opening giving access to the dust chamber shall be provided with permanently fixed fencing, which shall, while admitting light, yet prevent contact between any part of a person's body and the beater grid bars.

(d) In all openers, scutchers, combined openers and scutchers, scutcher and lap machines, silver lap machines, derby doublers, ribbon lap and similar machines, the lap forming rollers shall be fitted with a guard or cover which shall prevent access to the intake of the lap roller and fluted roller as long as the weighted rock is down or the guard or cover shall be so interlocked that it cannot be raised until the machine is stopped and the machine cannot be restarted until the guard or cover is closed:

Provided that in case of similar machines run at higher speed and provided with an automatic lap starter mechanism, the machines shall be immediately put out of use, no sooner this mechanism goes out of order for any reason and the same shall not be recommissioned till the automatic mechanism is repaired and placed back in efficient working order.

2. Carding Machines - All cylinder doors shall be secured by an automatic locking device which shall prevent the door being opened until the cylinder/cylinders ceased to revolve and shall render it impossible to restart the machine, until the door is closed.

[60][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.][60]

(b) Access to the licker-in cylinder from the back and the sides shall be positively prevented so long as the licker-in cylinder is rotating, by suitably designed and placed guards.

3. Drawing Frame - The gearing for driving the draft rollers on drawing frames shall be effectively guarded by a cover which shall be so interlocked that it cannot be raised until the machine is stopped and the machine cannot be restarted until the cover is closed.

4. Speed Frames - Headstocks shall be fitted with automatic locking arrangements which shall prevent the doors giving access to the jack box wheels being opened while the machinery is in motion and shall render it impossible to restart the machine until the floors are closed.

5. Combers and similar machines - (a) The gearing shall be effectively guarded by a cover which shall be so interlocked that it cannot be raised until the machine is stopped and the machine cannot be restarted until the cover is closed.

(b) A fixed guard of a suitable design shall be provided which would prevent access to the draw box rollers in motion.

6. Self-acting Mules - The drive shall be from countershaft which shall be provided with fast and loose pulleys and efficient belt shifting devices.

7. Process House Machinery etc. - (a) In respect of calendering mangles Roller Printing Machine merciring, soaping, stentering, singeing, shrinking, washing and similar machines, all such machines shall be provided with an efficient nip guard along the whole length on the intake side of each pair of bowls and similar parts, as would prevent access to the point of contact of the rollers or bowls:

Provided that, in the case of those machines in respect of which it is not possible to provide efficient "nip" guards on account of the corrosive action of chemical used in the process or on account of the size of the material passing through the bowls, efficient fixed guards shall be provided on either side of the machines as would positively prevent any access to the point of contact of the rollers or bowls:

Provided further that in respect of rollers or bowls of such machines with ends of lesser diameter, the "nip" guards shall have flattened ends on either side to prevent access between the guard and the roller or bowl ends moving in.

(b) In respect of felt calendering machines or any type, dangerous intake points between moving felt or belt and the central or other guide drums shall be securely fenced from the front and also from the sides, of such intake points as are accessible from working floors or platforms.

8. Shearing and Cropping Machines - The dangerous moving outer blades shall be provided with an efficient interlock arrangement as would prevent the complete cover or guard to be opened until the cutter blade has come to rest and would also make it impossible to restart the machine until the cover or guard is closed.

9. Singeing Machines - Effective arrangement such as solenoid valve or other effective device shall be provided to cut off instantaneously supply of any type of gas or of electricity to the machine, in case of failure of power to the machine.

SCHEDULE II
Cotton Ginning Machinery

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

2. The bare portions of the line shaft between the bearings and also of the projection at the ends of the line shaft shall be provided with adequate inverted "U" or sleeve type of guards of substantial construction.

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, chair mortising machine or vertical spindle moulding machine operating on wood or cork.

(b) "Circular saw" means a circular saw working in a bench (including a rack bench) but does not include a pendulum or similar saw which is moved towards the wood for the purpose of cutting operations.

(c) "Band saw" means a band saw, the cutting portion of which runs in vertical direction but does not include a log saw or band re-sawing machine;

(d) "Planning machine" means a machine for overhead planning or for thickening 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 in such a position as to be readily and conveniently operated by the person in charge of the machine.

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

4. Floor - 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 wood-working machine shall be fully and carefully instructed to the danger of the machine and the precautions to be observed to secure safe working of the machine.

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

(a) Behind and in direct line with the saw there shall be an arriving knife, which shall have a smooth surface, shall be strong, rigid and easily adjustable, and shall also conform in the following conditions:-

(i) The edge of the knife nearer the saw shall form an area of a circle having a radius not exceeding the radius of the largest saw used on the bench.

(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 10 mms.

(iii) For a saw having diameter of less than 60 cms., the knife shall extend upwards from the bench table to within 25 mms. of the ton of the saw, and for a saw having a diameter of 60 cms. or over shall extend upwards from the bench table to a height of at least 22.5 cms.

(b) The top of the saw shall be covered by a strong and easily adjustable guard, with a flange at the side of the saw farthest from the fence. The guard shall be kept so adjusted that the said flange shall

extend below the roots of the teeth of the saw. The guard shall extend from the top of the arriving 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 materials one on each side of the saw. Such plate shall not be more than fifteen centimeters apart and shall extend from the axis of the saw outwards to a distance of not less than five cms. beyond the teeth of the saw. Metal plates, if not beaded, shall be of a thickness of at least 2.5 mms. or if beaded be of a thickness of at least 1.25 mms.

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 material.

(b) The front of the top pulley shall be covered with sheet or expanded metal or other suitable material.

(c) All portions of the blade shall be enclosed or otherwise securely guarded except the portion of the blades between the bench table and the top guide.

9. Planing machines - (1) A Planing machine (other than planing machine which is mechanically fed) shall not be used for overhead planing unless it is fitted with a cylindrical cutter block.

(2) Every planing machine used for overhead planing 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.

(3) The feed roller of every planing machine used for thickening except the combined machine for overhead planing and thickening shall be provided with efficient guard.

10. Vertical Spindle Moulding Machine - (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 workers.

11. Chain Mortising Machine - The chain of every chain mortising machine shall be provided with a guard which shall enclose the cutter 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 risk.

SCHEDULE IV

Rubber and Plastic Mills

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

(ii) A "Calender" shall mean machine with rolls used for frictioning, sheeting, coating and spreading of rubber compounds and plastic or plastic compounds.

Installation of machines - Rubber and plastic mills shall be so installed that top of the front roll is not less than one metre above the floor or working level provided that in existing installations where the top of the front roll is below this height a strong rigid distance bar guard shall be fitted across the front of the machine in such position that the operator cannot reach the nip of the roller from the normal working position of the operator.

2. Safety Devices - (i) Rubber and Plastic Mills shall be equipped with-

(a) Hoppers so constructed or guarded that it is impossible for the operators to come into contact in any manner with the nip of the rolls, or

Horizontal Safety - trip rods or tight wire cable 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. Safety-trip rods or tight wire cable on rubber mills shall extend across the entire length of the face of the rolls and shall be located not more than 170 centimeters above the floor or working level.

(ii) Calender machines shall be equipped with-

(a) Horizontal safety-trip rods or tight wire across both front and rear, which will when pushed or pulled operate instantly, to disconnect the power and apply the brakes or to reverse the roll;

(b) Safety-trip rods or tight wire cables on calender machines shall extend across the entire length of the face of the roll and shall be located not more than 170 centimetres above the floor or working level;

(c) on each side of all calenders and near both ends of the face of the rolls there shall be a vertical tight wire cable connecting with the bar tripping mechanism at the top and fastened to the frame within 30 centimetres of the floor. These cables should be positioned at a distance of not more than 30 centimetres from the face of the roll and a distance of not less than 25 millimetres from the calender frame.

3. Maintenance and safety devices - Safety trip rods and tight wire cables on all rubber mills and calenders shall be examined and tested daily in the presence of the Manager or other responsible person and if any defect is disclosed by such examination and test the mill shall not be used until such defect has been remedied.

4. Injunction Moulding Machine - (a) An electrical interlock arrangement shall be provided so that the moulds cannot be closed unless the front safety gate is fully closed and on opening the front safety gate, the moulds will stop automatically.

(b) In addition to the above arrangement an hydraulic safety shall also be incorporated with the front safety gate. This shall prevent the tail stock mould plate from moving forward on opening of the front safety gate.

(c) At the rear of the machine, there shall be provided either an efficient fixed guard or a sliding gate which shall be electrically inter-locked with the movement of the mould plates in the manner of the

front safety gate as required under (a) above so as to prevent access to the danger zone of the moulds in motion from the rear.

SCHEDULE V
Centrifugal Machines

1. Definition - "Centrifugal Machine" includes centrifugal extractors, or droextractors, separators and driers.

2. Centrifugal machines shall be provided with efficient inter locking devices that will physically prevent the lids from being opened whilst the rotating drums or brackets are in motion under power or due to power derived earlier and by then switched off and would also prevent the starting of the drums or baskets under power while the lids are open.

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

4. All centrifugal machines shall be provided with effective braking arrangements, to bring cage, drum or basket to rest within a reasonable 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 regularly to check their balance and effective steps shall be taken in case unbalance at high speed is observed to restore their balance before re-commissioning the machines:

Provided that clauses 2, 3 and 4 shall not apply in case of top lung similar machines used in the sugar manufacturing industry.

SCHEDULE VI
[61][Shears, Slitters and Guillotine Machines][61]

1. Definition - The term "shears, slitters and guillotine" means a machine, whether driven by power or otherwise, equipped with a straight beveledged blade operating vertically against a resisting edge and used for shearing metals or non-metallic substances.

2. 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 descant of the blade.

3. 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.

[62]**[4. Slitting Machines -** 'Slitter' or 'Slitting Machine' means a machine ordinarily equipped with circular disc-type knives, and used for trimming or cutting into metal or non-metallic substances or for slitting them into narrow strips; for the purpose of this Schedule, this term includes bread or other food slicers equipped with rotary knives or cutting discs.

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

(a) automatically adjust themselves to the thickness of the 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) Portions of blades underneath the tables or benches of slitting machines shall be covered by guards.

5. Index Cutters and Vertical Paper Slotters - Index cutters and other machines for cutting strips from the ends of books, and for similar operations, shall be provided with fixed guards, so arranged that the fingers of the operators cannot come between the blades and the tables.

6. 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.

7. 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 guards machines, shall be completely enclosed with hinged guards of sheet metal not less than 1mm. (0.04") in thickness or of other material of equal strength.][62]

SCHEDULE VII
Agitators and Mixing Machines

1. Definition - "Agitators and Mixing Machines" means a tank or other container equipped with power-driven mixing arms, blades or paddle wheels fixed to revolvable shafts or other simple mechanical devices for blending, stirring liquids with other liquids or with solid substances or combinations of these.

2. When the top of an open agitator tank,"beater tank, tank or paddle tank or a similar vessel is less than 1 M above the adjacent floor or working level, adequate standard railings shall be installed on all open sides.

3. Agitators and mixing machines shall be provided with an efficient inter-lock arrangement for the top lid, to prevent access to the agitating stirring or similar devices, whilst in motion and would prevent restart under power with the lids in open position.

4. When other inspection or examination openings are provided at the top or sides of the containers vessels of the agitator and mixing machines, such openings shall be provided with standard grill guards as would prevent access of any part of the operator's body coming in contact with agitator stirring or similar devices whilst in motion.

5. When discharge holes, openings, chutes or similar arrangements are provided at the bottom or at the sides of the container vessels of the agitator and mixing machines, they shall be so designed, shaped, guarded or situated as would prevent access of any part of operator's body coming in contact with agitating, stirring or similar devices, whilst in motion inside the vessel.

SCHEDULE VIII
Leather, Plastic and Rubber Stripper Machines

Strippers for trimming or punching tanned hides, plastic or rubber sheets in leather making, footwear manufacturing or in similar industries shall be provided with suitable 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, punch or stripper cutter.

SCHEDULE IX
General

1. In all machinery driven by power and installed in any factory after commencement of this rule, all couplings with projecting bolt heads and similar projections shall be completely encased or otherwise, effectively guarded as to prevent danger.

Rules prescribed under sub-section (1) of section 22 and section 112

58. Register of specially trained adult workers - Register of workers attending to machinery as provided in sub-section (1) of section 22 shall be in Form 10.

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

Rule prescribed under section 41

60. Belts, etc., to be regularly examined - All belts shall be regularly examined to ensure that joints are safe and the belts are at proper tension.

Rule prescribed under sub-section (2) of section 23

61. Employment of young persons on dangerous machines - [63][The machines specified in sections 28, 29 and 30 and the following machines][63] shall be deemed to be of such dangerous character that young persons shall not work at them unless the provisions of section 23(1) are complied with:-

Power presses other than hydraulic presses;

Milling machines used in the metal trades;

Guillotine machines;

Circular saws;

Platen printing machines.

[64]**[61-A. Further provisions regarding safeguards -** Without prejudice to the provisions of sub-section (1) of section 21 and sub-section (1) of section 26, in regard to the fencing of machines and provision of safeguards the following further safeguards shall be provided in all machinery specified in this rule installed in any factory after the commencement of application of this rule:-

(1) Safeguards and safety devices prescribed in clauses 1 (b), 1(c), 1(d), 2(a), 2(b), 3, 4, 5(a) and 5(b), 7(a) and 7(b), 8 and 9 in respect of machines referred to in Schedule 1 to rule 57.

(2) Safeguards and safety devices prescribed in clauses 6,8,9,10 and 11 in respect of machines referred to in Schedule III (Wood Working Machinery) to rule 57.

(3) Safeguards and safety devices prescribed in clauses 2 and 4 in respect of machines referred to in Schedule IV (Rubber and Plastic Mills) to rule 57.

(4) Safeguards and safety devices prescribed in clauses 2, 3, 4 in respect of machines referred to in Schedule V (Centrifugal Machines) to rule 57.

(5) Safeguards and safety devices prescribed in clauses 2 and 3 in respect of machines referred to in Schedule VI (Shears and Guillotine Machines) to rule 57.

(6) Safeguards and safety devices prescribed in clauses 3,4 and 5 in respect of machines referred to in Schedule VII (Agitators and Mixing Machines) to rule 57.

(7) Safeguards and safety devices prescribed in clause 1 in respect of machines referred to in Schedule VIII (Leather, Plastic and Rubber, Stripper Machines) to rule 57.][64]

Rules prescribed under sub-section (8) of section 28

62. Hoist examination-particulars of - A Register shall be maintained to record particulars of examinations of hoists or lifts and shall give particulars as shown in Form 11.

Examination under sub-section (4) of section 28

63. Exemption of certain hoist and lifts - In pursuance of the provision 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 or hoist or lift shall not apply:-

SCHEDULE

I	**II**
Class or description of hoist or lift	Requirements which shall not apply
Hoist or lifts mainly used for rising materials for changing blast furnaces or lime kilns.	Sub-Section (1)(b) (9 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.	Sub-section (1)(b) in so far as it requires the hoistways or liftways enclosure to be so constructed as to prevent any persons or thing from being trapped between any part of the hoist or lift and any fixed structure or moving part; sub-section (1)(e)

Rule prescribed under sub-section (2) of section 29

64. Lifting machines, chains, ropes and lifting tackles - (1) No lifting machine and no chain, rope of lifting tackle except a fibre rope or fibre rope sling shall be taken in use in any factory, for the first time therein unless it has been tested and all parts have been thoroughly examined by a competent person and a certificate of such test examination specifying the safe working load or loads and signed by the person making the test and examination has been obtained and is kept available for inspection.

(2) A Register in Form 12 containing the particulars, therein specified shall be kept of every examination made under sub-rule (1). The Register shall be readily available for inspection.

(3)(a) Every jib-crane so constructed that the safe working load may be varied by the raising or lowering of the jib, shall have attached thereto either an automatic indicator of safe working loads or an automatic jib angle indicator and a table indicating the safe working loads at corresponding inclination of the job or corresponding radii of the load.

(b) A table showing the safe working load of every kind and size of chain, rope or lifting tackle in use, and in the case of a multiple sling, the safe working loads at different angles of the legs shall be posted in the store-room or place, where or in which the chains, ropes or lifting tackles, are kept, in prominent position on the premises and no rope, chain or lifting tackle not shown in the table shall be used in a factory unless in the case of lifting tackle, the safe working load thereof, or in the case of a multiple sling, the safe working load at different angles of the legs, is plainly marked upto it.

(4) All rails on which a travelling crane moves and every track on which the carriage of a transporter or runway moves, shall be proper size and adequate strength and have an even running surface. Every such rail or track shall be properly laid and maintained and shall be adequately supported.

(5) 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 State Government be effectively annealed under the supervision of a competent person at the following intervals, namely:-

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

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

Provided that chains and lifting tackle not in frequent use shall, subject to the approval of the Chief Inspector of Factories, be annealed only when necessary and particulars of such annealing shall be entered in a register in Form 12.

(6) Nothing in sub-rule (5) shall apply to the following chains of claim and lifting tackle, namely:-

(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 metal

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

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

(vi) hooks and swivels having screw threaded parts or ball bearing or other case hardened parts.

(vii) Socket shackles screwed to wire ropes by white metal capping,

(viii) Bordeau connections.

(ix) Any chain or lifting tackle which has been subjected to the heat treatment known as "normalising" instead of annealing. Such chain and lifting tackle shall be thoroughly examined by a competent person at least once in every twelve months and particulars of such examination shall be entered in the register in Form 12.

(7) All lifting machines, chains, ropes and lifting tackle except a fibre rope or fibre rope sling, which have been lengthened, altered or repaired by welding or otherwise, shall not be used again, unless it is adequately tested and examined by competent person and certified in writing by him to be in order.

(8) No person under 18 years of age and no person who is not sufficiently trained in the working of lifting machines and acquainted with the hazards of the machine shall be employed as driver of lifting machine, whether driven by mechanical power or otherwise, or to give signals to a driver.

Rules prescribed under sub-section (2) of section 31 and section 112

[65][65. Safety measures for pressure plant and vessels operated under pressure over atmospheric pressure - (1) In this rule,-

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

(b) 'maker' means any person in whose name the pressure plant or pressure vessel is either manufactured under a patent or sold;

(c) 'pressure plants' means the pressure vessel along with its pipings and other fittings operated at a pressure greater than the atmospheric pressure;

(d) 'pressure vessel' means any vessel subjected to or operated at a pressure greater than the atmospheric pressure.

(2) Every pressure plant or pressure vessel used in any factory shall be-

(a) properly designed on sound engineering practice;

(b) of sound construction and material and of adequate strength and shall be free from any defect; and

(c) properly maintained in a safe working condition:

Provided that where there is an Indian Standard or a standard of the country of manufacture in respect of any pressure plant or pressure vessel or where the design or construction of any such pressure plant or pressure vessel has been regulated by any other law or regulation in force, it shall be designed and constructed in accordance with the said standard, law or regulation, as the case may be, and a certificate thereof shall be obtained from the maker or from competent person.

(3)(i) Every pressure plant or pressure vessel shall be fitted with-

(a) a suitable safety valve or other effective device, conveniently located to ensure that the maximum safe working pressure of the vessel shall not be exceeded at any time;

(b) a suitable pressure gauge with a dial range not less than 1.5 times and not exceeding twice the maximum safe working pressure, easily visible and designed to show, at all times, the correct internal pressure in kilograms per square centimetre and marked with prominent red mark at the maximum safe working pressure of the pressure plant or pressure vessel;

(c) a suitable stop valve or valves by which the pressure vessel or the system of pressure vessels may be isolated from other vessels or source of supply of pressure;

(d) 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 the sub-rule;

(e) a suitable drain cock or valve or a plug at the lowest part of a pressure vessel so as to ensure effective draining of liquid that may be collected in the pressure vessel.

(ii) Every pressure gauge, stop valve, nipple and globe valve, shall be mounted at a height not more than 1.5 metres from the working level.

(iii) Every pressure plant or pressure vessel not constructed to withstand the maximum possible working pressure at the source of supply or the maximum pressure which can be obtained in the pipe connecting the pressure vessel with any other source of supply shall be fitted with a suitable reducing valve or other suitable automatic device to prevent the safe working pressure of the vessel being exceeded. Suitable pressure guages shall be provided close to the reducing valve to show the high pressure and reduced pressure.

(iv) In case of a jacketted vessel in which heat is transmitted by means of steam or other media in the jacket causing pressure rise in the vessel, the heat input in the jacket shall be so controlled by a suitable device as not to allow the safe working pressure of the vessel being exceeded.

(v) To further protect the pressure vessel in the event of failure of reducing valve or the control device mentioned in clauses (iii) and (iv) an additional safety valve having a capacity to release all steam, vapour or gas without under pressure rise shall be provided in addition to the one referred to in clause (1)(a).

Provided that it shall be sufficient for the purposes of this sub- rule if the safety valve, pressure guage and stop valve or other suitable effective device are mounted on a pipeline immediately adjacent to the pressure vessel and where there is a range of two or similar pressure vessels in a plant served by the same pressure load, only one set of such mountings need be fitted provided that those cannot be isolated from any of the pressure plant or pressure vessels.

(4) Ever pressure plant in service shall be thoroughly examined by a competent person,-

(a) externally once in every period of six months;

(b) internally, once in every period of twelve months, and

(c) hydraulic test once in a period of four years.

Explanation - If however by reason of construction of the pressure vessel or pressure plant a thorough internal examination is not possible, it may be replaced by a hydraulic test, which shall be carried out once in every period of two years:

Provided that in the case of pressure vessel or pressure plant with thin walls such as sizing cylinders made of copper or any other non-ferrous metal, periodic hydraulic test may be dispensed with if the requirements laid down in clause (5) are complied with:

Provided further that if the Chief Inspector or any Inspector authorised by him certifies that it is impracticable to carry out a thorough external or internal examination of any pressure vessel or pressure plant as required by clauses (a) and (b) and if owing to its constructions and use a hydraulic test as required by this sub-rule cannot be carried out, a thorough external examination shall be carried out at least once in every two years and a thorough systematic non-destructive test like ultrasonic test, for metal thickness or other defects of all parts shall be carried out at least once in every period of four years.

(5)(a)(i) As far as possible, in respect of every sizing cylinder the shell whereof is made of copper sheet or any other non- ferrous metal and which is put to use before the 31st October, 1963 the Manager shall make available to the Inspector and the competent person examining such cylinder, information about the date on which such cylinder was put to use for the first time with full particulars as to the thickness of the shell when so taken into use in the factory for the first time. Information shall also be made available about the working pressure recommended by the makers when the cylinder was put to use for the first time in the factory.

(ii) If no such information is available, any other evidence relevant to show the age of the cylinder shall be submitted by the Manager to the Chief Inspector. The Chief Inspector shall determine the age of the cylinder on such documentary evidence or other oral evidence that may be presented to him by the Manager or any other evidence that may be produced, and the age so determined shall be considered as the age of cylinder for the purpose of this rule.

(b)(i) The minimum thickness of the shell of a sizing cylinder shall be actually measured once in a period of two years.

(ii) If during its working life, the shell of a sizing cylinder is at any time punctured requiring repairs to the cylinder to close the punctured portion, the thickness of the sheet of the shell near such puncture or opening shall be measured by a competent person.

(c)(i) No sizing cylinder shall be subjected to work at a pressure greater than the maximum safe working pressure recommended by the makers of such cylinder at the time when such cylinder was first put to use in a factory.

(ii) No sizing cylinder which has been in use for more than five years shall be subjected to work at a pressure greater than the lowest of the most safe working pressure calculated in accordance with the following three methods, namely:-

(a) Same proportion to the original safe working pressure when first put to use as the minimum thickness of the shell materials as actually measured at any time bears to the original thickness of the shell material when first put to use;

(b) Calculated on the basis of the minimum thickness actually measured so that the tensile stress in the shell shall not exceed safe working stress for the material of the shell;

Explanation - If the shell is made of copper, safe working tensile stress shall be taken to be not more than 350 kilograms per square centimetre.

(c) Reduced at the rate of 4 per cent of the original working pressure for every year of its use after the first five years;

(d) No sizing cylinder shall be continued to be used for more than twenty-five years after it was first put to use:

Provided that the Chief Inspector may authorise the use of sizing cylinders beyond the period of twenty-five years for a period not exceeding five years, if tests are carried out and further details are made available to his satisfaction to indicate that the cylinder can be used with safety.

(6)(i) The maximum safe working pressure and the date of the last examination shall be plainly marked on every pressure vessel or pressure plant and no pressure plant or pressure vessel shall be operated or used at a pressure higher than the maximum safe working pressure.

(ii) No pressure plant or pressure vessel which has been previously used or has remained isolated or idle for a period exceeding 6 months or which has undergone repairs or alternations shall be used in

a factory unless it is examined and tested by a competent person.

(iii) No pressure vessel or pressure plant shall be taken into use for the first time in any factory unless-

(a) a certificate specifying the maximum safe working pressure and the tests to which it was subjected to, is obtained from the maker; and

(b) it is thoroughly examined by a competent person in the premises where it is used;

(c) 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 Form, his observations, findings and conclusions with reasons therefor and other relevant remarks and may authorise the pressure vessel or pressure plant to be used and kept in operation, subject to a lowering of maximum safe working pressure, or to more frequent or special examination or test or subject to both of these conditions.

(d) where the report of any examination under this rule specifies any conditions and suggestions for the working of a pressure plant or pressure vessel the same shall not be used except in accordance with those conditions and suggestions.

7(a) The manager shall maintain a register of pressure plant or pressure vessels showing -

(i) Name and make of the pressure plant or pressure vessel,

(ii) Identification mark,

(iii) The date of taking into use for the first time, and

(iv) The reference number and date of the report of examination by competent person.

(b) The report of the result of every examination made shall be completed in Form 13.

(c) The competent person making a 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 safe working pressure is reduced or the examination shows that the part cannot continue to be used with safety unless certain repairs are carried out immediately or within a specified time or where he has specified frequent or special examination or test.

(d) An Inspector may by an order in writing direct the production within the time specified in such order, of a report of examination made by a competent person who shall not be an employee of the factory in which the pressure plant or pressure vessel is in use.

(e) All certificates, reports and registers required to be obtained or maintained under this rule shall be complete in all respects and duly signed by the maker or competent person, and these shall be produced for the perusal of the Inspector.

(8) The Chief Inspector may exempt, subject to such conditions as he may impose any pressure plant/vessel from any of the provisions of this rule if he has reasons to believe that the construction or use of that plant/vessel is such that the inspection provisions are not practicable provided Indian Standard Institute or any reputed international code on examination procedure of pressure vessels or plants are being followed.

The provisions of this rule shall apply to pressure plants and pressure vessels as defined in sub-rule

(2) and shall be in addition to without prejudice to and not in derogation of any other law in force, except the following:-

(a) vessels having an internal operating pressure not exceeding atmospheric pressure be 1 Kg./cm. or 15 Ibs. sq. inches absolute;

(b) steam boilers, steam reed pipes and their fittings coming under the purview of Indian Boilers Act, 1923 (V of 1923);

(c) metal bottles or cylinders used for storage or transport of compressed gases or liquids or dissolved gases under pressure covered by the Gas Cylinder Rules, 1981, framed under the Indian Explosive Act 1884 (IV of 1884);

(d) vessels in which internal pressure is due solely to the static head of liquids;

(e) working cylinders/casings of the machineries such as pumping sets, compressors and prime movers;

(f) vessels for nuclear energy applications.][65]

Rule prescribed under sub-section (2) of section 34

[66]**[66 "Excessive Weights" -** (1) In this rule,-

(a) "manual transport of loads" means any transport in which the weight of the load is wholly borne by one worker including lifting and putting of the loads;

(b) "regular manual transport of load" means any activity which is continuously or intermittently devoted to the manual transport of loads.

(2) No person, unaided by another person, or mechanical aid, be required or allowed to lift, put down, carry or move any load of material, article, tools or appliance exceeding the maximum limit in weight, as set out in the following.

SCHEDULE

Person		**Maximum weight of material article, tool or appliance (Kilogrammes)**
(A)	Adult male	.. 55.00
(B)	Adult female	.. 30.00
(C)	Young person (Male 15-18 years)	.. 30.00
(D)	Young person (Female 15-18 years)	.. 20.00
(E)	Young person (Male 14-15 years)	.. 16.00
(F)	Young person (Female 14-15 years)	.. 14.00

(3) No woman or young person shall be engaged in conjunction with others, in lifting, carrying or moving any material, article, tool or appliance, if the weight thereof exceeds the maximum weight fixed by the schedule to Sub-rule (2), multiplied by the number of the persons engaged.

(4) Taking into account all conditions in which the work is to be performed, no worker shall be required or permitted to engage in the manual transport of load which, by reason of its weight, is likely to jeopardize his health or safety.

(5) Wherever reasonably practicable, suitable mechanical devices shall be used for the manual transport of loads.

(6) Notwithstanding the fact that workers are engaged in the regular manual transport of loads within the permissible limits as set out in sub-rule (2) they should be subject to medical examination prior to regular assignment and periodical examination at an interval of 12 months, if the assignment of such jobs, exceeds more than 12 months][66].

Rule prescribed under section 35

67. 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 process 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 process specified in Schedule II annexed hereto, being processes which involve risk of injury to the eyes by reason of exposure to excessive light, [67][or infra-red or ultra-violet radiations][67].

[68][SCHEDULE I][68]

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

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

(3) The dividing into separate parts of metal, bricks, stone, concrete or similar materials by means of a high speed saw driven by mechanical power or by means of an abrasive cutting off wheel or disc driven by mechanical power, where particles or fragments are liable to be thrown off towards the face of the operator in the course of the process.

(4) The turning of metals, or articles of metal, where particles or fragments are liable to be thrown off towards the face of the operator in the course of the process.

(5) Drilling by means of portable tools, where particles or fragments are liable to be thrown off towards the face of the operator in the course of the process.

(6) The welding and cutting of metals by means of an electric, oxyacetylene or similar process.

(7) The hot fettling of steel casting by means of a flux injected burner or air torch and the de-seaming of metal.

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

(9) The chipping of metal, and the chipping, knocking out, cutting out or cutting off of cold rivets,

bolts, nuts, lungs, pins, collars, or similar articles from any structure or plant, or from part of any structure or plant, by means of a hammer, chisel, punch or similar hand tool, or by means of a portable tool driven by mechanical power.

(10) The chipping or scurfing or paint, scale, slag, rust or other corrosion from the surface of metal and other hard materials by means of a hand tool or by a portable tool driven by mechanical power.

(11) The breaking of scrap metal by means of a hammer or by means of a tool driven by mechanical power.

(12) The routing of metal, where particles or fragments are liable to be thrown off towards the face of the operator in the course of the process.

(13) Work with drop hammers and power hammers used in either case for the manufacture of forgings and work by any person not working with such hammers whose work is carried on in such circumstances and in such a position that particles or fragments are liable to be thrown off towards his face during work with drop hammers or power hammers.

(14) Work at a furnace where there is risk to the eyes from molten metal.

(15) Pouring or skimming of molten metal

(16) Work involving risk to the eyes from hot sand being thrown off.

(17) Turning or dressing of an abrasive wheel.

(18) The handling in open vessels or manipulation of strong acid or dangerous corrosive liquids or materials, and the operation, maintenance or dismantling of plant or any part of plant being plant or part of plant which contains or has contained such acids, liquids, or materials, unless the plants or part of the plant has been so prepared by isolation, reduction, of pressure, or otherwise, treated or designed and constructed as to prevent risk of injury.

(19) Any other process wherein there is a risk of injury to eyes from particles or fragments thrown off during the course of the process.

[69][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 risk of injury to eyes from exposure to excessive light or ultra-violet or infra-red radiations.][69]

Rule prescribed under sub-section (6) of section 36

[70][68. Minimum dimensions of man- holes - In any factory no person shall be allowed or required to enter in any chamber, tank, vat, pipe flue or other confined space, which persons may have to enter unless the said chamber, tank, vat, pipe flue or other confined space, is provided with a man-hole which may be rectangular, oval or circular in shape unless there is other effective means of egress and-

(a) in the case of rectangular or oval shape, be not less than shoulder width of the person concerned plus 8 c.m. in length and 30 c.m. wide;

(b) in the case of a circular shape be not less than shoulder width of the person concerned plus 8 c.m. in diameter.][70]

Exemption under sub-section (5) of section 37

69. Exemption - 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 gasholder containing acetylene or mixture of gases, to which acetylene has been added intentionally;

(ii) Welding shall only be done by the electric welding processes 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, town 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 2 competent analysts;

(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 centimetres 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.

Rules prescribed under sub-section (1) of section 38

70. [71][Fire Protection - Every factory shall be provided with adequate means of protection and escape in case of fire without prejudice to the generality of the following:-

(1) Process, equipment, plant etc. involving serious explosing and serious fire hazards:-

(a) all processes, storages, equipments, plants etc. involving serious explosing and flash fire hazard shall be located in segregated buildings 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) 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 inter-locked with heat sensitive/smoke detractors and the air-conditioning plant system;

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

2. Access for fire fighting - (a) Building and plants shall be so laid out and roads, passageways etc. so maintained as to permit unobstructed access for fire fighting.

(b) Doors and window opening shall be located in suitable positions on all external walls of the building to provide easy access to the entire area within the building for fire fighting.

3. Protection against lightning - Protection from lightning shall be provided for-

(a) building in which explosives 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 outdoor 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 metres 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 variation of temperature, direct rays of sun, or continuous dampness. Such cylinders shall never be stored near highly flammable substances, furnaces or hot processes. The room where such cylinders are stored shall have adequate ventilation.

7. Storage of flammable liquids - (a) The quantity of flammable liquids in any work room shall be the minimum required for the process or processes carried on in such room, and flammable liquids shall be stored in suitable containers with close fitting covers:

Provided, that not more than 20 litres of flammable liquids having a flash point of 20°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 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 basement sumps drains and to confirm any escaping liquid within safe limits.

8. Accumulation of flammable dust, gas, fume or vapour in air or flammable waste material on the floors - (a) Effective steps shall be taken for removal or prevention of the accumulation in the air of flammable dust, gas, fume or 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 at least once in a day or shift, and more often, when possible. Such materials shall be placed in suitable metal containers with covers, wherever possible.

9. Fire exits - (a) In this rule-

(i) "horizontal exit" means an arrangement which allows alternative egress from a floor area to another floor at or near the same level in an adjoining building or on 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 verandah or to 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 with shall be free of any obstruction. There shall be at least two ways of escape from every room and the exits shall be 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.

(e) The exit shall be clearly visible and suitably illuminated with suitable arrangement, whatever artificial lighting is to be adopted for this purpose, to maintain the required illumination in case of failure of the normal sources of electric supply.

(f) The exit shall be marked in a language understood by the majority of the workers.

(g) Iron rung ladders or spiral staircases shall not be used as exit staircases.

(h) Fire resisting doors or roller shutters shall be provided at appropriate places along the escape routes to prevent spread of fire and smoke, particularly at the entrance of lifts or stairs where tunnel or flue effect may be created including 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) Exit shall be so located that the travel distance to reach at least one of them on the floor shall not exceed 30 metres.

(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 metres and there shall be at least two ways of escape from every room, however, small, except toilet rooms so located that the points of access thereto are out of or suitably shielded from areas of high hazard.

(l) The unit exit width used to measure capacity or any exit shall be 50 cm. A clear width of 25 cm. shall be counted as additional half unit. Clear width of less than 25 cm. shall not be counted for exit width.

(m) Occupants per unit width shall be 50 for stairs and 75 for doors.

(n) For determining the exit required, the occupant load shall be reckoned on the basis of actual number of occupants within any floor area or 10 square metres per person, whichever is more.

(o) There shall not be less than two exits serving every floor area above and below the ground floors, and at least one of them shall be an internal enclosed stairway. The two exit shall be as remote from each other as possible, and both exits shall be accessible through separate ways from any point on

the floor.

(p) For every building or structure used for storage only and every section thereof considered separately, shall have access to at least one exit so arranged and located as to provide a suitable means of escape for any person employed therein, and in any such room wherein more than 10 persons may be normally present at least two separate means of exit shall be available, as remote from each other as practicable.

(q) Every storage area shall have access to at least one means of exit which can be readily opened.

(r) Every exit doorway shall open into an enclosed stairway, a horizontal exit or a corridor or passageway providing continuous and protected means of egress.

(s) No exit doorway shall be less than 100 c.m. in width. Doorways shall not be less than 200 c.m. in height.

(t) 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 c.m. Overhead or sliding door shall not be installed for this purpose.

(u) An exit door shall not open immediately upon a flight of stairs. A landing at least 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 way it serves.

(v) The exit doorways shall be openable from the side which they serve without the use of a key.

(w) Exit corridors and passageways shall be of a width not less than the aggregate required width of exit doorways leading from there in the direction of travel to the exterior.

(x) Where stairways discharge through corridors and passageways, the height of the corridors and passageways shall not be less than 2.4 metres.

(y) A staircase shall not be arranged round a lift shaft unless the latter is totally enclosed by material having a fire- resistance rating not lower thah that of the type of construction of the former.

(aa) Hollow combustible construction shall not be permitted.

(bb) The minimum width of an internal staircase shall be 100 cm.

(cc) The minimum width of treads without nosing shall be 25 c.m. for an internal staircase. The treads shall be constructed and maintained in a manner to prevent slipping.

(dd) The maximum height of a riser shall be 19 c.m. and the number of risers shall be limited to 12 per flight.

(ee) Hand rails shall be provided with a minimum height of 100 c.m. and shall be firmly supported.

(ff) The width of a horizontal exit shall be same as for the exit doorways.

(gg) The horizontal exit shall be equipped with at least one fire door of self closing type.

(hh) The floor area on the opposite or refuge side of a horizontal exit shall be sufficient to accommodate occupants of the floor area served, allowing not less than 0.3 square meter per person. The refuge 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.

(ii) Where there is difference in level between connected areas for horizontal exit, ramps not more than 1 in 8 slope shall be provided. For this purpose steps shall not be used.

(jj) Doors in horizontal exits shall be openable at all times.

(kk) Ramps with a slope of not more than 1 in 10 may be substituted for the requirements of staircase. Wherever the use is such as to involve danger of slipping, the ramp shall be surfaced with non-slipping material.

(10) 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 infrequency of the manufacturing process or for any other reason, 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.][71]

71. Means of escape for cotton ginning factories - Notwithstanding anything contained in rule 70 cotton ginning factories shall be provided with at least two suitable earthenlamps or two flights of stairs made of brick-work or other fire-resisting material.

[72][71-A. * * *

[73][71-B. Fire-fighting apparatus and water supply - (1) In every factory there shall be provided and maintained the following fire-fighting equipments:-

(a) Two fire buckets of not less than 9 litres capacity for every 100 square metres of floor area subject to a minimum of four buckets on each floor.

(b) Every bucket provided under this sub-rule shall-

(i) conform to appropriate Indian Standard Specification,

(ii) be kept in a position approved by the Inspector and shall be used for no other purpose than fire extinguishing, and

(iii) at all times be kept full of water but if the principal fire risk arises from inflammable liquid or other substances where water cannot be used, it shall be kept full of clean fine dry sand, stone dust or other inert material:

Provided that, where the Chief Inspector is of the opinion that other adequate fire-fighting apparatus is provided in the factory building or room he may issue a certificate in writing (which he may at his discretion revoke) specifying the extent to which the above requirements are relaxed in respect of that building or room.

(2) In every factory adequate provision of water-supply for fire fighting shall be made and where the amount of water required in litres per minute is 550 litres or more as calculated from the formula mentioned below, power-driven trailer pumps of adequate capacity shall be provided and maintained:-

$$\text{Water required in litres per minute} = \frac{A + B + C + D}{20}$$

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 metre above ground level and

D = the total area in square metres of all floors of buildings other than those of fire-resisting construction provided fire-resisting constructions of various floors is so certified by any Fire Association or Fire Insurance Company:

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 kilometres 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 calculation water supply required under the sub-rule (6)][74]:

(3) Each trailer pump shall be provided with equipment as per Schedule A. Such equipment shall conform to Indian Standard specifications whenever they exist.

(4) Trailer pumps shall be housed in a separate shed which shall be sited close to a principal source of water supplies in the vicinity of the main risks of the factory.

(5) In factories where the area is such as cannot be reached by manhauling of trailer pumps within reasonable time, vehicles with towing attachment shall be provided at the scale of one for every four trailer pumps with a minimum of one such vehicle kept available at ail times.

(6) Water-supply shall be provided to give flow of water as required under sub-rule (2) for at least 100 minutes. At least 50 percent of this water-supply or 4,50,000 litres which ever is less shall be in the form of static tanks of adequate capacities (not less than 45,000 litres each) distributed round the factory with due regard to the potential fife risks in the factory. (Where piped supply is provided, the size of the main shall not be less than 15 cm. diameter and it shall be capable of supplying minimum of 4,500 litres per minute at a pressure of not less than 7 kg/sq.cm.

(7) (i) In factories having more than 100 square metres floor area and where fire may occur due to combustible materials other than inflammable liquids, electrical equipment and ignitable metals, soda acid or equivalent type of portable extinguishers at the rate of one for every 500 squ. metres of area spaced at not more than 30 metres apart subject to a minimum of one extinguisher shall be provided in addition one fire buckets required under sub-rule (1).

(ii) In factories where fires may occur due to inflammable liquids or grease or paint, the extinguishers to be provided at the scale laid down in clause (a) shall consist of foam carbon tetrachloride, dry powder, carbon dioxide, chlorobrome methane or other equivalent type, as appropriate. In case of inflammable liquids soluble in water, the extinguishers shall be alcohol type foam.)

(iii) In factories where fires may occur due to electrical equipment, the extinguisher to be provided at the scale laid in clause (i) shall consist of carbon dioxide, dry powder, carbon tetrachloride or equivalent types.

(iv) In factories where fires may occur due to magnesium, aluminium or zinc dust or shavings or other ignitable metals, the use of liquids, carbon dioxide and foam type extinguishers shall be prohibited and an ample supply of clean, fine dry sand, stone dust or other inter material shall be kept ready for segregating such fires.

(v) Every type of portable fire extinguisher shall be kept mounted in a position approved by the Inspector:

Provided that where the Chief Inspector is of the opinion that other adequate fire-fighting apparatus or permanent automatic fire-fighting installations approved by any recognised Fire Association or Fire Insurance Company are provided in the factory building or room, he may issue a certificate in writing (which he may at his discretion revoke) specifying the extent to which the above requirements are relaxed in respect of that building or room.

(8)(a) Every portable fire extinguisher to be provided under sub- rule (7) shall-

(i) conform to the appropriate Indian Standards Specifications;

(ii) be kept charged ready for use properly mounted in a position approved by the Inspector and accompanied by the maker's printed instructions for its use; and

(iii) be examined, tested or discharged periodically in accordance with the maker's recommendation.

(b) The manager of every factory shall keep and maintain, sufficient number of spare charges for each type of extinguisher provided in the factory with a minimum of 12 spare charges always in stock and readily available.

(9) Each factory shall detail a trained officer who shall be responsible for the proper maintenance and unkeep of all fire- fighting equipments.

(10) 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 for infrequency of the manufacturing process or for any other reason, to be recorded in writing all or any of the requirements of the rules are impracticable or not necessary for the protection of workers he may by order in writing (which he may at his discretion revoke) exempt such factory or part of that factory from all or any of the provisions of the rules subject to conditions as he may by such order prescribe.

SCHEDULE
Equipment for Trailer Pumps

A. For light trailer pump (680 litres/min)-

Nine metres length of armoured suction hose, with wrenches.

1 Metal suction strainer

1 Basket strainer

1 Two-way suction collecting-head

1 Suction adaptor.

10 Twenty-five metres lengths of unlined 75 mm. delivery hose complete with quick-release couplings.

1 Dividing breeching-piece

2 Branch-piece with 15 mm. nozzles 1 Diffuser nozzle

1 Standpipe with blank cap 1 Hydrant key

4 Collapsible canvas buckets

1 Fire hook (preventor) with cutting edge

1 C.T.C. extinguisher one litre capacity

1 Thirty metres length of 25 mm. manila rope

1 Nine metres extension ladder (where necessary)

1 Heavy axe

1 Spade

1 Pick-axe

1 Crowbar

1 Saw

1 Hurricane lamp

1 Electric torch

1 Pair rubber gloves

B. For large trailer pump (1,800 litres/min)-

Nine metres length of armoured suction hose, with wrenches.

1 Metal strainer

1 Basket strainer

1 Three-way suction collecting head

1 Suction adaptor

14 Twenty-five metres length of unlined canvas 75 mm. delivery hoses complete with quick-release couplings

1 Dividing breeching-piece

1 Collecting breeching-piece

4 Branch 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 Ceiling hook (preventor) with cutting edge

1 C.T.C. extinguisher one litre capacity

1 Thirty metres length of 50 mm. manila rope

1 Nine metres extension ladder (where necessary)

1 Pair rubber gloves

1 Heavy axe.

1 Spade

1 Pick-axe

1 Crowbar

1 Saw

1 Hurricane lamp

1 Electric torch

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

Rules prescribed under section 41

72. Ladders - All ladders used in replacing belts shall be specially made and reserved for that work and provided with hooks or an effective nonkid device. Ladders provided with hooks must have hooks fitted in such suitable position that they rest on the shaft when the bottom end of the ladder is resting on the floor.

73. Protection of workers attending to prime movers - (1) In every factory the work of oiling or attending to prime movers shall be done only by a specially trained adult male worker authorised to do such work whose name has been recorded in the register maintained in Form 10.

(2) Every such worker while oiling or attending to a prime mover shall wear tight-fitting clothing.

(3) A worker required to wear tight-fitting clothing under sub- rule (2) shall be provided by the

occupier with clothing which shall consist of at least a pair of closely fitting shorts and a closely-fitting half-sleeve shirt or vest. Such clothing shall be returned to the occupier on termination of service or when new clothing is provided.

[75]**[73-A. Safety of water-sealed gas-holder -** (1) In this rule, a gas-holder means any vessel having storage capacity of not less than 140 cubic metres and used for storage of combustible gas, wherein the gas is stored at pressure controlled by a water seal between the fixed and the moving parts of the storage vessel, and includes vessels of smaller size, in respect of which the Chief Inspector declares that in the interest of the safety of workers working near such a vessel, provisions of this rule should apply.

(2) Every gas-holder,-

(a) shall be of good construction, sound material, adequate strength and free from any patent defects and

(b) shall be properly maintained in a safe condition.

(3) No gas-holder shall be taken into use in any factory for the first time unless -

(a) information giving details of gas-holder is recorded in a register in Form 13A;

(b) certificate of its internal and external examination in Form 13B is obtained either from the manufacturer or from any person competent to conduct such examination; and

(c) such certificate is in possession of the occupier;

(4) Where in any factory two or more gas-holders are installed, each gas-holder shall be marked in a conspicuous manner with a distinguishing number or letter. If any gas-holder has two or more lifts, each lift shall also be marked with a distinguishing number or letter.

(5) If any lift of the gas-holder has been in use for more than ten years before the date of final notification, then every gas- holder shall be examined externally and internally (a) within two years, if it has been examined within the last two years, (b) within one year if it has not been examined within the last two years before the aforesaid date.

(6) Every gas-holder shall be thoroughly examined internally by a person competent to conduct such examination once in every period of twelve months.

(7) Every gas-holder shall be examined internally by a person competent to conduct such examination at least once in every period of four years.

Explanation - (a) For the purpose of this sub-rule, the internal examination of a gas-holder includes an examination of the thickness of the plates of the gas-holder including the sides and the crown by means of an electronic or other accurate device.

(b) If the Chief Inspector is satisfied that the electronic devices are not available, he may permit taking samples by cutting the plates from the sides and the crown of the gas- holder:

Provided that if the Chief Inspector is not satisfied that the samples are a representative sample, he may direct further samples to be cut to his satisfaction.

(c) Each sample disc cut under clause (b), shall be suitably marked for identification showing date of cutting and part of the gas-holder from which it is cut. Such samples shall be kept readily available for

inspection until such time as similar discs are again cut at the next inspection.

(8) No gas-holder shall be repaired or demolished except under the direct supervision of a person who by his training, experience, and knowledge of the necessary precaution against risk of collapse of structure, explosion and of person being overcome by gas is competent to supervise such work.

(9) A permanent register in Form 13A duly signed by the occupier or manager shall be maintained, along with a drawing to show details of construction of the gas-holder.

(10) A copy of the report of persons, competent to examine gas- holders, shall be maintained in Form 13-B.][75]

[76]**[73-B. Polymerizing or curing machine -** (1) The following precautions shall be taken when fabrics are processed in polymerizing or curing machine for fixing prints by the Emulsion Technique namely:-

(i) Printed fabrics shall be thoroughly dried by passing them over drying cans or through a hot fuel of other equally effective means, before the same are allowed to pass through the polymerizing machine.

(ii) The exhaust flap or damper shall be provided with a hole or opening so that at least two-three of it is always open.

(iii) Infra-red ray heaters of the machines shall be cut off while running the prints.

(iv) The electrical heater shall be connected to a separate circuit and shall be provided with an isolation switch so as to ensure that it is completely cut of in an emergency.

(v) The drive of the exhaust fan shall be interlocked with the main drive of the machine in such a way that if the exhaust motor stops, the machine including all heating devices, shall also stop.

(vi) The electrical heaters shall have thermostat to regulate the temperature, so that the heaters shall be automatically cut off if the temperature rises above the pre-set value.

(vii) Adequate flap shall be provided on top of the machine, which can open and let off the fumes in the case of an explosion.

(viii) Filter guaze shall be cleaned at least once a week, (ix) Exhaust duct shall be cleaned at least once a week, (x) Tension of the V belt drive of the fans shall be checked every week.

(2) The machine shall be examined, under the direct supervision of a responsible person, designated by the occupier or manager, who by his experience and knowledge of necessary precautions against risk of explosion, is fit to supervise such work.

(3) A register shall be maintained in which the details of the various checks carried under sub-rule (2), shall be entered and every entry made therein shall be signed by the person making the checks.][76]

[77]**[73-C. Safety measures in factories where equipment or pipeline containing inflammable materials are operated -** Where work of opening any equipment of pipeline containing inflammable liquids or gases is to be carried out in any factory, the following provisions shall be complied with, namely:-

(I) The system of work permits shall be introduced and unless the equipment or the pipeline is certified to be free of inflammable gas or liquid, no person shall be allowed to enter or open the same.

(II) The work of opening such equipment or pipeline shall not be commenced unless the following operations are carried out and checked by the Supervisor in-charge of the Process Department of the Factory:-

(i) Blanking operations - The equipment or pipeline to be opened for repairs or maintenance shall be effectively blanked so as to ensure that no inflammable gas or liquid can enter the same under any circumstances during the operation of repairs or maintenance. The Supervisor of the Process Department shall check personally these operations and shall certify accordingly.

(ii) Flushing operation - The Supervisor of the Process Department shall carry out the steaming or flushing out with water of the equipment or pipeline to ensure that all inflammable material is removed from the equipment or pipeline and shall certify to that effect.

(iii) **(i) Opening of the equipment -** The Supervisor of the Engineering Department of the factory in-charge of the work of opening of such equipment of pipeline, or getting clearance from the Supervisor in a charge of the Process Department, shall satisfy himself that the above operations are complete and shall sign the work permits issued by the Supervisor of the Process Department.

(ii) It shall be the joint responsibility of the Supervisor of the Process Department and the Supervisor of the Engineering Department to check and ensure that hot lines, if any, in the vicinity of such works are properly screened, in accordance with the safety instructions of the factory management. The work permit shall have as specific entry for this operation which shall be signed by both the Supervisors.

(IV) No part of the running equipment or pipeline shall be opened unless a gas test is conducted by a responsible person to ensure that the equipment or pipeline is safe for opening.

(V) No workers whose clothes have been contaminated with inflammable material shall be allowed to work where any such running equipment or pipeline is being opened.

(VI) The Safety Officer or any officer authorised by him, shall have system of random checking on the work permits issued and he shall report any serious deficiencies to the Works Manager directly.

(VII) All drains of such equipments or pipeline shall be laid into the drains to prevent any splashing of the draining inflammable liquids or gases.

(VIM) Before commencing the opening operation, it shall be ensured that a specific persons trained in fire-fighting operations, is kept available and his presence shall be ensured throughout the operation of the opening of the equipment.][77]

[78]**[73-E.* Safety measure in gas works -** n respect of any factory where inflammable gas is produced by carbonization of a coal, oil or any other similar substance, the following provisions shall be complied with, namely:-

(i) No pipe, valve or any cover of any equipment into which gas is normally allowed to flow shall be opened unless it is ensured that the equipment is no more supplied with any inflammable or explosive gas at a pressure greater than atmospheric pressure.

(ii) Before undertaking repairs of every sort to any pipe, valve or any other equipment connected with any part in the plant or machinery or any gas works (not being a gas-holder) it shall be ensured that the gas under pressure does not reach the point where such pipe, valve or equipment is being opened by the removal of any bolts and nuts or by cutting either by mechanical means or by application of heat and that such pipe, valve or equipment is so isolated from the gas-holder or any other equipment generating gas that no gas under the pressure reaches the point of repair.

(iii) Before loosening the bolts and nuts or before undertaking the cutting of any pipe, valve or equipment in any gas works, a definite test shall be carried out by a competent person that no gas under pressure is fed to the point of repair. Details of the test carried out shall be mentioned in a certificate which shall be signed by the competent person. A copy of such certificate shall be displayed prominently near the place of repair and shall be made available on demand to every worker employed in connection with such repairs for his perusal.

(iv) Every worker employed in connection with such repairs and working near any pipe, valve or other equipment while it is being opened shall be supplied with a mask and a respirator fed by air fresh from a point away from the point of repair. It shall be ensured that the worker shall wear the respirator while working near the point of repair.

(v) Electrical wiring or any electrical equipment (not being electrical or welding equipment) used near the point of repair shall be so arranged that there are no trailing cables along the floor. All electrical equipment shall be of flame-proof type:

Provided that the provisions of this rule shall not apply to mains and services, plant or machinery installed in the open air subject to the following conditions:-

(a) 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, town gas, coke-oven gas, producer gas, blast furnace gas or gases other than air, used in their manufacture;

(b) The main or service shall not contain acetylene or any gas or mixture of gases to which acetylene has been intentionally;

(c) 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;

(d) The site of the operation shall be free from any inflammable or explosive gas or vapour;

(e) 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

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

Explanation - (1) It shall not be considered effective measure to stop the gas under pressure from reaching the point of repair if only an inflated bladders is the obstruction between the source of gas under pressure and the point of repair:

Provided that where gas valves cannot be provided, it shall be considered an effective measure to stop the gas pressure from reaching the point of repairs if inflated bags alone are inserted against gas pressures not in excess of those indicated below:-

Diameter (in) of gas main	**Pressure in inches of water gauge**
Upto and including 4	10
5 to 10	8
11 to 17	6
18 to 24	5

Over 24	3

and a competent person is kept constantly during the operation to watch and control the pressures within the limits specified as above and that-

Such bags must be tested on site for soundness and at least two spare bags are available on site.

(2) The competent person for the purpose of this rule shall be the Chief Engineer of the factory or a person certified by the Chief Engineer in writing to be the competent person.][78]

[79]**[73-F. Fragile Roofs, Provision of Crawling Boards etc. -** In any factory, no person shall be required to stand or pass over or work on or near any roof or ceiling covered with fragile material like A.C. sheets or similar material through which he is liable to fall, in case it breaks or gives way, a distance of more than three metres unless-

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

(b) 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.

Explanation - Fragile material means sheets made of asbestos cement or made from similar materials such as perspex, polyester or other types of plastic fibres.][79]

[80]**[73-H. Special Safety Precautions for certain highly hazardous Chemical Process -** In respect of any factory engaged in carrying out any hazardous chemical processes or such parts of any processes as are specified in the Schedule annexed hereto the following provisions shall be complied with viz.-

(1) Process Hazards - Before commencing any large scale experimental works or any new manufacture, all possible steps shall be taken to ascertain definitely all the hazards involved both from the actual operations and also from the point of view of the chemical reactions. The properties of the raw materials used, the final products to be made and any byproducts arising during manufacture shall be carefully studied and adequate and suitable provisions shall be made in advance for dealing with any hazards including effects on workers which may be inherent in the process or which may arise during the process of manufacture.

(b) The plant, machinery or equipment concerned with the hazardous process shall be in-charge of such operators only who have been trained and made thoroughly conversant to be fit persons to be incharge thereof and no other persons shall be allowed to operate the plant, machinery or equipment. The operators shall be regular employees of the Occupier and shall in no case be persons who are employed as contract workers.

(c) The work of the operators shall be supervised on an overall basis by at least one competent person, who for the purpose of this sub-rule shall at least be graduate in Chemical Engineering or Chemical Technology with specialised knowledge in respect of the processes given in the schedule:

Provided that the Chief Inspector of Factories may accept a graduate in chemistry having adequate knowledge of the processes given in the Schedule and also adequate experience and training or any other qualifications, if in his opinion they are equivalent to the qualifications aforesaid.

(2) Emergency Instructions - Simple and special instructions shall be framed to ensure that effective measures will be carried out in cases of emergency, to deal with possible escapes of inflammable explosive, toxic or deleterious gases, vapours, liquid or dusts. These instructions shall be in the language understood by the majority of the workers and shall be displayed in bold letters at

prominent places in the different sections concerned. All concerned workers shall be suitably trained and fully instructed in the prompt action to be taken in such emergencies and also in the general hazards encountered in this process.

(3) Fire and Explosion Risks - In any part of the factory where there is a danger due to fire or explosion from inflammable gas, vapour or dust-

(i) No internal combustion engine and no electric motor or other electrical equipment or instrument capable of generating sparks or otherwise causing combustion shall be installed or used in a building engaged in the processes. All electrical fitting shall be of suitable flame-proof construction.

(ii) All pipes carrying hot exhaust or chemicals shall be installed outside the plant building and where this is not possible, these pipes including the flanged portion shall be effectively lagged.

(iii) Where an inflammable atmosphere is likely to occur the soles of footwear worn by workers shall have no metal on them and the wheels of trucks or conveyors shall be constructed of non-sparking materials. Adequate precautions shall be taken to prevent the ignition of explosive or inflammable atmosphere by sparks emitted from locomotives or other vehicles operating in the vicinity.

(iv) Portable electric hand lamps shall not be used unless of an intrinsically safe type and all portable electric tools and appliances connected by flexible wires shall not be used, unless these are of suitable flame-proof construction.

(v) No electric arc lamp no naked light fixed or portable, shall be used and no person shall have in his possession any match or any apparatus of any type for producing a naked light or spark and all incandescent electric lights shall be in double airtight covers.

(vi) Prominent notices in the language understood by the majority of the workers and legible by day and by night, prohibiting smoking, the use of naked lights and the carrying of matches or any apparatus for producing a naked light or spark shall be affixed at the entrance of every room or place where there is the risk of fire or explosion from inflammable liquid gas, vapour or dust. In the case of illiterate workers, the contents of the notices shall be fully and carefully explained to them when they commence work in the factory for the first time and again when they have completed one week of service.

(vii) A sufficient supply of spades, scrapers and pails made from suitable non-sparking material shall be provided for the use of persons employed in cleaning out and/or removing residence from any chamber, still, tank or other vessels where any inflammable or explosive danger may occur.

(viii) All machinery and plant, particularly pipe lines, belt-drives, stirer on which static electricity is likely to accumulate shall be effectively earthed. Receptacles for inflammable liquids shall have metallic connections to earthened supply tanks to prevent sparking due to static charge build up,

(4) Additional Special Precautions - (i) The heating of the process, if required, shall not be carried out by immersion or other types of heaters deriving energy from electricity.

(ii) The steam heating coils placed in the lower part of the vessel shall never be kept uncovered or allowed to be heated dry. A substantial amount of the liquid shall be ensured in the vessel after each operation to insure this:

Provided that in case employing out of vessels filled with high melting products, the steam shall be stopped/disconnected to the heating coils, before draining process is started to ensure that the heating coils are free of steam before they are uncovered.

(iii) Steam shall be supplied through a pressure reducing valve and a safety valve correctly set to

ensure that the critical temperature of the process is not exceeded.

(iv) A suitable rupture disc shall be provided on the vessel in addition to the usual spring-loaded safety valve. The pipe duct leading away from the rupture disc shall be taken out of the work-room shall be straight and without any bends in order to minimise resistance at the time of blowing and to avoid any chance of a secondary vapour/air explosion.

(v) The vent line of the vessel shall carry a flame-arrestor.

(vi) Breaking of vacuum, if the process is done under vacuum, on account of consideration of special hazards inherent in the process, shall be done only with nitrogen, other suitable inert gas or steam. Compressed air 'connection to the manifolds of the vessel equipment shall be avoided.

(vii) There shall be an automatic cut-off device of steam supply or other heating devices as well as of further feed to the vessel set to operate, no sooner the critical temperature is reached, beyond which the reaction, if any, in the vessels is likely to get out of control or reach run-away stage.

(viii) There shall be arrangement such that it would be possible to introduce quickly, preferably chilled water or at least ordinary cool water circulation in the steam or other hearing coils, no sooner the hearing element is cut-off or separate coils or jackets for this purpose shall be provided for the vessel.

(ix) An alarm system shall be provided linked to the pressure indicator of the vessel, so that automatically an audible warning will be given as soon as the pressure exceeds the present safe limit.

(x) There shall be provided an automatic arrangement such that if the mechanical agitation, where so provided, fails on account of failure of motive power or due to broken shaft, broken blades, failing of blades or such other contingencies, the supply of steam or other heating devices as well as further feed of material would stop automatically.

(5) Exemptions - If the Chief Inspector of Factories is satisfied in respect of any factory or any process that owing to the special conditions or special methods of work adopted or by reason of the infrequency of the process or for other reasons, all or any of the requirement of this rule are not necessary for the protection of persons employed in any factory or any process, he may by order in writing (which he may in his discretion revoke at any time) exempt such factory or such process from all or any of the provisions of this rule, subject to such condition as he may by such order prescribe and he may, in his discretion add, substract or modify such conditions as deemed fit by him at any time.

SCHEDULE

(1) Nitro or Amino processes meaning the manufacture of nitro or amino derivative of Phenol Toluene and of Benzene or its Comologus and the making of explosive with the aid of any of these substances.

(2) Halogenation process meaning the addition or substitution reaction with a wide variety of:

(a) Chlorination agents and systems such as Chlorine gas, Hydrochloric Acid, Sodium/hypochlorite, Phosgene, Thiony] Chloride (SOCI2 Sul-phonyl Chloride, (SO2/CI2) Phosphorus and such others.

(b) Fluorination agents such as Fluorine.

(c) Bromination agents such as a Bromine.

(d) Iodination agents such as iodine, in liquid or gas phases. (3) Aromatization and Isomerization process][80]

[81]**[73-I. Planting of trees -** In every factory wherein more than one hundred workers are ordinarily employed, the occupier of a factory shall plant and maintain trees within the precincts of the factory after the approval of the number, type and layout of trees by the District Forest Officer concerned or any qualified horticulturist.][81]

Rule prescribed under sections 41 and 41G

[82]**[73-J. Safety Committee -** (1) In every factory-

(a) wherein 250 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 employs more than 50 workers; or

(c) which carries on 'hazardous process' as defined under section 2(cb) of the Act and employs more than 50 workers,

there shall be a Safety Committee.

(2) The representatives of the Management on Safety Committee shall include-

(a) A senior official, who by his position in the organisation can contribute effectively to the functioning of the Committee, shall be the Chairman;

(b) A Safety Officer and Factory Medical Officer, wherever available and the Safety Officer in such a case shall be the Secretary of the Committee;

(c) A representative each from the production, maintenance and purchase departments.

(3) The workers' representatives on this Committee shall be elected by the workers.

(4) The tenure of the Committee shall be two years.

(5) Safety Committee shall meet as often as necessary but at least once in every quarter. The minutes of the meeting shall be recorded and produced to the Inspector on demand.

(6) Safety Committee shall have the right to-

(a) ask for necessary information concerning health and safety of the workers;

(b) seek any relevant information concerning health and safety 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) deliberating on reports of safety, environmental and occupational health surveys, emergency plans safety audits, risk assessment and implementation of the recommendations made in the reports;

(f) carrying out health and safety surveys and identify 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 suggest corrective measures; and

(h) reviewing the implementation of the recommendations made by it.

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

CHAPTER IV-A

Rules prescribed under section 41-A read with section 112

73-K. Site Appraisal Committee - (1) The following provisions shall govern the functioning of the Site Appraisal Committee, hereinafter referred to as the "Committee" in this rule-(a) The State Government may constitute a Site Appraisal Committee and reconstitute the Committee as and when necessary.

(b) The State Government may appoint a senior official of the Factories Inspectorate 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 Service Organisation of the State Government;

(ii) a representative of the Department of Industries;

(iii) a representative of the Director General of Factory Advice Service and Labour Institutes, Bombay.

(2) No member, unless required to do so by a Court of Law, shall disclose otherwise than in connection with the purposes of the Act, at any time any information relating to manufacturing or commercial business or any working process which may come to his knowledge during his tenure as a Member on this Committee.

(3) Application for appraisal of sites-

(a) Applications for appraisal of sites in respect of the factories covered under section 2(cb) of the Act shall be submitted to the Chairman of the Site Appraisal Committee.

(b) The application for site appraisal alongwith 15 copies thereof shall be submitted in the Form annexed to this rule. The Committee may dispense with furnishing the information on any particular item in the Application Form if it consider the same to be not relevant to the application under consideration.

(4) Functions of the Committee-

(a) The Secretary shall arrange to register the application received for appraisal of site in a separate

register and acknowledge the same within a period of 7 days.

(b) The Secretary shall fix up meeting in such a manner that all the applications received and registered are referred to the Committee within a period of one month from the date of their receipt.

(c) The Committee may adopt a procedure for its working keeping in view the need for expeditious disposal of applications.

(d) The Committee shall examine the application for appraisal of a site with reference to the prohibitions and restrictions on the location of industry and carrying on processes 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 experts, inspect the site if necessary and take other steps for formulating its views in regard to the suitability of the site.

(f) Wherever the proposed site requires clearance by the Ministry of Industries 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.

FORMAT OF APPLICATION TO THE SITE APPRAISAL COMMITTEE

1. Name and address of the applicant

2. Site Ownership Data-

(1) Revenue details of site such as Survey No..... Plot No.....etc.

(2) Whether the site is classified as forest and if so, whether approval of the Central Government under section 5 of the Indian Forest Act, 1927 has been taken.

(3) Whether the proposed site attracts the provisions of section 3(2)(v) of the Environment Protection Act, 1986. If so, the nature of the restrictions.

(4) Local authority under whose jurisdiction the site is located.

3. Site Plan-

(1) Site Plan with clear identification of boundaries and total area proposed to be occupied and showing the following details near the proposed site-

(a) Historical Monument, if any, in the vicinity.

(b) Names of neighbouring manufacturing units and human habitats, educational and training institutions, petrol installations, storages of LPG and other hazardous substances in the vicinity and their distances from the proposed Unit.

(c) Water sources (rivers, streams, canals, dams, water filtration plants, etc.) in the vicinity.

(d) Nearest hospitals, fire stations, civil defence stations and police stations and their distances.

(e) High tension electrical transmission lines, pipe lines for water, oil, gas or sewerage, railway lines, roads, stations, jetties and other similar installations.

(2) Details of soil conditions and depth at which hard strata obtained.

(3) Contour map of the area showing nearly hillocks and difference in levels.

(4) Plot plan of the factory showing the entry and exit points, roads within, water drains, etc.

4. Project Report-

(1) A summary of the salient features of the project.

(2) Status of the organisation (Government, Semi-Government, Public or Private etc.)

(3) Maximum number of persons likely to be working in the factory.

(4) Maximum amount of power and water requirements and source of their supply.

(5) Block diagram of the buildings and installations in the proposed project.

(6) Details of housing colonies, hospitals, schools and other infrastructural facilities proposed-

5. Organisation structure of the proposed manufacturing unit or factory-

(1) Organisation diagrams of-

Proposed enterprise in general.

Health, Safety and Environment protection departments and their linkage to operation and technical departments.

(2) Proposed Health and Safety policy

(3) Area allocated for treatment of wastes and effluents

(4) Percentage outlay on safety, health and environment protection measures.

6. Meteorological data relating to the site.-

(1) Average, minimum and maximum of-

Temperature

Humidity

Wind velocities during the previous ten years.

(2) Seasonal variations of wind direction.

(3) Highest water level reached during the floods in the area recorded so far.

(4) Lighting and seismic data of the area.

7. Communication Links-

(1) Availability of telephone/telex, wireless and other communications facilities for outside communication.

(2) Internal communication facilities proposed.

8. Manufacturing process information.-

(1) Process flow diagram.

(2) Brief write-up on process and technology.

(3) Critical process parameters such as pressure build-up, temperature rise and run-way reactions.

(4) Other external effects critical to the process having safety implications, such as ingress of moisture or water, contact with incompatible substances, sudden power failure.

(5) Highlights of the built-in safety/pollution control devices or measures/ incorporated in the manufacturing technology.

9. Information on Hazardous Materials -

(1) Raw materials, intermediates, products and by-products and their quantities (Enclose materials safety data sheet in respect of each hazardous substance).

(2) Main and intermediate storage proposed for raw materials/intermediates products/by-products (maximum quantities to be stored at any time).

(3) Transportation methods to be used for materials inflow and outflow, their quantities and likely routes to be followed.

(4) Safety measures proposed for-

handling of materials,

internal and external transportation; and

disposal (packing and forwarding of finished product).

10. Information on Dispersal/Disposal of Waste and Pollutants -

(1) Major pollutants (gas, liquid, solid), their characteristics and quantities (average and at peak loads).

(2) Quality and quantity of solid wastes generated, method of their treatment and disposal.

(3) Air, water and soil pollution problems anticipated and the proposed measures to control the same, including treatment and disposal of effluents.

11. Process Hazards Information.-

(1) Enclose a copy of the report on environmental impact assessment.

(2) Enclose a copy of the report on Risk Assessment Study.

(3) Published (open or classified) reports, if any, on accident situations/occupational health hazards in similar plants elsewhere (within or outside the country).

12. Information on proposed Safety and Occupational Health Measures-

(1) Details of fire-fighting facilities and minimum quantity of water, Co_2 and/or other fire-fighting measures needed to meet the emergencies.

(2) Details of in-house medical facilities proposed.

13. Information on Emergency Preparedness -

(1) On site emergency plan.

(2) Proposed arrangements, if any, for mutual aid scheme with the group of neighbouring factories.

14. Any other relevant information -

I certify that the information furnished above is correct to the best of my knowledge and nothing of importance has been concealed while furnishing it.

Name and signature of the applicant.
Rules made under Sec.7A(3), 41B(2) and 112

73-L. 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) are exempted from requirements of sub-rule (1):

Provided that, they are not covered in the first Schedule under section 2(cb) or carrying out processes or operations declared to be dangerous under section 87 of the Act.

(3) Notwithstanding anything contained in sub-rule (2), the Chief Inspector may require the occupiers of any of the factories, or class or description of factories to comply with the requirements of sub-rule (1), if, in his opinion it is expedient to do so.

(4) The Health and Safety Policy should contain or deal with:-

(a) declared intention and commitment of the top management to health, safety and environment and compliance, with all the relevant statutory requirements;

(b) organisational set-up to carry out the declared policy, clearly assigning the responsibility at different levels; and

(c) arrangements for making the policy effective.

(5) In particular, the Policy should specify the following:-

(a) arrangements for involving the workers;

(b) intention 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 contractor, sub-contractors, transporters and other agencies entering the premises;

(d) providing a resume of health and safety performance of the factory in its Annual Report;

(e) relevant techniques and methods, such as safety audits and risk assessment for periodical assessment of the status on health, safety and environment and taking all the remedial measures;

(f) stating its intention to integrate health and safety in all decisions including those dealing with purchase of plant, equipment, machinery and material as well as selection and placement of personnel;

(g) arrangements for informing, educating and training and retraining its own employees at different levels and the public, wherever required.

(6) A copy of the declared Health and Safety Policy signed by the Occupier shall be made available to the inspector having jurisdiction over the factory and to the Chief Inspector.

(7) The Policy shall be made widely 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, namely-

(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.

Rules made under section 41B and 112

73-M. Collection and development and dissemination of information -

(1) 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 in respect of every hazardous substance or material handled in the manufacture, transportation and storage in the factory. It shall be accessible upon request to a worker for reference.

(a) Every such Material Safety Datta Sheet shall include the following information, namely:-

(i) the identity used on the label;

(ii) hazardous ingredient of the substance;

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

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

(v) health hazards of the hazardous substance, including signs and symptoms of exposure, and any medical conditions which are generally recognised as being aggravated by the 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 any Chemical not covered by the said schedule, any exposure limit used or recommended by the manufacturer, importer or occupier;

(viii) any generally applicable precautions for safe handling and use of the hazardous substances, which are known, including appropriate hygienic practices, protective measures during repairs and maintenance of contaminated equipment; procedures for clean-up of spills and leaks;

(ix) any generally applicable control measures, such as appropriate engineering, controls, work practices, or use of personal protective equipment;

(x) emergency and first-aid procedures;

(xi) the date of preparation of the Material Safety Data Sheet, or the last change to it; and

(xii) the name, address and telephone number of the manufacturer, importer, occupier or other responsible party preparing or distributing the Material Safety Data Sheet, who can provide additional information on the hazardous substance and appropriate emergency procedures, if necessary.

(b) The occupier while obtaining or developing a Material Safety Data Sheet in respect of a hazardous substance shall ensure that the information recorded accurately reflects the scientific evidence used in making the hazard determination. If he becomes newly aware of any significant information regarding the hazards, of a substance, or ways to protect against the hazards, this new information shall be added to the Material Safety Data Sheet as soon as practicable.

(c) The Material Safety Data Sheet shall be in the form given in the Schedule to this Rule.

(2) Labelling-

Every container of a hazardous substance shall be clearly labelled or marked to identify:-

(a) the contents of the container;

(b) the name and address of the manufacturer or importer of the hazardous substance;

(c) the physical and health hazards; and

(d) the recommended personal protective equipment needed to work safely with the hazardous substance.

SCHEDULE

(Material Safety Data Sheet)

SECTION 1: MATERIAL IDENTIFICATION AND USE

Material Name/Identifier

Manufacturer's Name		Supplier's Name	
Street Address		Street Address	
City	State	City	State
Postal Code	Emergency Telephone No.	Postal Code	Emergency Telephone No.
Chemical Name	Chemical Identity		
Trade Name and Synonyms		Product use	

SECTION II: HAZARDOUS INGREDIENTS OF MATERIAL

Hazardous Ingredients	Approximate Concentration %	C.A.S. or UN Number	L.D. (Specify and Route)	50 Species	L.C. (Specify and Route)	50 Species

SECTION III: PHYSICAL DATA FOR MATERIAL

Physical -Gas-Liquid-Solid	Stale Odour and Appearance	Odour Threshold (p.p.m.)	Specific Gravity

Vapour Pressure (mm)	Vapour density (Air-1)	Evaporation Rate	Boiling Point (°C)	Freezing, Point (°C)

Solubility Water (°20C)	in PH	Density (g/ml)	Co-efficient Water/Oil Distribution	of

SECTION IV: FIRE AND EXPLOSION HAZARD OF MATERIAL

Flammability- -Yes-No. If yes, under what conditions
Means of Extinction
Special Procedures

Flash point	(°C) Upper	Explosive	Lower		Explosive

and Method	Limit (% by Volume)	Limit (% by Volume)
Auto-ignition Temperature (°C)	TDG Flammability	Hazardous Combustion Products
Explosion Data-Sensitivity to Chemical Impact		Sensitivity to Static Discharge
SECTION V : REACTIVITY DATA Chemical Stability -Yes-No. If no, under what conditions		
Incompatibility with other substances -Yes-No. If yes, which ones		
Reactivity and under what conditions		
Hazardous Decomposition Products		
Material Name/Identifier		
SECTION VI: TOXICOLOGICAL PROPERTIES OF MATERIAL		
Route of Entry		
-Skin Contact -Skin Absorption -Eye Contact- - Inhalation Acute -Inhalation Chronic -Ingestion		
Effects of Acute Exposure to Material		
Effect of Chronic Exposure to Material	_____	
	Exposure Limit(s)	Irritancy of Material
Sensitization to Material	Carcinogenicity, Teratogenicity, Mutagenicity	Reproductive Effects
Synergistic Materials		
SECTION VII: PREVENTIVE MEASURES		
PERSONAL PROTECTIVE EQUIPMENT		
Gloves (Specify)	Respiratory (Specify)	Eyes (Specify)
Footwear (Specify)	Clothing (Specify)	Other (Specify)
Engineering Controls (e.g. Ventilation, enclosed process, etc.) please specify		
Leak and Spill Procedures		
Waste Disposal		

Handling Procedures and Equipment
Storage Requirements
Special Shipping Information
SECTION VIII: FIRST AID MEASURES
First Aid Measures
Sources used
Additional Information
SECTION IX: DATE OF PREPARATION OF MATERIAL SAFETY DATA SHEET
Prepared by (Group, Department, etc.) Phone No. Date

Notes.-

1. CAS or UN Number-Chemical Abstract Service or United Nations (UN) number.

2. LD 50-Lethal Doze-50% (LD 50-specify species and route.)

3. LD 50-Lethal Concentration-50% (LC 50-specify species and route).

4. TDG Flammability-Transport of Dangerous Goods Flammability Classifications by United Nations.

73-N. 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 handlings of hazardous materials or substances in the manufacture, transportation, storage and other process :-

(a) requirements of sections 41B, 41C and 41H of the Act;

(b) a list of hazardous processes carried on in the factory;

(c) location and availability of all Material Safety Data Sheets as per rule 73-M;

(d) physical and health hazards arising out of the exposure to or handling of substances;

(e) measures taken by the occupier to ensure safety and 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 operation;

(h) meaning of various labels and markings used on the containers of hazardous substances as provided under Rule 73-M;

(i) sign and Symptoms likely to be manifested on exposure to hazardous substances and to whom to report;

(j) measures to be taken by the workers in case of any spillage or leakage of a hazardous substance;

(k) role 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 displayed in the factory shall be in the language understood by the majority of the workers, and also explained to them.

(4) The Chief Inspector may direct the occupier to supply further information to the workers as deemed necessary.

73-O. Disclosure of information to general public - (1) The occupier of every factory carrying on a '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 names 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 hazardous process(s) 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 principal 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 measures 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 foreseeable 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 Emergency Planning Officer from time to time;

(b) to the elected representatives of the general public on request.

(3) The occupier shall endeavour to enter into an agreement with the Emergency Planning Officer for the area, within whose jurisdiction the factory is situated for the Emergency Planning Officer to take appropriate steps 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.

73-P. Disclosure of information to the local authority - The occupier of every factory carrying on a 'hazardous process' shall furnish the following information in writing to the local authority having jurisdiction over the area in which the factory is situated, namely:-

(a) The information furnished to general public as prescribed in rule 73-0,

(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.

73-Q. Disclosure of information to District Emergency Authority - The occupier of a factory carrying on a hazardous process, shall intimate the District Emergency Authority designated by the State Government, all information having a bearing on preparation of an on-site emergency plan and a disaster control and management plan in respect of the factory.

Without prejudice to the generality of this clause, the occupier shall 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) by 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 accidents 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, police, fire services,

(f) the organisation of the management and the responsibility for safety, indicating therein the persons responsible for on-site emergency action.

(g) details relating to alert systems,

(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.

73-R. 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 all 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 in the factory shall be furnished to the Chief Inspector, and the local Inspector.

(3) The occupier shall also furnish any other information asked for by the Chief Inspector from time to time for the purpose of this Act and Rules made thereunder.

73-S. Information on industrial wastes - (1) The information furnished under rules 73-N, 73-O, 73-Q and 73-R shall include the quantity of the solid and liquid wastes generated per day, their characteristics and the method of treatment such as incineration of solid wastes, chemical and biological treatment of liquid waste, and arrangements for their final disposal.

(2) It shall also include information on the quality and quantity of gaseous wastes discharged through the stacks or other openings and arrangements such as provision of scrubbers, cylone 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.

73-T. 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 Rule 73-N to 73-R to the workers, general public, local authority, Chief Inspector and the District Emergency Authority.

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

73-U. Confidentiality of information - The occupier of a factory carrying on 'hazardous process' shall disclose all information needed for protecting safety and health of workers and the general public in the neighbourhood to,-

(a) His workers;

(b) District Emergency Authority,

as required under rules 73-N and 73-Q If the occupier is of the opinion that the disclosure of details regarding the process and formulations will adversely affect his business interests, he may make a representation to the Chief Inspector stating the reasons for withholding such information. The Chief Inspector shall give an opportunity to the occupier of being heard and pass 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 30 days. The State Government shall give an opportunity to the occupier of being heard and pass an order. The order of the State Government shall be final.

Rules made under sections 41-B, 41-C and 112 specific responsibility of the occupier in relation to hazardous process

73-V. Medical Examination - (l) 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, namely:-

(a) once before employment to ascertain physical 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 cases where in the opinion of the Factory Medical Officer it is necessary to do so at a shorter interval in respect of any worker,

(c) the details of pre-employment and periodical medical examinations carried out as aforesaid shall be recorded in the Health Register in Form 7.

(2) No person shall be employed for the first time without a certificate of Fitness in Form 6 granted by the Factory Medical Officer. If the Factory Medical Officer declares a person unfit for being employed in any process covered under sub-rule (1), such a person shall have the right to appeal to the Certifying Surgeon whose opinion shall be final in this regard.

(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, examined 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 examine 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 fully incapacitated, in the opinion of the Certifying Surgeon, in which case the worker affected shall be suitably rehabilitated:

Provided that, the Certifying Surgeon on his own may examine any worker when he considers it necessary to do so for ascertaining the suitability of his employment in the 'hazardous process' or for ascertaining the health status of any worker.

(4) 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 making entries to that effect in the Health Register

(5) An Inspector may, if he deems it necessary "to do so, refer a worker to the Certifying Surgeon for Medical Examination as required under sub-rule (1). 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.

(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.

73-W. 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 scale laid down hereunder:-

(a) For factories employing upto 50 workers,-

(i) the services of 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 73-V and render 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 sq.m. with floors and walls made of smooth and impervious surface and with adequate illumination and ventilation as well as equipments as per the schedule annexed to this rule;

(ii) a part-time Factory Medical Officer shall be in over-all charge of the Centre who shall visit the factory 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 upto 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 of 15 sq. m. with floors and walls made of smooth and impervious surface and adequate illumination and ventilation as well as equipments as per the schedule annexed to this rule;

(iii) there shall be one nurse, one dresser-cum-compounder and one sweeper-cun-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 Schedule 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 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 3 years on the date of commencement of this rule, the Chief Inspector may, subject to the condition that the said person shall obtain the aforesaid certificate of training within 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 DG FASLI or the State Government in accordance with the guidelines issued by DG FASLI.

(4) Within one month of the appointment of a Factory Medical Officer, the occupier of the factory

shall furnish to the Chief Inspector the following particulars, namely:-

(a) Name and address of the Factory Medical Officer,

(b) Qualifications,

(c) Experience, if any, and

(d) the sub-rule under which appointed.

SCHEDULE
Equipment for occupational Health Centre in Factories

1. A glazed sink with hot and cold water always available.

2. A table with a smooth top at least 180 cm. X 105 cm.

3. Means for sterilizing instruments.

4. A couch

5. Two buckets or containers with close fittings lids.

6. A kettle and spirit stove or other suitable means of boiling water

7. One bottle of spiritus ammeniac 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 toxied

21. Coramine liquid (60 ml)

22. Tablets - antihistaminic, antispasmodic (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 scapel

29. One stethoscope

30. Rubber bandage-pressure bandage

31. Oxygen cylinder with necessary attachments

32. One Blood Pressure apparatus

33. One Patellar Hammer

34. One Peak-flow meter for lung function measurement.

35. One Stomach wash-set

36. Any other equipment recommended by the Factory Medical Officer according to specific need relating to manufacturing process.

37. In addition-

(1) 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-morphia, pethidine, atropine, adrenaline, coramine, novocaine (2 each).

6. One surgical scissors.

(2) 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 artery forceps.

5. Injections-morphia, Pethidine, atropine, adrenaline, coramine, novocaine (4 each).

6. Two surgical scissors.

73-X. Ambulance Vans - (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 the full-time Driver-cum-Mechanic and Helper trained in first-aid, for the purpose of transportation of serious cases of accidents or sickness. The ambulance van shall not be used for any purpose other than the purpose stipulated herein and will normally be stationed at or near to the Occupational Health Centre:

Provided that, a factory employing less than 200 workers, may make arrangements for procuring such facility at short notice from nearby hospital or other places, to meet any emergency.

(2) The Ambulance should have the following equipments,-

(a) General - A wheeled stretcher with folding and adjusting devices with the head of the stretcher capable of being tilted upward; Fixed suction unit with equipment; Fixed oxygen supply with equipment, Pillow with case;-Sheets-Blankets;- Towels; Emesis bag, Bed pan,- Urinal, Glass.

(b) Safety equipment - Flaros with life of 30 minutes; 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.- Tracheestomy adopters, short spine board-IV, fluids with administration unit, B.P. monometer.-Cugg-Stethoscope.

(ii) Immobilization - Long and short padded boards,- Wire ladder splints; Triangular bandage-Long and short spine Boards.

(iii) Dressings - Gauze pads.- 4" X 4" - Universal; dressing- 10" X 36"; Roll of aluminium foils-Soft roller bandages 6" X 5 yards- Adhesive tape in 3" roll-Safety pins; Bandage sheets; Burn Sheet.

(iv) Poisoning - Syrup of Ipecae; Activated Charcoal Prepacketed in doses:-

Snake bite kit, Drinking water.

(v) Emergency Medicines - As per requirement (under the advice of Medical Officer).

73-Y. 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) readily accessible means of drenching with water for flooding. Workers or parts of body of workers who have been contaminated with hazardous and corrosive substance; and such means shall be as per the scale shown in the table below:-

TABLE

Number of persons employed at any time	Number of drenching showers
(i) Upto 50 workers	2
(ii) Between 51 to 200 workers	2+1 for every additional 50 or part thereafter
(iii) Between 201 to 500 workers	5+1 for every additional 100 or part thereafter
(iv) 501 workers and above	8+1 for every additional 200 or part thereafter

(c) a sufficient number of eye wash bottle 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.

73-Z. Making available Health Records to workers - (1) The occupier of every factory carrying out 'hazardous process' shall make accessible the health records including the record of workers exposure to hazardous process or, as the case may be, the medical records of any worker for his perusal under the following conditions:-

(a) Once in every six months or immediately after the medical examination; whichever is earlier;

(b) If the Factory Medical Officer or the Certifying Surgeon as the case may be; is of the opinion that the worker has manifested signs and symptoms of any 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 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 up-to-date health records including the record of worker's exposure to hazardous process or, as the case may be, the medical records shall be supplied to the worker on receipt of an application from him. X-Ray plates and other medical diagonistic reports may also be made available for reference to his medical practitioner.][82]

[83]**[73-ZA. Safety precautions for Thermic Fluid Heaters -** (1) In respect of any factory where thermic fluid heater has been installed (hereinafter called "heater") and following provisions shall be complied with-

(i) All heaters shall be of such construction that, the coils shall be removable for periodic cleaning, visual inspections and hydraulic test.

(ii) Suitable arrangements shall be made for cooling the furnace effectively in case of power failure to the heater.

(iii) Before restarting the furnace of heater it shall be effectively purged.

(iv) The thermic fluid used for heater shall be circulated in a closed circuit formation with an expansion cum decorator tank. This tank shall be located outside the shed where the heater is installed.

(v) Every Oil or Gas fired heater shall be provided with a photo-resistor actuated audio visual alarm to indicate flame failure and automatic burner cut-off.

(vi) The stack temperature monitor-cum-controller with audio-visual alarm shall be provided to the heater so as to warn the operator in case the outlet temperature exceeds the specified minimum.

(vii) All heaters shall be provided with following devices and the same shall be maintained in efficient working order.

(a) level indicator in the expansion tank;

(b) temperature indicator of thermic fluid;

(c) different pressure switches across the inlet and the outlet line of the heater tubes; and

(d) temperature control device for the fuel supply to the burner.

(viii) All devices mentioned in clause (vii) above for oil or gas fired heater shall have inter-locking arrangement with burner so that in case of any pre-determined limits being crossed the supply of fuel and air to burner shall automatically be cut-off.

(ix) All safety inter-locks when operated shall be indicated or on the control panel of the heater by a suitable audio-visual alarm.

(x) Electrical panel for the heater shall be located near the heater but not so close as to be exposed to spilling or leaking oil.

(xi) The heater shall be located in a place segregated from other manufacturing activities.

(xii) Explosion vent for heater shall be so installed that, the release takes place at safe location.

(xiii) The heater coil including the coil connected to it in the users' equipment subjected to pressure shall be tested by competent person once at least in every 12 months. The test pressure shall not be less than twice the operating pressure.

(xiv) If repairs are carried out to the heater, coil including coil connected to it in users equipment shall be got examined from competent person before taking it into use.

(xv) Maximum temperature of thermic fluid in the heating of heater coil shall not exceed the figure specified by the manufacturer. The thermic fluid used in heater, shall confirm to the specifications prescribed by the manufacturers and shall be tested by competent person for suitability at least once in every three months period. Such test shall include test for acidity, suspended matter, ash contents, viscosity and flash point.

(xvi) Cleaning of the internal surface of the heater for removing soot and check up the refactory surface on the inside shall be carried out every month, or as often as required depending upon working conditions. The coils of heater shall be removed and surface of the coil 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.

(xvii) A separate register containing the following information for the heater shall be maintained.

(a) weekly checks carried out confirming the effectiveness of the inter-lock;

(b) weekly checks confirming that all assessories 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 four hourly interval.

(xviii) The heater when in operation shall always be kept in charge of a trained operator.

(2) If the Chief Inspector is satisfied that all or any of the provisions of this rule are not necessary for the protection of the person employed in the plant, he may by a certificate in writing exempt such factories from all or any of the provisions on such conditions as he may specify therein. Such certificate at any time be revoked by Chief Inspector without assigning any reason.][83]

[84][73-ZB. Driers and Ovens -

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. Definitions - For the purposes of this rule, "oven and drier" means any enclosed structure, receptable, compartment or box used for baking, drying or other- wise processing any article or substance at a temperature higher than ambient temperature and in which explosive mixture of air and flammable substance is likely to be evolved on account of baking, drying or otherwise processing any article or substance within it.

3. Location - Every oven or drier shall be located,-

(a) at a place so as to ensure that the exposure of the employees to the injury from fire, explosion, as phyxiation and toxic materials shall be minimum;

(b) in such a way that it does not obstruct personnel travel or exit ways;

(c) at a safe distance from dip-tanks, spray booths and storage rooms or areas of flammable substances.

4. Separate Electrical Connection - Electrical power supplied to every oven or drier should be by means of a separate circuit provided with an isolation switch.

5. Safety Ventilation - (a) Positive and effective safety ventilation shall be provided to ensure that concentration of flammable substance in air does not exceed 25 per cent of its lower explosive limit (LEL);

(b) Concentration of 50 per cent, LEL may be allowed if,-

(i) 'flammable substance in the drier or oven is continuously monitored;

(ii) an alarm is sounded if concentration reaches a level of 50 per cent of LEL; and

(iii) heating system is shut off when the concentration reaches 60 per cent LEL;

(c) A portion of the throttling dampers shall be permanently cut to ensure minimum safety ventilation when set in maximum throttling position.

6. Explosion Panels - (i) Explosion Panels shall be provided on the Driers or Ovens to allow release of pressure of any possible explosion. Areas of opening of such vents shall not be less than 2200 sq. cms. for every one Cum. or Drier or Oven. Complete release of pressure shall be secured under an internal pressure of 0.25 kg./sq.cm.

7. Interlocking arrangements - Electrical heating system shall not be started unless ventilating or circulating fans are put 'ON' and failure of ventilating or circulating fan shall recent in automatic cut-off of the electrical supply to the heaters.

8. Temperature Control - Every drier or oven shall be provided with an automatic arrangement to cut-off electrical supply to the heaters when the temperature exceeds the pre-set value in respect of the particular processing conditions.

9. Periodical examination, testing and maintenance - (i) All parts of Driers and Ovens shall be thoroughly examined and properly maintained, various controls and working of the drier or oven shall be tested, at frequent intervals to ensure its safe operation, by a responsible person of the factory.

(ii) A register showing various tests examinations carried out, from time to time shall be maintained and every entry shall be signed by the responsible person.

10. Metal frames of driers or ovens shall in all cases be electrically grounded throughout for the safe removal of electrical charges.

11. No worker shall be assigned any work connected with operation of drier or oven unless he is properly trained in combustion of fuel air mixtures, explosion hazards, sources of ignition and ignition temperature, functions of control and safety devices, etc.

12. Driers or ovens containing or processing sufficient combustible materials to sustain a fire shall be equipped with adequate fire protection system.

13. It is the user's responsibility to check the type and amount of solvent entering the drier or oven to assure that solvent loading does not exceed the. capacity of the oven or drier exhaust system.

CHAPTER V

Rule prescribed under sub-section (2) of section 42

74. Washing facilities - (1) 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 clean and orderly conditions, and shall not be located in the vicinity of latrines and urinals.

Such facilities shall be conveniently located near the rest or lunch rooms in factories where such rest-rooms or lunch-rooms are required to be provided except in the case of factories which have already provided these facilities on or before the 16th December, 1954. The washing facilities shall be so enclosed or screened as to ensure privacy:

[85][Provided that where a permanently built wall of full height is provided separating the washing facilities from the latrines and urinals, it will be treated as satisfactory compliance with the requirement of this sub-rule in regard to location of washing facilities.][85]

(2) 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 60 centimetres, 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 foundation 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.

(3)(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 basins, stand-pipe and shower shall be so laid or finished as to provide a smooth impervious surface and shall be adequately drained.

[86][(4) For persons whose work involves contact with any injurious or obnoxious substance, or who are employed in a dusty process, there shall be at least one shower controlled by tap of every 10 persons employed at a time, and each of these shall be enclosed separately in case of their use by women workers. For persons whose work does not involve such contact or who are not employed in dusty processes, the number of washing facilities shall be as follows:-

Number of persons employed at a time	**Number of working facilities**
Upto 200	One for every 20 or part thereof
Exceeding 200	10 + one for every 50 or part thereof.

(5) If female workers are employed, separate washing facilities shall be provided and so enclosed of 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.

(6) The water supply to the washing facilities shall be capable of yielding at least thirty litres 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 five litres per day for every person employed in the factory.

Rule prescribed under sections 43 and 112

75. Facilities for storing and drying clothing - 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 provisions of separate rooms, pegs, lockers or other arrangement approved by the Chief Inspector.

SCHEDULE

Engineering Workshop	Chemical Factories
Iron and Steel Works	Motor Garages
Oil Mills	Tanneries.

[87][Any other factory certified by the Chief Inspector of Factories to be carrying on processes likely to soil or damage the clothes of the workers if worn while carrying on such processes.][87]

Rules prescribed under sub-section (1) of section 45

[88]**[76. First-aid appliance -** The first aid boxes or cupboards shall be distinctively marked with a red cross on a 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 dressings

(ii) Three medium size sterilised dressings

(iii) Three large size sterilised dressings

(iv) Three large size sterilised burn dressings

(v) One (60 ml.) bottle of cetrimide solution (1 per cent) or a suitable antiseptic solution

(vi) One (60 ml.) bottle of mercurochrome solution (2 per cent) in water

(vii) One (30 ml.) bottle containing salvolatile having the doses and mode of administration indicated on the label.

(viii) One pair of scissors

(ix) One roll of adhesive plaster (2 cms. x 1 metre)

(x) Six pieces of sterilised eye-pads in separate sealed packets

(xi) A bottle containing 100 tablets (each of 5 grains) of aspirin or any other analgesic

(xii) Ointment for burns

(xiii) Polythene wash bottle (1/2 litre i.e. 500 c.c.) for washing eyes

(xiv) A snake-bite lancet

(xv) One (30 ml) bottle containing potassium permanganate crystals

(xvi) 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 exceed 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 dressings

(iv) Six large size sterilised burn dressings

(v) Six (15 gm) packets of sterilised cotton wool

(vi) One (120 ml.) bottle of cetrimide solution (1 per cent) or a suitable antiseptic solution.

(vii) One (120 ml.) bottle of mercurochrome solution (2 per cent) in water

(viii) One (60 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.

(ix) One pair of scissors

(x) Two rolls of adhesive plaster (2 cms. x 1 metre)

(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 grains) of aspirin or any other analgesic

(xv) Ointment for burns

(xvi) One polythene wash bottle (1/2 litre i.e. 500 c.c.) for washing eyes

(xvii) A snake-bite lancet

(xviii) One (30 ml) bottle containing potassium permanganate crystals

(xix) 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 equipment:-

(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 per cent) or suitable antiseptic solution

(vii) One (200 ml.) bottle of mercurochrome solution (2 per cent) in water

(viii) One (120 ml.) bottle of salvolatile having the dose and mode of administration indicated on label.

(ix) One pair of scissors

(x) One roll of adhesive plaster (6 cms. x 1 metre)

(xi) Two rolls of adhesive plaster (2 cms. x 1 metre)

(xii) Twelve pieces of sterilised eye-pads in separate sealed packets

(xiii) A bottle containing 100 tablets (each 5 grains) of aspirin or any other analgesic

(xiv) One polythene wash bottle (500 c.c.) for washing eyes.

(xv) Twelve roller bandages 10 cms. wide.

(xvi) Twelve roller bandages 5 cms. wide.

(xvii) Six triangular bandages.

(xviii) One tourniquet

(xix) A supply of suitable splints

(xx) Two packets of safety pins

(xxi) Kidney tray

(xxii) A snake-bite lancet

(xxiii) One (30 ml) bottle containing potassium permanganate crystals

(xxiv) Ointment for burns

(xxv) First-aid leaflet issued by the Directorate General of Factory Advice Service and Labour Institutes, Bombay:

Provided that items (xiv) to (xxi) inclusive need not be included in the standard first-aid box or cupboard (a) where there is a properly equipped ambulance room, or (b) if at least one box containing such item and placed and maintained in accordance with the requirements of section 45 is separately provided.

(D) In lieu of the dressings required under items (i) and (ii), there may be substituted adhesive wound dressings approved by the Chief Inspector of Factories and other equipment or medicines that may be considered essential and recommended by the Chief Inspector of Factories from time to time.][88]

77. Notice regarding first-aid - A notice containing the names of the persons working within the precincts of the factory who are trained in first-aid treatment and who are in-charge of the first-aid boxes or cupboards shall be pasted in every factory at a conspicuous place and near each 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.

Flutes prescribed under sub-section (4) of section 45

[89]**[78. Ambulance room -** (1) The ambulance room or dispensary shall be in-charge of a qualified medical practitioner assisted by at least one qualified nurse and such subordinate staff as the Chief Inspector may direct.

(2) There shall be displayed in the ambulance room or dispensary a notice giving the name, address and telephone number of the medical practitioner incharge. The name of the nearest hospital and its telephone number shall also be mentioned prominently in the said notice.

(3) The ambulance room or dispensary shall be separate from the rest of the factory and shall be used only for the purpose of first-aid treatment and rest. It shall have a floor area of at least 24 square metres and smooth, hard and impervious walls and floors and shall be adequately ventilated and lighted by both natural and artificial means. An adequate supply of wholesome drinking water shall be laid on 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 sterilizing instruments.

(iv) A couch

(v) Two strechers

(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 woollen blankets.

(xiii) Three pairs artery forceps.

(xiv) One bottle of spirits Ammoniae Aromaticus (120 ml.)

(xv) Smelling salts (60 gms.).

(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) Tea-spoons - Two

(xxiii) Graduated (120 ml.) measuring glass - Two

(xxiv) Minimum measuring glass - Two

(xxv) One wash bottle (1,000 c.c.) for washing eyes

(xxvi) One bottle (one litre) carbolic lotion 1 to 20.

(xxvii) Three chairs.

(xxviii) One screen.

(xxix) One electric hand torch

(xxx) Four first-aid boxes or cupboards stocked to the standards prescribed under (C) of rule 76.

(xxxi) An adequate supply of anti-tetanus toxoid.

(xxxii) Injection-morphide, pethidine, atropine, adrenaline, coramine, novacam-6 each.

(xxxiii) Coramine liquid (60 ml.)

(xxxiv) Tablets-antihistaminic, antispasmodic (25 each).

(xxxv) Syringes with needles-2 cc. 5 cc. 10 cc., 50 cc.

(xxxvi) Surgical scissors three.

(xxxvii) Needle holder.

(xxxviii) Suturing needles and materials.

(xxxix) Dissecting forceps - three.

(xl) Dressing forceps - Three.

(xli) Scalpels - three.

(xlii) Stethoscope - one.

(xliii) One sphygmomanometer (Blood Pressure Instrument).

(xliv) Oxygen cylinder with necessary attachments.

(4) The occupier of every factory in which these Rules apply shall for the purpose of removing serious cases of accident or sickness provide in the premises and maintain in good condition and suitable conveyance unless he has made arrangements for obtaining such a conveyance from a hospital.

(5) A record of all cases, accident and sickness treated at the room shall be kept and produced to the Inspector or Certifying Surgeon when required.

Explanation - For the purpose of this rule, "qualified medical practitioner" means a person holding a qualification granted by an Authority specified in the Schedule to the Indian Medical Degrees Act, 1916 or in the Schedules to the Indian Medical Council Act, 1956.][89]

Rules 79 to 85 prescribed under section 46

79. Canteens - (1) The occupier of every factory wherein more than 250 workers are ordinarily employed and which is specified by the State Government by a notification in this behalf shall provide, in or near the factory, an adequate canteen according to the standards prescribed in the Rules. The canteen shall be available for the use of the workers, within six months from the date of such notification:

Provided that the State Government may for sufficient reasons, from time to time by an order in writing, extend the said period in respect of any specified factory.

(2) 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.

(3) The canteen building shall be situated not less than 15 metres from the 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 extent as may be reasonable in the circumstances and may require measures to be adopted to secure the essential purpose of this sub-rule.

(4) 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.

(5) In a canteen the floor and inside walls up to a height of 120 centimetres from the floor shall be made of smooth and impervious material; the remaining portion of the inside walls shall be made smooth by cement plaster or in any other manner approved by the Chief Inspector.

(6) The doors and windows of canteen building shall be of fly- proof construction and shall allow adequate ventilation.

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

(8) (a) In every canteen-

(i) all inside walls or rooms and all ceilings and passages and staircases shall be lime-washed or colour-washed at least once in each year or painted once in three years dating from the period when last lime-washed or painted, as the case may be;

(ii) all wood work shall be varnished or painted once in three years dating from the period when last

varnished or painted;

(iii) all internal structural iron or steel work be varnished or painted once in three years dating from the period when last varnished or painted.

Provided that inside walls of the kitchen shall be lime-washed once every four months.

(b) Records' of dates on which lime-washing, colour-washing, varnishing or painting is carried out shall be maintained in the prescribed Register in Form 8.

(8) 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.

80. 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 State Government may, by a notification in this behalf, alter 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 one square metre per diner to be accommodated as prescribed in sub-rule (1):

Provided that in the case of factories in existence at the date of the commencement of the Act, where it is impracticable, owing to the lack of space, to provide one square metre 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.

(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 place for women shall be separate and screened to secure privacy.

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

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

(2) The furniture, utensils and other equipment shall be maintained in a clean and hygienic condition. 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 equipment.

(3) Where the canteen is managed by a Co-operative Society registered or deemed to be registered under the Maharashtra Co-operative Societies Act, 1960, the occupier shall provide the initial equipment for such canteen and shall undertake that any equipment required thereafter for the maintenance of such canteen shall be provided by such Co-operative Society.

82. Prices to be displayed - The charge per portion of foodstuff, beverages and any other item served in the canteen shall be conspicuously displayed in the canteen.

83. Accounts - (1) All books of accounts, registers and any other document 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 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 Departments, may be audited in such Department:

Provided further that where the canteen is managed by a Co- operative Society registered or deemed to be registered under the Maharashtra Co-operative Societies Act, 1960, the accounts pertaining to such canteen may be audited in accordance with the provisions of the Maharashtra Co-operative Societies Act, 1960.

84. Managing Committee - (1) The Manager shall appoint a Canteen Managing Committee which shall be consulted from time to time as tola) the quality and quantity of foodstuffs to be served in the canteen;

(b) the arrangement of the menus;

(c) times of meals in the canteen; and

(d) any other matter pertaining to the canteen as may be directed by the Committee:

Provided that where the canteen is managed by a Co-operative Society registered or deemed to be registered under the Maharashtra Co-operative Societies Act, 1960, it shall not be necessary to appoint a Canteen Managing Committee.

(2) The Canteen Managing Committee shall consist of an equal number of persons nominated by the occupier and elected, in the case where there is a Joint Committee constituted under the Bombay Industrial Relations Act, 1946 or any other Committee constituted under any law for the time being in force consisting of representatives of an employer and workers in a factory, by the members of such Joint Committee or of such other Committee representing the workers and in any other case, by the workers themselves.

The number of elected workers shall be in the proportion of 1 for every 1,000 workers employed in the factory provided that in no case shall there be more than 5 or less than 2 workers on the Committee.

(3) The manager shall in consultation with the members of the Joint Committee, if any, determine and supervise the procedure for election to the Canteen Managing Committee.

(4) Canteen Managing Committee shall be reconstituted every two years, the previous Managing Committee holding office till such time as the new Committee takes charge.

85. Foodstuffs to be served and prices to be charged - (1) The Chief Inspector may, by an order in writing, direct the manager to provide in the canteen any item of foodstuff if he is satisfied that such item is in general demand. Such order shall specify the size of each portion to be served, the number of portions which shall be available and the frequency of serving the particular item per week. Such order shall also specify the time-limit within which the order shall be complied with.

(2) Food, drink and other items served in the canteen shall be sold on non-profit basis and in computing the charges to be made for such food, drink or other items the following items shall not be taken into consideration, namely:-

(a) the rent for the land and building;

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

(c) the cost of purchase, repairs and replacement of equipment including furniture, crockery, cutlery and utensils;

(d) the water charges and other charges incurred for lighting and ventilation; and

(e) the interest on the amounts spent on the provision and maintenance of furniture and equipment provided for the canteen:

Provided that where the canteen is managed by a co-operative society registered or deemed to be registered under the Maharashtra Co-operative Societies Act, 1960, such society may include in the charges to be made for any such food, drink or other items served, a profit up to 5 per cent of its working capital employed in running the canteen.

Rule prescribed under section 47

86. Shelter, rest-rooms and lunch-rooms - The shelters, or rest- rooms and lunch-rooms shall conform to the following standards:-

(a) The buildings shall be soundly constructed and all the walls and roofs shall be of suitable heat-resisting materials and shall be water-proof. The floor and walls to a height of one metre 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 3.75 metres from floor level to the lowest part of the roof and there shall be at least 11,000 square centimetres 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 metre 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:

Provided further that, in the case of rooms in buildings in existence at the date of the coming into force of this rule which have been or are intended to be adapted for use as shelters or rest-rooms or lunch-rooms, as the case may be, the Chief Inspector may approve the rooms having such reduced height as may in his opinion be reasonable in the circumstances of the case on such conditions as may be deemed expedient.][86]

(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) Where in any factory washing facilities are not located near the rest or lunch room, a sufficient number of wash-basins shall be provided in the lunch-room.

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

Rules prescribed under sub-section (3) of section 48

87. Creches - (1) The creche shall be conveniently accessible to the mothers of the children accommodated therein and so far as is reasonably practicable it shall not be situated in close proximity to any part of the factory where, obnoxious fumes, dust or odours are given off or in which excessively noisy processes are carried on.

(2) The building in which the creche is situated shall be soundly constructed and all the walls and roofs shall be of suitable heat-resisting materials and shall be water-proof. The floor and internal walls of the creche shall be so laid or finished as to provide a smooth impervious surface.

(3) The height of the rooms in the buildings shall be not less than 3.75 metres from the floor to the lowest part of the roof and there shall be not less than 2 square metres of floor area for each child to be accommodated [90][subject to the condition that the area of the creche shall not be less than 10 square metres:][90]

Provided that in the case of rooms in buildings in existence at the date of the coming into force of this rule which have been or are intended to be adapted for use as a creche, the Chief Inspector may approve the rooms having such reduced height as may in his opinion be reasonable in the circumstances of the case on such conditions as may be deemed expedient.

(4) Effective and suitable provision shall be made in every part of the creche for securing and maintaining adequate ventilation by the circulation of fresh air.

(5) The creche shall be adequately furnished and equipped and in particular there shall be one suitable cot or cradle with the necessary bedding for each child:

Provided that for children over two years of age it will be sufficient if suitable beddings made available and at least one chair or equivalent seatings 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.

(6) A suitable fenced and shady open air play-ground shall be provided for the older children:

Provided that the Chief Inspector may by order in writing, exempt any factory from compliance with the sub-rule if he is satisfied that there is no sufficient space available for the provision of such a play-ground.

88. Wash-room - There shall be in or adjoining the creche a suitable wash-room for the washing of the children and their clothing. The washroom shall conform to the following standard:-

(a) The floor and internal walls of the room to a height of 90 centimetres 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 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 twenty-five litres of water a day.

(c) An adequate supply of clean clothes, soap and clean towels shall be made available for each child while it is in the creche.

89. Supply of milk and refreshment - At least 300 millitres of clean pure milk shall be available for each child on 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 each (other than those allowed under section 55) to feed the child. For children above two years of age there shall be provided in addition an adequate supply of wholesome refreshment.

90. Creche Staff - For each creche there shall be appointed a woman in-charge and adequate number of female-attendants to help the woman in-charge. The creche staff shall be provided with suitable clean clothes for use while on duty.

91. Qualifications of woman in-charge - (1) Except as provided in sub-rule (2), no woman shall be appointed under rule 90 as a woman in-charge of a creche unless she possesses the qualifications prescribed for a mid-wife under the Bombay Nurses, Midwives and Health Visitors' Act, 1954, or any laws corresponding to that Act in force in any part of the State or produces a certificate that she has undergone training for a period of not less than 18 months in a hospital, maternity home or nursing home approved in this behalf by the Chief Inspector, or produces a certificate that she has received training for a pre-primary teacher in an institution approved by the State Government.

(2) The provisions of sub-rule (1) shall not apply in the case of a woman who is in-charge of a creche in a factory immediately before the coming into force of these rules, and any rules regarding qualifications of such woman-in-charge of a creche prevailing prior to the coming into force of these rules shall apply to her.

Rule prescribed under clause (a) of section 50

[91]**[92. Exemption from the provisions of section 48** - (1) The provisions of section 48 and rules 87 to 91 shall not apply to any factory which works for less than 190 days in a calendar year or to a factory wherein the number of married women or widows employed does not exceed 15 or the total number of children below the age of 6 years of all the women workers in the factory does not exceed 4, subject to the condition that the alternative arrangements as hereinafter mentioned in sub-rule (2), are provided in the factory.

(2) The alternative arrangements required to be provided under sub-rule (1) shall be as follows, namely:-

(a) A creche-room which has an area of not less than 10 square metres shall be constructed or adapted for use in accordance with the plans approved by the Chief Inspector

(b) The creche-room shall have suitable wash place for washing of the children and their clothes and adequate supply of clean water, soap and towels shall always be provided and maintained.

(c) The creche-room shall be provided with suitable beddings for the use of the children.

(d) At least one female attendant shall be employed to look after the children in the creche-room. The female attendant shall be provided with clean clothes for use while on duty.

(3) The mother of each child in the creche-room shall be allowed two intervals of not less than 15 minutes each (such intervals being other than those allowed under section 55) during her working hours to feed the child.

CHAPTER VI
Working Hours of Adults

Rule prescribed under sub-section (2) of section 53

93. Compensatory holidays - (1) Except in the case of worker engaged in any work which for technical reasons must be carried on continuously throughout the day, the compensatory holidays to be allowed under sub-section (1) of section 53 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 not less than three days in advance of the date of that holiday. [92][The notices in respect of workers allowed the compensatory holidays shall be preserved for a period of one year and shall be produced before the Inspector on demand.][92]

(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.

[93][(4)][93]

(5) The register maintained under clause (a) shall be preserved for a period of three years after the last entry in it shall be produced before the Inspector on demand.

Rule prescribed under sub-section (2) of section 58 and section 112

94. Factories exempted under section 58 - (1) The printing presses attached to the newspaper offices shall be exempted from the provisions of sub-section (1) of section 58, subject to the following conditions, namely:-

In such printing press-

(i) the workers of each relay shall bear a badge of distinct colour which will identify the worker of one relay from that of the other;

(ii) the colour of the badge to be worn by the workers of each relay shall be specified in the notice of periods of work required to be displayed and correctly maintained under sub- section (1) of section 61 and in the copies of the notice to be sent to the Inspector under sub-sections (9) and (10) of the said section:

(iii) a flag or light having the same colour as that of the badge to be worn by the workers of any relay actually at work, shall be displayed during the time of actual working of one or more relays in the department concerned;

(iv) each worker engaged in the work carried on by means of overlapping shifts shall be in possession of an identity card. The identity card shall be supplied to the worker by the factory management free of cost and shall bear the photograph of the worker, his full name, signature or thumb impression and visible identification mark and the signature of the manager.

(2) The Central Railway Locomotive Workshop, Parel, shall be exempted from the provisions of sub-section (1) of section 58.

Muster-roll prescribed under sub-section (5) of Section 59

[94][95.***][94]

96. Overtime slips - Any work done by a worker beyond the normal specified period of work shall be entered in the overtime slips in duplicate indicating therein the actual period of overtime worked by him. A copy of such overtime slip duly signed by the manager or by a person duly authorised by him

in that behalf, shall be given to the worker immediately after completion of the overtime work:

Provided that if the Chief Inspector is satisfied that because of the nature of work carried out in the factory, it is not possible to issue daily slips to the workers, he may permit issue of weekly slips.

Rule prescribed under section 60

97. Double employment of workers - (a) The Inspector may sanction the employment of adult workers in more than one factory on the same day if he is satisfied that such adult worker is allowed to work not more than forty eight hours in a week and is allowed weekly holidays as per section 52.

(b) A note under the initials of the inspector shall be made in the remarks column of a Register of such workers permitted to work in more than one factory.

Notice prescribed under sub-section (8) of section 61

98. Notice of periods of work for adult - The notice of periods of work for adult workers shall be in Form 16.

Register prescribed under sub-section (2) of section 62

99. Register of adult workers - The register of adult workers shall be in Form 17. This register shall be written up afresh each year and shall be preserved for a period of twelve months.

"Rules 100 to 102 prescribed under section 64"

[95]**[100. Persons defined to hold positions of supervision or employed in a confidential position -** (1) In a factory the following persons shall be deemed to hold positions of supervision or management within the meaning of sub-section (1) of section 64, provided they are not required to perform manual labour or clerical work as a regular part of their duties, namely:-

(i) The Manager, Deputy Manager, Assistant Manager, Production Manager, Works Manager and the General Manager;

(ii) Departmental Head, Assistant Departmental Head, Departmental in-charge or Assistant Departmental in-charge;

(iii) Chief Engineer, Deputy Chief Engineer and Assistant Engineer;

(iv) Chief Chemist, Laboratory in-charge;

(v) Personnel Manager, Personnel Officer;

(vi) Labour Officer, Assistant Labour Officer;

(vii) Welfare Officer, Additional Welfare Officer or Assistant Welfare Officer;

(viii) Safety Officer;

(ix) Security Officer;

(x) Foreman, Chargeman, Overseer and Supervisor;

(xi) Jobber in Textile Factories;

(xii) Head Store-keeper and Assistant Store-keeper;

(xiii) Boiler Sarang or such Boiler Attendants who are in- charge of a battery of boilers and are only required to do supervisory work; and

(xiv) Any other person who in the opinion of the Chief Inspector, holds a position of Supervision or Management and is so declared in writing by him.

(2) In a factory, the following persons shall be deemed to be employed in a confidential position within the meaning of sub- section (1) of section 64, namely:-

(i) Stenographers or Telex Operators;

(ii) Office Superintendent;

(iii) Head Clerk where there is no Office Superintendent;

(iv) Head Accountant and Head Cashier;

(v) Head Time Keeper; and

(vi) Any other person who in the opinion of the Chief Inspector is employed in a confidential position and is so declared in writing by him.

(3) Any dispute whether a person, by virtue of the nature of his duties, falls in any of the definitions given in sub-rules (1) or (2) above, shall be decided by the Chief Inspector by passing an order in writing, which shall be final.

(4) On an application made by the occupier or Manager of the factory, the Chief Inspector may declare in writing any person other than the persons defined in sub-rules (1) and (2) above, as a person holding a position of supervision or management or employed in a confidential position in a factory, if in the opinion of the Chief Inspector, such person holds such position or is so employed.

(5) All declarations of the nature described in sub-rule (4) of this rule, made by the Chief Inspector under the provisions of any earlier rules in that behalf shall be deemed to have been made under sub-rule (4), and shall continue to remain in force.

101. List of persons defined in Rule 100 and overtime muster-roll and slips - (1) A list showing the names and designations of all persons defined in rule 100 shall be maintained in every factory and it shall be made available for inspection to the Inspector at all times when work is being carried on in any factory.

(2) Where the ordinary rate of wages of any person, whose name is shown in the list maintained under sub-rule (1) of this rule does not exceed the wage limit specified in sub-section (6) of section 1 of the Payment of Wages Act, 1936 (4 of 1936) as amended from time to time be entitled to extra wages in respect of overtime work under section 59, the Manager of the factory shall:-

(a) maintain a muster-roll in form 15 as prescribed under rule 95, in respect of such persons, and

(b) issue overtime slips as prescribed under rule 96, to such persons.

102. Exemption of certain adult workers - Adult workers engaged in factories specified in column 2 of the Schedule hereto annexed, on the work specified in column 4 of the said Schedule shall be exempted from the provisions of the section specified in column 5 thereof subject to the conditions,

if any, specified in column 6 of the said Schedule; and also subject to the following conditions, namely:-

(i) no woman worker shall be required or allowed to work for more than nine hours in any day;

(ii) except in respect of exemption under clause (a) of sub-section (2) of section 61 the following limits of work inclusive of overtime shall be observed, namely:-

(a) the total number of hours of work in any day shall not exceed ten;

(b) the spreadover, inclusive of intervals for rest, shall not exceed twelve hours in any one day;

(c) the total number of hours in week, including overtime shall not exceed sixty; and

(d) the total number of hours of overtime shall not exceed fifty for any one quarter:

Provided that, the limits imposed by sub-clauses (a) and (b) of this clause shall not apply in the case of a shift worker engaged in factories specified against category and No.X(1) to (39) in the Schedule if the said worker is allowed to work the whole or part of the subsequent shift in the absence of a worker who has failed to report for duty.

SCHEDULE

Category No.	**Class of Factories**	**Exemption under Section**	**Nature of exempted work**	**Exemption from Sec.**	**Conditions**
1	**2**	**3**	**4**	**5**	**6**
1.	All factories	64(2)(a) and 64(3) for urgent repairs and for consequential exemptions from the provisions of section 61	Urgent repairs - Explanation - Urgent repairs for the purposes of this exemption shall mean - (a) repair to any part of machinery, plant or structure of a factory, which are of such a nature that delay in their execution would involve danger to human life or a safety or the stoppage of the manufacturing processes; (b) repairs to deep-sea ships and repairs to commercial aircarts which are essential to enable such ships	51,52,54, 55, 56 and 61	(i) The occupier or manager of the factory shall send to the Inspector a notice within 24 hours of the commencement of the work, stating therein the precise nature of urgent repairs of the exact time of the commencement of such work and the list of all persons employed on such work. A copy of such notice shall be displayed in the factory as provided under section 108(2) of the Act, within 24 hours of the completion of the work of urgent repairs, a notice to that effect shall be sent to the

			or aircrafts to leave port at proper time or continue their normal operations in sea-worthy or air-worthy conditions as the case may be, and; (c) repairs in connection with a change of motive power e.g. from steam to electricity or vice versa, when such work cannot possibly be done without stoppage of the normal manufacturing process. Provided that urgent repairs shall not include periodical cleaning and maintenance work.		Inspector, along with the copy of the entries made. In respect of every worker mentioned in the earlier notice; (ii) No worker shall be allowed or required to work on such repairs for more than 15 hours on any one day, 39 hours during any 3 consecutive days or 66 hours during each period of seven consecutive days commencing from his first employment on such work; (iii) If the Inspector is of the opinion that any work carried on in a factory as 'urgent Repairs' is not 'urgent Repairs', the Inspector shall serve on the manager an order to that effect and the manager shall in respect of such work, not required any worker to work in contravention of the provisions of Sections 51, 52, 54, 55, 56 and shall comply with section 61 of the Act; (iv) No worker shall be required or allowed to work for a period of more than six

					hours before he has had an interval of rest or food of at least half an hour; (v) Provisions of section 53 of the Act and rules 96 of the rules, shall be complied with.
II.	All factories except those on continuous process	64(2)(b) for work in the nature of preparatory or complementary work.	(a) Maintenance work in connection with the mill gearing, the electric driving of lighting apparatus, the mechanical or electrical lifts or hoists and the steam or water pipes or pumps of the factory. (b) Departmental oilers; and (c) Workers attending to the starting, stopping and maintaining electrical motors and connected switch gears.	51, 54, 55 and 56.	(i) No worker shall be required or allowed to work on shifts of longer than 8 hours duration. (ii) Intervals for food and rest shall be given to all workers allowed to work on such work. (iii) Provisions of rule 96 shall be complied with.
III.	All factories	64(2) (c) for work in which is necessarily intermittent in nature.	(1)(a) Work performed by drivers on lighting, ventilating and humidifying apparatus. (b) Work performed by fire pumpmen and all personnel on the fire- fighting staff. (c) Telephone Operators and Telex Operators.	51, 54, 55 and 56.	(i) No worker shall be required or allowed to work on shifts of longer than 8 hours duration. (ii) Intervals for food and rest shall be given to all workers allowed to work on such work. (iii) Provisions of rule 96 shall be complied with.
IV.	All factories	64(2)(h) for work in the engine-rooms,	Workers engaged in engine rooms or boiler house,	51, 52	Provisions of Section 53 and Rules 95 and 96

		boiler-house, power plants or transmission machinery.	attending to power plant or transmission machinery or the prime movers.		shall be complied with.
V.	All factories	64(2)(j) Work of loading and unloading	Workers engaged in the loading or unloading of railway - wagons or Lorries, trucks and tankers or the loading and unloading at jetties.	51, 52, 54, 55, 56	(i) No worker shall be required or allowed to work on shifts of longer than 8 hours' duration. (ii) Intervals for food and rest shall be given to all workers allowed to work on such work. (iii) Provisions of Section 53 and Rule 96 shall be complied with.
VI.	Carbonic Acid Gas factories	64(2)(b) for work in the nature of preparatory or complementary work.	Work of fireman to light lye-boiler	51, 54, 55	(i) This exemption shall be availed of only on the day on which the plant is restarted after a closure. (ii) No worker shall be required or allowed to work on shifts of longer than 8 hours' duration. (iii) Intervals for food and rest shall be given to all workers allowed to work on such work. (iv) Provisions of Rule 96 shall be complied with.
VII.	(1) Cloth Printing factories of departments	64(2)(b) for work in the nature of preparatory or complementary work.	Work in the nature of preparatory or complementary to main operations of printing, sanforizing,	51, 54 and 56	Provisions of Rule 96 shall be complied with.

			finishing and mercerising of cloth.		
	(2) Cotton Spinning and Weaving Mills.	Do	Work involved in clearing blow room flues	Do.	Do.
	(3) Film Studios	Do	All work in the nature of preparatory or complementary work which is necessary for the shooting of films.	Do.	Do.
VIII.	Dyeing or bleaching factories or departments.	Do	Work performed by Kiermen.	51, 54, 55 and 56.	(i) No worker shall be required or allowed to work on shifts of longer than 8 hours' duration. (ii) Intervals for food and rest shall be given to all workers allowed to work on such work. (iii) Provisions of Rule 96 shall be complied with.
IX.	(1) Brick factories	64(2)(b) for work in the nature of preparatory or complementary work.	Work of Fireman on Kilns.	55	Do.
	(2) Cashew Nut Factories.	Do	Oil Extraction work	55	Do.
	(3) Cloth printing and processing factories	64(2)(d) for work work which for technical reason must be carried out continuously.	Work of cloth printing, bleaching, finishing, mercerising, raising, dyeing, singeingand sanforizing.	55	(i) No worker shall be required or allowed to work on shifts of longer than 8 hours' duration. (ii) Intervals for food and rest shall be given to all workers allowed to work on such work.
	(4) Collapsible tube manufacturing factories.	64(2)(d) for work which for technical	Work of painting, coating, drying of Collapsible tubes	55	(i) No worker shall be required or allowed to work

		reasons must be carried on continuously.	if carried on in a continuous process.		on shifts of longer than 8 hours' duration. (ii) Intervals for food and rest shall be given to all workers allowed to work on such work.
	(5) Cycle manufacturing, Automobile manufacturing and manufacture of Steel furniture.	Do	Work of painting and enambelling section and semi-automatic planting plant.	55	Do.
	(6) Enamelled wire manufacturing factories	Do	Work of enamelling of wires	55	Do.
	(7) Ferrous and Non-ferrous metal factories	Do	Work on hot rolling	55	Do.
	(8) Flour Mills	Do	All work	55	Do.
	(9) Gum Industry	Do	Work performed in connection with shifting, dehusking, grinding and packing	55	Do.
	(10) India Government Mint	Do	Melting Department including dress washing	55	Do.
	(11) Leather cloth factories	Do	Working of continuous coating of PVC drying fusing in hot air oven and embossing	55	Do.
	(12) Lime Bhatties	Do	Workers employed on Bhatties.	55	Do.
	(13) Oil Mills	Do	All continuous process work	55	Do.
	(14) Ordnance factories	Do	Work in melting shop swarfanneal in furnace gas producers, electrical sub-stations and water and electrical	55	Do.

			distribution departments.		
	(15) Pharmaceutical factories	64(2)(d) for work which for technical reasons must be carried on continuously.	All continuous process work.	55	(i) No worker shall be required or allowed to work on shifts of longer than 8 hours' duration. (ii) Intervals for food and rest shall be given to all workers allowed to work on such work.
	(16) Plastic factories	Do.	Work on plastic injection moulding machine and extrusion machine	55	Do.
	(17) Pottery works		Work of firemen on kilns.	55	Do.
	(18) Shellac factories	Do.	Workers employed on kilns.	55	Do.
	(19) Smelting and Refining factories	Do.	(1) Work on the reducing furnace. (2) All continuous process work in connection with electrolytic refining.	55	Do.
	(20) Soap factories	Do.	Work on Soap boiling pans and soap drying pans.	55	Do.
	(21) Sodium and potassium bichronate factories	Do.	All works	55	Do.
	(22) Spinning and weaving mills	Do.	Work on hot air sizing machines.	55	Do.
X	(1) Acetylene factories.	Do.	Generation of gas and filling of cylinders.	51, 52, 54, 55 and 56.	(i) No worker shall be required or allowed to work on shifts of longer than 8 hours' duration. (ii) Intervals for food and rest shall be given to all workers allowed

					to work on such work. (iii) Provisions of Rule 96 shall be complied with. (iv) Compliance with section 53 shall be made in such a way that such workers shall be allowed not less than two holidays in each period covered by four consecutive statutory holidays under section 52(1). (v) In the absence of a worker who has failed to report for duty a shift worker may be allowed to work the whole or part of the subsequent shift: Provided that the next shift of that worker shall not commence before a period of 16 hours has elapsed after the specified stopping time of the shift to which he belongs.
	(2) Carbonic acid gas works	64(2)(d) for work which for technical reasons must be carried on continuously.	Work of firemen, pumpmen, plant driver, oilers and the filling of cylinders.	51, 52, 54, 55 and 56.	Do.
	(3) Carbonic acid gas solidifcation works.	Do.	All works except packing blocks.	Do.	Do.
	(4) Cement factories and asbestos cement factories	Do.	All continuous process work	51, 52, 54, 55 and 56	Do.
	(5) Chemical factories	Do.	All continuous process work	Do.	Do.

	(6) Chemical Products factories	Do.	Process of manufacturing activated carbon	Do.	Do.
	(7) Cine-mato-graphic films processing factories	64(2) (d) for work which for technical reasons must be carried on continuously.	Work on developing and washing process	Do.	(i) No worker shall be required or allowed to work on shifts of longer than 8 hours' duration. (ii) Intervals for food and rest shall be given to all workers allowed to work on such work. (iii) Provisions of Rule 96 shall be complied with. (iv) Compliance with section 53 shall be made in such a way that such workers shall be allowed not less than two holidays in each period covered by four consecutive statutory holidays under section 52(1). (v) In the absence of a worker who has failed to report for duty a shift worker may be allowed to work the whole or part of the subsequent shift: Provided that the next shift of that worker shall not commence before a period of 16 hours has elapsed after the specified stopping time of the shift to which he belongs.
	(8) Coal gas	Do.	All work in the	Do.	Do.

	factories		resort house and on the water gas plant. Work of the male yard labour staff in unloading coal, feeding hoppers and removing coke, work on the syphons boilers, station meters and governors.		
	(9) Computer installations.	Do.	All work.	Do.	Do.
	(10) Confectionery Manufacturing Departments of factories.	64(2)(d) for work which for technical reasons must be carried on continuously.	Manufacturing of malted chocolate flavoured food and chocolate making	Do.	Do.
	(11) Crude Mineral Oil and Petrochemical Refining factories	Do	(a) All continuous process work performed by the plant operators, fire operators, Laboratory testers and analysts, maintenance and instrument personnel connected with continuous process work, dressers and sample carriers. (b) Work performed by safety operators.	51, 52, 54, 55 and 56	Do.
	(12) Dextrine manufacturing factories	Do.	All continuous process work	Do.	Do.
	(13) Distilleries	Do.	Work on the extraction of sugar from various bases, fermentation of sugarcane juice and distillation of fermented wash.	Do	Do.
	(14) Electrical accumulators charging departments of	Do.	Operations in connection with charging electrical accumulators	Do.	Do.

	factories				
	(15) Electrical receiving stations and sub-stations	Do.	Operation and maintenance of transformers and their auxilliaries including receiving and distribution, switchgear, lightening arrestors, synchronours and other condensors and rotary and static condensors.	Do.	Do.
	(16) Electronic Components Factory	Do.	Welding, lacquering and colour coding of carbon registances	Do.	Do.
	(17) Ferrous and non-ferrous metal factories	64(2)(d) for work which for technical reasons must be carried on continuously.	Hot Rolling	Do.	(i) No worker shall be required or allowed to work on shifts of longer than 8 hours' duration. (ii) Intervals for food and rest shall be given to all workers allowed to work on such work. (iii) Provisions of Rule 96 shall be complied with. (iv) Compliance with section 53 shall be made in such a way that such workers shall be allowed not less than two holidays in each period covered by four consecutive statutory holidays under section 52(1). (v) In the absence of a worker who has failed to

					report for duty a shift worker may be allowed to work the whole or part of the subsequent shift: Provided that the next shift of that worker shall not commence before a period of 16 hours has elapsed after the specified stopping time of the shift to which he belongs.
	(18) Glass factories	Do.	All continuous process work including cartoning and packing carried out in continuous chain	51, 52, 54, 55 and 56	Do.
	(19) Glycerine factories	Do.	All continuous process work	Do.	Do.
	(20) Hydraulic pumping stations	Do.	All work	Do.	Do.
	(21) Ice factories	Do.	Work of the engine and compressors, drivers and assistants and oilers.	Do.	Do.
	(22) Magnesium Chloride factories	Do.	The work on concentrating process	Do.	Do.
	(23) Milk Dairies	Do.	All work of receiving, chilling, processing of milk by pasturisation, storage, bottling and packing of milk	Do.	Do.
	(24) Oil tank installations	Do.	(a) Work performed by workers in connection with pumping operations (b) Work performed by furnancemen and firemen	Do.	Do.

			(c) Work performed by safety operators		
	(25) Oxygen factories	Do.	Work Engine and plant drivers, oilers and the filling of the cylinders	Do.	Do.
	(26) Paper, cardboard and strawboard factories	Do.	Work performed on chopper, digestor, kneeders, srainers and washers, beaters, paper making machines, pumping plants, reelers and cutters.	Do.	Do.
	(27) Pharmaceutical factories	64(2)(d) for work which for technical reasons must be carried on continuously.	All continuous process operations in chemical plant.	Do.	Do.
	(28) Phono-graph Discmanufacturing factories	Do.	Work performed in matrix Department	51, 52, 54, 55 and 56	Do.
	(29) Potassium chlorate factories	Do.	Work in the cell room	Do.	Do.
	(30) Public electricity supply factories generating electricity in any manner and those engine-rooms and boiler departments/ generating electricity in any manner.	64(2)(d) for work which for technical reasons must be carried on continuously.	Operation and maintenance of Primemover and auxiliaries, generators transformers and switchgears, also engines and boilers and their auxiliaries	Do.	(i) No worker shall be required or allowed to work on shifts of longer than 8 hours' duration. (ii) Intervals for food and rest shall be given to all workers allowed to work on such work. (iii) Provisions of Rule 96 shall be complied with. (iv) Compliance with section 53 shall be made in such a way that such workers shall be allowed not

					less than two holidays in each period covered by four consecutive statutory holidays under section 52(1). (v) In the absence of a worker who has failed to report for duty a shift worker may be allowed to work the whole or part of the subsequent shift: Provided that the next shift of that worker shall not commence before a period of 16 hours has elapsed after the specified stopping time of the shift to which he belongs.
	(31) Public pumping and compressor stations	Do	Do.	Do.	Do
	(32) Rubber Tyre and Rubber factories	Do.	All work on curing process of rubber	Do.	Do.
	(33) Silver refineries	Do.	All work	Do.	Do.
	(34) Soap factories	Do.	(a) All continuous process work in continuous soap making plant. (b) All continuous process work in synthetic detergent plants including cartoning and packing carried out in a continuous chain.	Do.	Do.
	(35) Sodium and Potassium bichromate factories	Do.	Work in furnace and crystaliser	Do.	Do.

	(36) Starch factories	Do.	All work except the Engineering Department and Workshops	Do.	Do.
	(37) Sugar factories	Do.	Operations beginning with receiving and weighment of sugarcane and ending with bagging of sugar	Do.	Do.
	(38) Vegetable Oil hydrogeneration factories	Do.	The work, viz, refining, bleaching, filtering, generation of hydrogen, hydrogenerating and deodorising processes; also compression of oxygen and the cylinder filling.	Do.	Do.
	(39) Factories having - Efflucent Treatment Plant	Do.	All continuous process work	Do.	Do.
XI.	(1) All Cotton ginning factories	64(2) (b) for work in the nature of preparatory or complementary work 64(2)(f) for work carried out during fixed seasons and section 64(2) for consequential exemption from section 61.	Work performed by Ginfitters. Mochies and Oilers.	51, 52, 54, 55, 56 and 61	All the five conditions in X(i) and (vi) Register or Muster roll required to be maintained under section 62 shall show correctly full particulars of periods within which each such worker may be required to work, entries in the register of Muster roll shall be up-to-date.
XII.	(1) Pottery Works	64(2)(d) for work of continuous nature	Work on Tunnel kilns	52 and 55	All the conditions as in VII.
XIII.	(1) Gur (Jaggery) factories	64(2)(b) for work in the nature of preparatory or complementary work and 64(2)(c) for work	All work	51, 54, 55 and 56	All the conditions as in VIM.

		which is necessarily intermittent in nature.			
XIV	(1) Newspaper Printing Presses	62(2) (i) for work in Printing of Newspaper which is held up due to break down of machinery.	(a) All work on daily/weekly News-papers.	51, 54, 55 and 56	(a) No worker shall be allowed to work for more than 56 hours in any week. (b) No overtime shall be carried on except for two days prior to the date of the publication of the weekly newspaper. (c) The exemption under this entry shall be availed of only in that section of the press where there is breakdown of machinery; and (d) Intervals for food and rest shall be given to all workers allowed to work on such work.
XIV	(1) All Factories	64(2)(k) for work notified by the State Government as work of National Importance.	Workers engaged in any work which is notified by the State Government in the Official Gazette, as work of National Importance.	51, 52, 54, 55 and 56.	All the conditions as in X(1) except condition No.(V).

[96]**[102-A. Exemption to women working in fish curing and fish canning factories -** All women working in fish curing and fish canning factories shall be exempted from the provisions of clause (b) of sub-section (1) of section 66, subject to the following conditions:-

(1) All women whose duty terminates or starts after 7.00 p.m. and before 6.00 a.m. should be provided with free conveyance from their residence to factory and back.

(2) Occupier shall provide creche and food/snacks/tea facilities for the use of women workers employed between 7.00 p.m. and 6.00 a.m.

(3) Provisions of section 54 shall be complied with.

(4) Change of shifts for such female workers shall be effected after a weekly holiday or any other holiday.

(5) Rest room and separate lockers shall be provided in the factory premises for women.

(6) Women should be placed in groups when employed between 7.00 p.m. and 6.00 a.m.

(7) No woman shall be given night duty continuously for more than one week.][96]

CHAPTER VII
Employment of Young Persons

Notice prescribed under sub-section (3) of section 72

103. Notice of periods of work for children - The notice of periods of work for child workers shall be in Form 18.

Register prescribed under sub-section (2) of section 73

104. Register of Child-Workers - The Register of child-workers shall be in Form 19. This register shall be written up afresh each year and shall be preserved for a period of twelve months.

CHAPTER VIII
Annual Leave with Wages

Rules 105-113 prescribed under section 80(3) and 82

105. Leave with Wages Register - (1) The manager shall keep a Register in Form 20 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 VIM 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.

106. Leave Book - (1) The manager shall provide each worker who has become entitled to leave during a calender year, with a book in [97][Form 20][97] (hereinafter called the Leave Book) not later than the 28th February of the following calendar year. [98][The Leave Book shall be made out separately for each worker on a thick bound sheet and shall be the property of the worker][98]; and the manager or his agent shall not demand it except to make relevant entries of dates of holidays or interruptions in service, and shall not keep in for more than a week at a time:

Provided that where a worker is discharged or dismissed from service during the course of the year, the manager shall issue an abstract from the 'Register of Leave with Wages' (Form 20) within a week from the date of discharge or dismissal, as the case may be.

(2) If a worker loses his Leave Book, the manager shall provide him with another copy on the payment of ten paise within fifteen days, and shall complete it from his record.

107. Medical Certificate - If any worker is absent from work and if he wants to avail himself of the leave with wages due to him to cover the period of illness as provided in sub-section (7) of section 79,

he shall, if so required by the manager produce a medical certificate signed by a registered medical practitioner or by a registered or recognised Vaid or Hakim, stating the cause of the absence and the period for which the worker is in the opinion of such medical practitioner, Vaid or Hakim, unable to attend to his work:

Provided that if in any village there is no registered medical practitioner or registered or recognised Vaid or Hakim, a certificate of the Sarpanch of Village Panchayat or headman of the village shall be deemed as sufficient for the purpose of this rule.

108. Notice to Inspector of lay-off - The manager shall give, as soon as possible, a notice to the Inspector of every case of lay- off of workers by agreement or contract or as permissible under the standing orders, giving the number of such workers and the reasons for the lay-off. Entries to this effect shall be made in the Leave with Wages Register and the Leave Book in respect of each worker concerned.

109. Notice by worker - Before or at the end of every calendar year a worker may give notice to the manager of his intention not to avail himself of the annual leave with wages falling due to him during the following 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.

110. Notice by Manager - The manager shall cause a notice to be displayed giving the names of all workers whose leave, which has been carried forward has reached the maximum limit allowed under the first proviso to sub-section (5) of section 79, as soon as possible in the first quarter of each calendar year, the notice shall state that no further leave can be carried forward and that application for leave shall be made with one month from the date of the notice. A copy of the notice shall be given to each worker concerned. A copy shall also be delivered at the office of the Inspector.

111. Mode of leave - (1) As far as circumstance permit, members of the same family comprising husband, wife and children shall be allowed leave on the same date.

(2) The manager may alter the dates fixed for leave only after giving a notice of four weeks to the worker.

(3) A worker may exchange the period of his leave with another worker subject to the approval of the manager.

112. Payment of leave wages due, if worker dies - If a worker, who is not entitle to advance payment in accordance with the provisions of section 81, dies before he resumes work, the balance of his pay due for the period of leave shall be paid to his nominee and failing such nominee, to his legal representative within one month of the receipt of intimation of death of the worker. The nomination shall be [99][**][99] signed by the worker and attested by two witnesses.

113. Register to be maintained in case of exemption under section 84 - (1) Where an exemption is granted under section 84, the manager shall maintain a Register showing the position of each worker as regard leave due, leave taken and wages granted.

(2) He shall display at the main entrance of the factory, a notice giving full details of the system established in the factory for leave with wages and send a copy of it to the Inspector.

(3) No alteration shall be made in the scheme approved by the State Government at the time of granting exemption under section 84 without its previous sanction.

CHAPTER IX
Special Provision

Rules prescribed under section 87

114. Dangerous operation - (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. Electrolytic plating or oxidation of metal articles by use of an electrolyte containing chromic acid 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 as defined in clause (b) of section 2 of the Petroleum Act, 1934.

8. Cleaning or smoothing of articles by a jet of sand, metal short 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. Manufacture of chromic acid or manufacture or recovery of the bicromate of sodium, potassium or ammonium.

11. Manufacture or manipulation of nitro or amino compounds.

[100][12. Handling and manipulation of corrosive substances.][100]

13. Manufacture of bangles and other articles from cinematograph film and toxic and inflammable solvents.

14. Processes involving manufacture, use or evolution of carbon disulphide and hydrogen sulphide.

15. Manufacture and manipulation of dangerous pesticides.

[101][16. Compression of oxygen and hydrogen produced by electrolytic process.][101]

[102][17. Manufacture and manipulation of asbestos.][102]

[103][18. Manufacture and manipulation of manganese and its compounds.][103]

19. Carbon-di-sulphide Plants.

20. Benzene

[104][21. Process of extracting oils wax and fats from vegetable and animal sources in Solvent Extraction Plants.][104]

22. Manufacture and manipulation of Carcinogenic Dye Intermediates.

23. Highly flammable liquids and flammable compressed Gases

24. Operations Involving High Noise Levels.

[105][25. Handling and processing of cotton.][105]

(2) The provision specified in the Schedules annexed hereto shall apply to any class or description of factories wherein dangerous operations specified in each Schedule are carried out.

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

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, as 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 person engaged in filling bottles or syphon-

(a) suitable face-guards to protect the face, neck and throat, and

(b) suitable gauntlets for both arms to protect the whole hand 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 on 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 or labelling bottles or syphon-

(a) suitable face-guards to protect the face, neck and throat, and

(b) suitable gauntles for both arms to protect the arms and at least half of the palm and the space between the thumb and forefinger.

3. Wearing of face-guards and gauntlets - All persons engaged in any of the processes specified in paragraph 2 shall, while at work in such process, wear the face-guards and gauntlets provided under the provisions of the said paragraph.

SCHEDULE II
Electrolytic plating or oxidation of metal articles by use of an electrolyte containing chromic acid or other chromium compounds.

1. Definitions - For the purpose of this Schedule-

(a) "Electrolytic chromium process" means the electrolytic plating or oxidation of metal articles by the use of an electrolyte containing chromic acid or other chromium compound.

(b) "Bath" means any vessel used for an electrolyte chromium process or for any subsequent process.

(c) "Employed" means in paragraphs 5, 7, 8 and 9 of this Schedule employed in any process involving contact with liquid from a bath.

(d) "Suspension" means suspension from employment in any process involving contact with liquid from any bath by written certificate in the Health Register, signed by the Certifying Surgeon, who shall have power of suspension as regards all persons employed in any such process.

2. Exhaust draught - An efficient exhaust draught shall be supplied to every vessel in which an electrolytic chromium 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 women, adolescent or child shall be employed or permitted to work at a bath.

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

5. Protective clothing - (1) The occupier of the factory shall provide and maintain in good and clean condition the following articles of protective clothing 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 clothing shall be worn by the persons concerned-

(a) water-proof aprons and bibs, and

(b) for persons actually working at bath, loose-fitting rubber gloves and rubber boots or other water-proof footwear.

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

6. Medical requisites - The occupier shall provide and maintain a sufficient supply of suitable ointment and impermeable water-proof plaster in a separate box readily accessible to the workers and used solely for the purpose of keeping the ointment and plaster.

[106]**[7. Medical examination -** (i) Every person employed in electrolytic chrome process shall be examined by the Medical Inspector of Factories or Certifying Surgeon within 30 days of his first employment in the said process, and if found fit, shall be granted by the Medical Inspector of Factories or Certifying Surgeon a certificate of fitness in [107][Form No. 23.][107] Thereafter, such person shall be examined by Medical Inspector of Factories or Certifying Surgeon at intervals of not more than six months:

Provided that where the Chief Inspector of Factories is of the opinion that conditions of work in the said process are unsatisfactory, he may by order in writing require the Manager of the factory to have the person employed in the said process medically examined by Medical Inspector of Factories or Certifying Surgeon at more frequent intervals.

(ii) If at any time, the Medical Inspector of Factories or Certifying Surgeon is of the opinion that any person is no longer fit for employment in the said process on the grounds that continuance therein would involve special danger to the health of such person, he shall cancel the certificate of fitness issued to him.][106]

8. Cautionary placard - A cautionary placard in the form specified by the Chief Inspector 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.

9. Weekly examination - A responsible person appointed in writing by occupier of the factory shall twice in every week inspect the hands and forearms of all per- sons employed and shall keep a record of such inspections in the Health Register.

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 material containing lead casting, pasting, lead burning, or any other work, including trimming or any other abrading or cutting of pasted plates, involving the use, movement or manipulation of, 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.

(c) "Suspension" means suspension from employment in any lead process by writing certificates in the Health Register, Form 7 signed by the Certifying Surgeon, who shall have power of suspension as regards all persons employed in any such process.

3. Prohibition relating to women and young persons - No women or young person shall be employed or permitted to work in any lead process or in any room in which the manipulation of raw oxide 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 and under such conditions as to secure effectual separation from one another and 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;

(f) The grid casting shop.

5. Air Space - In every room in which a lead process is carried on, there shall be at least 15 cubic metres of air for each person employed therein, and in computing this air space no height over 3.5 metres 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 plaster working nearest to him shall not be less than 150 centimetres.

8. Floor of work-rooms - (1) The floor of every room in which a lead process is carried on shall be-

(a) of cement or similar material so as to be smooth and impervious to water;

(b) maintained in sound condition;

(c) kept free from materials, plant, or other obstruction not required for, or produced in, the process carried on in the room.

(2) In all such rooms other than grid casting shops the floor shall be-

(d) 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 shops the floor shall be cleansed daily.

(4) Without prejudice to the requirements of sub-paragraphs (1), (2) and (3) where manipulation of raw oxide of lead or pasting is carried on, the floor shall also be-

(a) kept constantly moist while work is being done;

(b) provided with suitable and adequate arrangements for drainage;

(c) thoroughly washed daily by means of a hose pipe.

9. Work-benches - 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 worker-benches other than those in grid casting shops shall-

(c) be cleansed daily either after being thoroughly damped or by means of a suction cleaning apparatus at a time when no other work is being carried on thereat;

and, all such work, benches in grid casting shops shall-

(d) be cleansed daily;

and every work-bench used for pasting shall-

(e) be covered throughout with sheet lead or other impervious material;

(f) be provided with raised edges;

(g) be kept constantly moist while pasting is being carried on;

and every work-bench used for trimming, brushing, filing or any other abrading or cutting of pasted plates shall-

(h) be fitted with a top having opening or grill which shall allow any clippings, filling, or dust produced to fall into a collecting trough containing water.

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 lead;

(b) Manipulation of raw oxide of lead, unless done in an enclosed apparatus so as to prevent the escape of dust into the work-room;

(c) Pasting;

(d) Trimming, brushing, filing or any other abrading or cutting of pasted plates giving rise to dust;

(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 may be at its point of origin, so as to prevent it from 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 work-room, except when dross is being deposited therein.

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

14. Racks and shelves in drying room - The racks or shelves provided in any drying room shall not be more than 240 centimetres from the floor not more than 60 centimetres in width; provided that as regards racks or shelves set or drawn from both sides, the total width shall not exceed 120 centimetres.

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 examination - (a) Every person employed in a lead process shall be examined by the Certifying Surgeon within seven days preceding or following the date of his first employment in such process and thereafter shall be examined by the Certifying Surgeon once in every calendar month, or at such other intervals as may be specified in writing by the Chief Inspector, on a day of which due notice shall be given to all concerned.

"First employment" means first employment in a lead process in the factory or workshop and also re-employment therein in a lead process following any cessation of employment in such process for a period exceeding three calendar months.

(b) A Health Register in Form 7 containing the names of all persons employed in a lead process shall be kept.

(c) No person after suspension shall be employed in a lead process without written sanction from the Certifying Surgeon entered in or attached to the Health Register.

[108]**[15-A. Medical Facilities -** (1) The occupier of the factory shall appoint at least a part-time qualified medical practitioner, possessing M.B.B.S. degree and having a post-graduate Diploma in Industrial Health or possessing M.B.B.S. degree and having five years experience in industry as occupational health physician. The medical practitioner so appointed shall be required to put in minimum four hours' attendance on every working day in the ambulance room for carrying out the duties specified in the following sub-paragraph (2):

Provided that, in cases of factories employing less than 500 workers per day, the Chief Inspector of Factories may allow attendance for shorter duration after taking into consideration all the relevant facts of each case.

(2) The medical practitioner, so appointed, shall perform the following duties that is to say,-

(a) to maintain Health Register in Form 7;

(b) to undertake medical supervision of persons engaged on dangerous operations specified in rule 114 of these rules;

(c) to look after health, education and rehabilitation of sick, injured or affected workers;

(d) to carry out inspection of work rooms where dangerous operation are carried out and to advise the management in respect of the measures to be adopted for protection of health of the workers involved therein.

(3) For the purpose of medical supervision by the medical practitioner so appointed, the occupier shall provide for the former's exclusive use at the factory premises a room which shall be properly cleaned, adequately lighted, ventilated and furnished with a screen, a table and office stationery, chairs and other facilities and instruments including X-raying arrangement for Schedules IV, X, XVII for such examinations and such other equipments as may be prescribed by the Chief Inspector of Factories from time to time.][108]

16. 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 water-proof apron and water-proof footwear; and also, as regards persons employed in the manipulation of raw oxide of lead or in pasting head covering. The head coverings shall be washed daily.

17. Mess-room - There shall be provided and maintained for the use of all persons employed in a lead process and remaining on the premises during the meal intervals, a suitable mess-room, which shall be furnished with (a) sufficient tables and benches, and (b) adequate means for warming food.

The mess-room shall be placed under the charge of a responsible person and shall be kept clean.

18. Cloak-room - There shall be provided and maintained for the use of all persons employed in a lead process-

(a) a cloak-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 provide under paragraph 16.

19. Washing facilities - There shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed in a lead process-

(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 60 centimetres 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 60 centimetres; 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 a constant supply of water laid on;

(iii) a sufficient supply of clean towels made of suitable material 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 carried on if required by notice in writing from the Chief Inspector.

20. Time to be allowed for washing - Before each meal and before the end of the day's work, at least 10 minutes, in addition to the regular meal time off 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 60 centimetres of trough for each such person this rule shall not apply.

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

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

23. Storage of lead oxides - All bags containing or having contained oxides of lead shall be kept in a closed room used only for this purpose.

24. Re-use of paper or cloth restricted - (a) Paper once used for backing or drying pasted plates shall not be used again in the factory.

(b) Cloth once used for backing or drying pasted plates shall not be stored or handled unless it is moist so as not to give off dust.

SCHEDULE IV
Glass Manufactures

1. Exemption - If the Chief Inspector is satisfied in respect of any factory or any class or 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 authorise such suspension or relaxation as may be indicated in the certificate for such period and on such conditions as he may think fit.

2. Definitions - For the purpose of this Schedule-

(a) "Efficient exhaust draught" means localised ventilation effected by mechanical means, for the removal of gas, vapour, dust or fumes so as to prevent them (as far as practicable under the atmospheric conditions usually prevailing) from escaping into the air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove smoke generated at the point where such gas, vapour, fume or dust originate;

(b) "Lead Compound" means any compound of lead other than galena which, when treated in the manner described below, 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.

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 1000 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 filtrate shall then be precipitated as lead sulphide and weighed as lead sulphate;

(c) "Suspension" means suspension from employment in any process specified in paragraph 3 by written certificate in the Health Register in Form 7 signed by the Certifying Surgeon who shall have power of suspension as regards all persons employed in any such process.

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 Chief Inspector:-

(a) The mixing of raw materials to form a "bath";

(b) The dry grinding, glazing and polishing of glass or any article of glass;

(c) All processes in which hydrofluoric acid fumes or ammoniacal vapours are given off;

(d) All processes in the making of furnace moulds or "pots" including the grinding or crushing of used "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. Floor 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 floors shall be

(a) of cement or similar materials so as to be smooth and impervious to water;

(b) maintained in sound condition; and

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

The 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 cleansing 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 rooms;

(b) The floor shall be covered with guttaparcha and be tight and shall slope gently down to a covered drain;

(c) The work-places shall be so enclosed in projecting hoods that opening 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 guttaparcha.

8. Food, drinks, etc., prohibited in work-room - 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.

9. Protective clothing - [109][The occupier shall provide, maintain in good repair and keep in a clean condition for the use of all the persons employed in the processes specified in paragraph 3 above and wherever hot malten glass is handled or processed, suitable protective clothing, footwear, and safety goggles according to the nature of work, including safety headgear and such clothings, safety, footwear and helmets etc., and no person shall be required or allowed to work in such processes without adequate protective wear][109].

10. 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 60 centimetres 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 interval of not more than 60 centimetres; 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

a sufficient supply of clean towels made of suitable material renewed duly with a sufficient supply of soap or other suitable cleansing material and of nail brushes;

and

(b) a sufficient number of stand pipes with taps-the number and location of such stand pipes shall be to the satisfaction of the Chief Inspector.

11. Medical examination -(a) Every person employed in any process specified in paragraph 3 shall be examined by the Certifying Surgeon, within seven days preceding or following the date of his first employment in such process and thereafter shall be examined by the Certifying Surgeon once in every calendar month or at such other intervals as may be specified in writing by the Chief Inspector on a day of which due notice shall be given to all concerned.

(b) A Health Register in Form 7 containing the names of all persons employed in any process specified in paragraph 3 shall be kept.

(c) No person after suspension shall be employed in any process specified in paragraph 3 without written sanction from the Certifying Surgeon entered in or attached to the Health Register.

[110]**[12. Medical facilities -** (1) The occupier of the factory shall appoint at least a part-time qualified medical practitioner, possessing M.B.B.S. degree and having Post-graduate Diploma in Industrial Health or possessing M.B.B.S. Degree and having five years experience in industry as occupational health physician. The medical practitioner so appointed shall be required to put in minimum four hours' attendance on every working day in the ambulance room for carrying out the duties specified in the following sub-paragraph (2):

Provided that, in cases of factories employing less than 500 workers per day, the Chief Inspector of Factories may allow attendance for shorter duration taking into consideration all the relevant facts of each case.

(2) The medical practitioner, so appointed, shall perform the following duties that is to say:-

(a) to maintain Health Register in Form 7;

(b) to undertake medical supervision of persons engaged on dangerous operations specified in rule 114 of the rules;

(c) to look after health, education and rehabilitation of sick, injured or affected workers;

(d) to carry out inspection of work-rooms where dangerous operations are carried out and to advise the management in respect of the measures to be adopted for protection of health of the workers

involved therein.

(3) For the purpose of medical supervision by the medical practitioner so appointed, the occupier shall provide for the former's exclusive use at the factory premises a room which shall be properly cleaned, adequately lighted, ventilated and furnished with a screen, a table with office stationery, chairs and other facilities and instruments including X-ray arrangements also for Schedules X and XVII for such examinations and such other equipments as may be prescribed by the Chief Inspector of Factories from time to time.][110]

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 blended 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) "Podding" means the dressing of the surface of a revolving grindstone by the application of rod, bar of metal to such surface.

2. Exception - (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 conditions as he may specify therein, relax or suspend any of the provisions of this Schedule in respect of any factory, if owing to the special methods of work or otherwise such relaxation or suspension is practicable without danger to the health or safety 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 duct shall be kept free from obstruction and shall be provided with proper means of access for inspection and cleaning, and where practicable with a connection at the end remote from the fan to

enable the 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 a 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 register containing particulars of such examination and test shall be kept in a form approved by the Chief Inspector.

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, fat, varnish or the 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 1000 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 filtrate shall then be precipitated as lead sulphide and weighed as lead sulphate.

(b) "Efficient Exhaust Draught" means localised ventilation effected by heat or mechanical means, for the removal of gas, vapour, dust or fumes so as to prevent them (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, 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 desilversing of lead or the melting of scrap lead or zinc.

(c) The manufacture of solder or alloys containing more than ten per cent of lead.

(d) The manufacture of any oxide, carbonate, sulphate, chromate, acetate, nitrate, silicate of lead.

(e) Handling or mixing of lead tetra-ethyl.

(f) Any other operation involving the use of a lead compound.

(g) The cleaning of work-rooms where any of the operations aforesaid are carried on.

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.

5. Requirements to be observed - No person shall be employed or permitted to work in any process involving the use of lead compounds if the process is such that dust or fume from a lead compound is produced therein, or the persons employed therein are liable to be splashed with any lead compound in the course of their employment unless the provisions of paragraphs 6 to 14 are complied with.

6. Exhaust draught - Where dust, fume, gas or vapour is produced in the process, provision shall be made for removing them by means of an efficient exhaust draught so contrived as to operate on the dust, fume, gas or vapour as closely as possible to the point of origin.

7. Certificate of fitness - A person medically examined under paragraph 8 and found fit for employment shall be granted by a Certifying Surgeon a certificate of fitness in Form 23 and such certificate shall be in the custody of the manager of the factory. The certificate shall be kept readily available for inspection by any Inspector and the person granted such a certificate shall carry with him, while at work a token giving reference to such certificate.

8. Medical Examination - (1) The person so employed shall be medically examined by a Certifying Surgeon within 14 days of his first employment in such process and thereafter shall be examined by the Certifying Surgeon at intervals of not more than three months, and a record of such examinations shall be entered by the Certifying Surgeon in the special certificate of fitness granted under paragraph 7.

(2) If at any time the Certifying Surgeon is of opinion that any person is no longer fit for employment on the ground that continuance therein would involve special danger to health, he shall cancel the special certificate of fitness of that person.

(3) No person whose special certificate of fitness has been cancelled shall be employed unless the Certifying Surgeon, after re-examination again certifies him to be fit for employment.

[111]**[8-A. Medical Facilities -** (1) The occupier of the factory shall appoint at least a part-time qualified

medical practitioner, possessing M.B.B.S. degree and having a Post-graduate Diploma in Industrial Health or possessing M.B.B.S. degree and having five years experience in industry as occupational health physician. The medical practitioner, so appointed, shall be required to put in minimum four hours' attendance on every working day in the ambulance-room for carrying out the duties specified in the following sub-paragraph (2):

Provided that, in cases of factories employing less than 500 workers per day, the Chief Inspector of Factories may allow attendance for shorter duration after taking into consideration all the relevant facts of each case.

(2) The medical practitioner, so appointed, shall perform the following duties, that is to say,-

(a) to maintain Health Register in Form 7;

(b) to undertake medical supervision of persons engaged on dangerous operations specified in rule 114 of these rules;

(c) to look after health, education and rehabilitation of sick, injured or affected workers;

(d) to carry out inspection of work-rooms where dangerous operations are carried out and to advise the management of the measures to be adopted for protection of health of the workers involved therein.

(3) For the purpose of medical supervision by the medical practitioner so appointed, the occupier shall provide for the former's exclusive use at the factory premises a room which shall be properly cleaned, adequately lighted, ventilated and furnished with a screen, a table with office stationery, chairs and other facilities and instruments including X-ray arrangement for Schedules IV, X, XVII for such examinations and such other equipments as may be prescribed by the Chief Inspector of Factories from time to time.][111]

9. Food, drinks, etc. prohibited in work-room - No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any work-room in which the process is carried on and no person shall remain in any such room during intervals for meals or rest.

10. 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.

11. Cleanliness of work-room, tools, etc. - The rooms in which the persons are employed and all tools and apparatus used by them shall be kept in a clean state.

12. Washing facilities - (1) The occupier shall provide and maintain for the use of all persons employed suitable washing facilities consisting of-

(a) a trough with a smooth impervious surface fitted with a waste pipe without plug and of sufficient length to allow at least 60 centimetres 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 60 centimetres; or

(b) at least one wash basin for every ten persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of clean water;

together with, in either case, a sufficient supply of nail brushes, soap or other suitable cleansing material and clean towels.

(2) The facilities so provided shall be placed under the charge or a responsible person and shall be kept clean.

13. Mess-room or canteen - The occupier shall provide and maintain for the use of the persons employed suitable and adequate arrangements for taking their meals. The arrangements shall consist of the use of a room separate from any work-room which shall be furnished with sufficient tables and benches, and unless a canteen serving hot meals is provided, adequate means of warming food. 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.

14. Cloak-room - The occupier shall provide and maintain for the use of persons employed, suitable accommodation for clothing not worn during working hours and for the drying of wet clothing.

SCHEDULE VII
Generation of gas from dangerous petroleum as defined in clause (b) of section 2 of the Petroleum Act, 1934

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 the building in which the generation of gas from dangerous petroleum as defined in clause (b) of section 2 of the Petroleum Act, 1934, is carried on.

2. Flame traps - The plant for generation of gas from dangerous petroleum as defined in clause (b) of section 2 of the Petroleum Act, 1934, and associated piping and fittings shall be fitted with at least two efficient flame traps so designed and maintained as to prevent a flash back from any burner to the plant. One of these traps shall be fitted as close to the plant as possible. The plant and all pipes and valves shall be installed and maintained free from leaks.

3. Generating building or room - All plants for generation of gas from dangerous petroleum as defined in clause (b) of section 2 of the Petroleum Act, 1934, 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:

Provided that where the State Government is satisfied in respect of any factory that the plant for generation of gas from dangerous petroleum as defined in clause (b) of section 2 of the Petroleum Act, 1934, is on account of the special precautions adopted or contravances used for such plant, not likely to expose any persons employed in such factory to any serious risk of bodily injury, the State Government may, by notification in the Official Gazette, exempt such factory wholly or partially from the provisions of this clause for such period and on such conditions as it may specify.

4. Fire-extinguishers - An efficient means of extinguishing petrol fire shall be maintained in an easily accessible position near the plant for generation of gas from dangerous petroleum as defined in clause (b) of section 2 of the Petroleum Act, 1934.

5. Plant to be approved by the Chief Inspector - Petrol gas shall not be manufactured except in a plant for generating petrol gas the design and construction of which has been approved by the Chief Inspector.

6. Escape of petrol - Effective steps shall be taken to prevent petrol 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 building or in the vicinity thereof and a warning notice in the language understood by the majority of the workers shall be 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 in such room or building.

8. Access to petrol or container - No unauthorised person shall have access to any petrol or to a vessel containing or having actually contained petrol.

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 the generating room or 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 building.

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

[112][SCHEDULE VIII][112]

Cleaning or smoothening, 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

Blasting Regulations

1. Definitions - (1) "Blasting" means cleaning, smoothening, roughening, or removing of any part of the surface of any article by the use of an abrasive as a jet of sand, metal shot, or grit or other material, propelled by a blast of compressed air or steam.

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

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

(4) "Cleaning of castings" where done as an incidental or supplemental process in connection with the makings of metal castings, means the freeing of the casting from adherent sand or other substance and includes the removal of cores and the general smoothening of a casting where freeing is done, but does not include the freeing of castings from scale formed during annealing or heat treatment.

2. Prohibition of sand blasting - Sand or any other substance containing frees silica shall not be introduced as an abrasive into any blasting apparatus and shall not be used for blasting:

Provided that this clause shall be brought into operation after two years from the date of commencement of these Regulations.

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 clearing and repairing of the enclosure including the plants and appliances situated therein, shall be performed in a blasting enclosure. Every door, apperture and joint of blasting enclosure shall be kept closed and airtight 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 of other materials arising from blasting, and no such abrasive shall be introduced into any blasting apparatus and used for blasting until it has been to separated.

Separating apparatus shall be provided with exhaust draught arrangement to extract and remove the dust by special methods and in such manner so that it shall not escape into air of any rooms in which persons are employed:

Provided that this clause shall not apply, except in the case blasting chambers, or blasting enclosure constructed or installed before the coming into force of the Schedule, if the Chief Inspector is of the opinion that it is not reasonably practicable to provide such separating apparatus.

(4) Provisions 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 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 person 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 paragraph (4) of clause 3 shall be kept in continuous operation whenever 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 and/or chamber shall be specially inspected for detecting leakages by a competent person at least once in every week in which it is used for blasting. Every blasting enclosure, the apparatus connected therewith and the ventilating plant shall be thoroughly examined and in the case of ventilating plant, tested by a competent person at least once in every three months.

(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.

(3) Every blasting chamber, separating apparatus, and ventilation plant shall be thoroughly inspected at an interval of 6 months for detecting any defect in their efficient operations, and the defects so noticed shall be rectified forthwith.

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 his 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 unless it has thoroughly disinfected.

(3) Each protective helmet when in use shall be supplied with air at a rate of not less than six cubic feet per minute. The air supplied shall be cool and free from fumes or mist of mineral oil.

(4) Suitable gauntlets, overalls, dust-proof goggles and boots 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 gauntles and overalls 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 separating apparatus or of any apparatus or ventilating plant connected therewith of the surrounding thereof or upon any other work in connection with any blasting apparatus or with any blasting enclosure or with any apparatus or ventilating plant connected therewith so that he is exposed to the risk in inhaling dust which has arisen from blasting. All practicable measures shall be taken to prevent such inhalation. All the workers exposed to dust shall be provided with protective helmets with fresh air supply and overalls to prevent inhalation of dust.

(2) In connection with any cleaning operation referred to in regulation 5, and with the removal of dust from filtering or settling devices all practicable measures shall be taken to dispose of the dust in such a manner that it does not enter the air of any room. Vacuum cleaners shall be provided and used 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 under regulation 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 or protective wear - All helmets, gauntlets, overalls and other protective devices or clothings provided and worn for the purposes of this Schedule shall be kept in good condition and 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 measures shall be taken to prevent such inhalation. Vacuum cleaners shall 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. Prohibition relating to employment of women and young persons - (1) No woman or young person under 18 years of age shall be employed in blasting or assisting at blasting or in any blasting chamber or in the cleaning of any blasting apparatus or any blasting enclosure or any apparatus or ventilating plant connected therewith or be employed on maintenance or repair work at such apparatus, enclosure or plant.

(2) No woman or young person under 18 years of age shall be employed to work regularly within 20 feet of any blasting enclosure unless the enclosure is in a room and he or she is outside the room where he or she is effectively separated from any dust coming from the enclosure.

11. Medical examination - (1) Every person employed in blasting or assisting at blasting or in any blasting chamber or in the cleaning of any blasting apparatus or any blasting enclosure or any apparatus or ventilating plant connected therewith or be employed on maintenance or repair work at such apparatus, enclosure or plant shall be medically examined by the Medical Inspector of Factories/Certifying Surgeon within thirty days of his first employment, the record of which shall be

entered in Form No.7, and if found fit for employment in the said process; he shall be granted by the Medical Inspector of Factories/Certifying Surgeon, a certificate of fitness in Form No. 23.

(2) After the first examination, the person so examined shall be examined by the Certifying Surgeon at intervals of twelve months and a record of such examinations shall be entered by the Certifying Surgeon in Form No. 7.

(3) If at any time the Medical Inspector of Factories/Certifying Surgeon is of the opinion that the person employed in the said process shall be examined radiologically by a qualified radiologist, he may direct the occupier to arrange for such examination at his cost and then to submit the standard size chest X-Ray plate of the worker to the Medical Inspector of Factories/Certifying Surgeon.

(4) If at any time the Certifying Surgeon/Medical Inspector of Factories is of the opinion that any person is no longer fit for employment on the grounds that continuance therein would involve special danger to health, he shall cancel the special certificate of fitness in Form No. 23 of that person and record in Form No. 7.

(5) No person whose special certificate of fitness in Form No.23 has been cancelled, shall be employed or permitted to work unless the Certifying Surgeon after re-examination, again certifies him to be fit for employment in the operations.

(6) The register of the special certificates in Form No. 23 granted by the Certifying Surgeon and the record made in Form No. 7 by him shall be in the custody of the manager of the factory and shall be kept readily available for inspection by an Inspector.

12. 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 of such requirements is for any reason impracticable or inappropriate, he may, with the previous sanction of the State Government by an order in writing, exempt the said factory or class of factories from such provisions of this Schedule, to such extent and subject to such conditions and for such period as may be specified in the said order.

(2) Where an exemption has been granted under paragraph (1), a copy of the order shall be displayed on 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 notices specified in paragraph 3.

[113][2. Protective clothing - The occupier shall provide and maintain in good condition the following articles of protective clothing:-

(a) water-proof footwear leg coverings, aprons and gloves for persons employed in processes, involving contact with chrome solutions including the preparation of such solutions;.

(b) gloves, boots and chemical safety goggles for persons employed in lime yard; and

(c) protective footwear, 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 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.][113]

3. Washing facilities, mess-room and cloak-room - [114][The occupier shall provide and maintain in a clean 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 60 centimetres 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 60 centimetres; 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 materials 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.

The mess-room shall (1) be separate from any room or shed in which hides or skins are stored, treated or manipulated, (2) be separate from the cloak-room and (3) be placed under the charge of a responsible person;

[115][(d) suitable accommodation for clothing put off during working hours and separate accommodation for protective clothing and 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.][115]

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. First-aid arrangements - The occupier shall-

(a) arrange for an inspection of the hands of all persons coming into contact with chrome solutions to be made twice a week by responsible persons;

(b) provide and maintain a sufficient supply of suitable ointment and impermeable water-proof plaster in a box readily accessible to the worker and used solely for the purpose of keeping the ointment and plaster.

SCHEDULE X
Manufacture of chromic acid or manufacture or recovery of the bichromate of sodium, potassium or ammonium

1. Definitions - For the purposes of this Schedule-

(a) 'Chrome Process' means the manufacture of chromic acid or bichromate of sodium or potassium or ammonium or the manipulation, movement or other treatment or these substances in connection with their manufacture;

(b) 'Efficient exhaust draught' means localised ventilation effected by mechanical or other 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 smoke generated to the point where such gas, vapour, fumes or dust originate;

(c) 'Suspension' means suspension from employment in any of the chrome processes specified by written certificate in the Health Register in Form 7 signed by the Certifying Surgeon who shall have power of suspension as regards all persons employed in any such process.

2. Prohibition relating to women and young persons - No woman or young person shall be employed or permitted to work on any chrome process.

3. Efficient exhaust draught - The following chrome processes shall not be carried on, without the use of an efficient exhaust draught, namely:-

(a) grinding;

(b) sieving;

(c) batch mixing;

(d) concentration.

4. Separation of certain processes - The following chrome processes, namely:-

(a) grinding of raw materials and

(b) sieving of raw materials,

shall be carried on in such manner and under such conditions as to secure effectual separation from any other processes.

5. Washing facilities - Where acidification, sulphate settling or washing concentration crystallisation, centrifugation or packing is carried out, there shall be provided close to each worker's station,-

(a) wash places installed for washing hands and feet frequently in running water, and

(b) a container holding at least 500 millilitres of 10 per cent solution of sodium bisulphite or any other suitable reducing agent.

(2) There shall also be provided and maintained in a cleanly state and good repair washing accommodation under cover with a sufficient supply of soap and towels on the scale indicated below:-

At least one tap or stand pipe for every 10 employees and the tap or pipe shall be spaced not less than 120 centimetres apart.

Note: In computing the total number of taps required for the purposes of this rule, the taps or stand pipes as required under clause 5(1)(a) shall be included.

6. 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 meals time, shall be allowed for washing, to each person employed in a chromic process.

7. Flooring - The floor of every work-room shall be-

(a) of cement or similar other material so as to be smooth and impervious to water and provided with suitable gradient and drainage;

(b) maintained in sound condition and cleaned daily.

[116]**[8. Medical Facilities -** (1) The occupier of the factory shall appoint at least a part-time qualified medical practitioner, possessing M.B.B.S. degree and having Post-graduate Diploma in Industrial Health or possessing M.B.B.S. degree and having five years' experience in industry as occupational health physician. The medical practitioner, so appointed, shall examine and treat all workers, for chrome ulcerations and occupational diseases, on the premises at least thrice a week. The medical practitioner so appointed, shall be required to put in minimum four hours' attendance on every working day in the ambulance-room for carrying out the duties specified in the following sub-paragraph (2):

Provided that, in the case of factories employing less than 500 workers per day, the Chief Inspector of Factories may allow attendance for shorter duration, after taking into consideration all the relevant facts of each case.

(2) The medical practitioner, so appointed shall perform in addition to the duties specified in sub-paragraph (1), the following duties, that is to say,-

(a) to maintain Health Register in Form 7;

(b) to undertake medical supervision of persons engaged on dangerous operations specified in rule 114 of these rules;

(c) to look after health, education and rehabilitation of sick, injured or affected workers;

(d) to carry out inspection of work-rooms where dangerous operations are carried out and to advise the management of the measures to be adopted for protection of health of the workers involved therein.

(3) The occupier shall in addition appoint a person trained in First Aid who shall inspect daily the

hands and feet of all persons employed and shall keep a record of such inspection in a register maintained for the purpose in a Form approved by the Chief Inspector of Factories.

(4) The occupier shall also provide and maintain a sufficient supply of suitable antidotes, ointment and impermeable water-proof plaster in a separate box readily accessible to the workers and used solely for the purpose of keeping the antidotes, ointment and plaster.][116]

9. Protective equipment - (1) The occupier shall provide and maintain for the use of the persons employed-

(a) in grinding, sieving, or mixing raw materials, sufficient and suitable respirators (issued separately for each individual) the filtering materials of which shall be renewed daily;

(b) in roasting process, suitable footwear;

(c) in acidification, settling, concentration, crystallisation, centrifugation or packing, suitable aprons and protective coverings for hands and feet.

(2) Arrangements shall be made by the occupier for the examination and cleaning of all the protective equipment at the close of each day's work and for the repairs or renewal thereof when necessary.

10. Use of protective equipment - Every person employed in a chrome process shall make use of the protective equipment provided under rule 9.

11. Cloak-room - There shall be provided and maintained in a clean and in good repair for the use of all persons employed in any chrome process-

(a) a cloak-room for street clothing put off during working hours, including adequate arrangements for drying such clothing, when wet; such accommodation shall be separate from any mess- room;

(b) separate and suitable arrangements for the storage of protective clothing provided under paragraph 9.

12. Mess-room - (1) There shall be provided and maintained for the use of all persons remaining within the premises during the meal intervals a suitable mess-room providing accommodation of at least one square metre per head and furnished with-

(i) a sufficient number of tables and chairs or benches;

(ii) arrangements for washing utensils;

(iii) adequate means for washing food.

(2) The mess-room shall be placed under the charge of a responsible person and shall be kept clean.

13. Food, drinks, etc., prohibited in work-rooms - No food, drink, pan and supari or tobacco shall be brought or consumed by any worker in any work-room in which chrome process is carried on and no person shall remain in any such room during intervals for meals or rest.

14. Medical examination - (1) Every person employed in a chrome process, shall be examined by the Certifying Surgeon once in every calendar month or at such other intervals as may be specified in writing by the Chief Inspector on a day of which due notice shall be given to all concerned and such examination shall take place on the factory premises.

(2) A Health Register in Form 7 containing the names of all persons employed in a chrome process shall be kept.

(3) No person after suspension shall be employed in chrome process without a written sanction from the Certifying Surgeon entered in the Health Register.

15. Fencing of vessels - Every fixed vessel, whether pot, pan, vat or other structure, containing any dangerous material, and not so covered as to eliminate all reasonable risk of accidental immersion of any portion of the body of a person employed shall be fenced as follows:-

(a) Each such vessel shall, unless its edge is at least one metre above the adjoining ground or platform, be securely fenced to a height of at least 90 centimetres above such adjoining ground or platform;

(b) No plank or gang-way shall be placed across or inside any such vessel unless such plant or gang-way is-

(i) at least 45 centimetres wide, and

(ii) securely fenced on both sides, either by upper and lower rails, to a height of 90 centimetres or by other equally efficient means;

(c) If any two such vessels are near each other and the space between them clear of any surrounding brick-work or other work, is either-

(i) less than 45 centimetres in width, or

(ii) is 45 or more centimetres in width but is not securely fenced on both sides to a height of at least 90 centimetres secure barriers shall be placed so as to prevent any passage between them.

16. Cautionary notice - A cautionary notice in the form specified by the Chief Inspector 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.

17. Exemption - If in respect of any factory the Chief Inspector is satisfied that owing to the exceptional circumstances or the infrequency of the process, or for any other reason, 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 certificate in writing exempt such factory from all or any of the provisions indicated in such certificate on such conditions as he may specify therein. Such certificate may at any time be revoked by the Chief Inspector, without assigning any reasons.

SCHEDULE XI
Manufacture or manipulation of Nitro or Amino compounds

1. Application - This Schedule shall apply in respect of all factories or any part thereof in which process of manufacturing or manipulation of a nitro or amino compound (hereinafter referred to as the said manufacturing process) is carried on:

Provided that clauses 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 - (a) For the purpose of this Schedule a nitro or amino compound means a nitrated or aminated compound of aromatic hydrocarbons mentioned in Appendix 'A' or 'B' attached thereto.

(b) "Approved" means approved by the Chief Inspector.

(c) "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.

(d) "Efficient Exhaust Draught" means localised ventilation effected by mechanical means for the removal of gas, vapour, dust or fume so as to prevent them from escaping into the air 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 originate.

(e) Manipulation shall include 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 process regarding the precautions contained in the cautionary placard.

[117][3A. Instructions as regards risk - Every worker on his first employment shall be fully instructed about the properties of the chemicals he has to handle and the dangers involved in his work. He shall also be instructed about the measures required to be taken to deal with any emergency arising in the said manufacturing process.][117]

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 [118][cubic metre][118] of air space excluding any space occupied by machinery, equipment or any other article, for each person employed therein and in computing this air space no height over 4.25 metres 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, seived or blended.

7. Floor of workrooms - The floor of every work-room 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) sloping and provided with 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 [119][of stainless steel,][119] and (b) shall be washed daily with hose-pipe or cleaned by means of a suction cleaning apparatus at a time when no other work is being carried on thereat.

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 compound included under Appendix 'A' shall be thoroughly cleaned of their contents and treated with an inactivating agent before being discarded.

[120][Empty non-metallic container used for holding compounds included under Appendix 'B' shall be burnt. Residual content of the metallic container shall be burnt out.][120]

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 been emptied of such compound, thoroughly washed 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 equipment as specified in the table below:-

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 covering. The shirt or overalls shall cover the neck completely.
	(b) Rubber gloves, rubber gum boots, rubber aprons and air line 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) above.
	(d) White long-sleeved apron.

[121]**[14. Medical Facilities -** (1) The occupier of the factory shall appoint at least a part-time qualified medical practitioner, possessing M.B.B.S. degree and having Post-graduate Diploma in Industrial Health or possessing M.B.B.S. degree and having five years experience in industry as occupational health physician. The medical practitioner, so appointed, shall be required to put in minimum four hours' attendance on every working day in the ambulance room for carrying out the duties specified

in the following sub-paragraph (2):

Provided that, in cases of factories employing less than 500 workers per day, the Chief Inspector of Factories may allow attendance for shorter duration after taking into consideration all the relevant facts of each case.

(2) The medical practitioner, so appointed, shall perform the following duties that is to say,-

(a) to maintain Health Register in Form 7;

(b) to undertake medical supervision of persons engaged on dangerous operations specified in rule 114 of the rules;

(c) to look after health, education and rehabilitation of sick, injured or affected workers;

(d) to carry out inspection of work rooms where dangerous operations are carried out and to advise the management in respect of the measures to be adopted for protection of health of the workers involved therein.

(3) For the purpose of medical supervision by the medical practitioner so appointed, the occupier shall provide for his exclusive use a room in the factory premises which shall be properly cleaned, adequately lighted, ventilated and furnished with a screen, a table with office stationery, chairs and other facilities and instruments including X-ray arrangement for Schedules IV, X and XVII, for such examination and such other equipments as may be prescribed by the Chief Inspector of Factories from time to time."

15. Medical Examination - (1)(a) No person shall be employed in the said manufacturing process unless he has been examined by using appropriate tests, and found fit for the said process by the appointed doctor. Results of such examination shall be entered in a register approved by the Chief Inspector. The register shall contain the names of workers employed in the said manufacturing process 'A' and 'B' separately.

(b) The person examined in compliance with sub-paragraph (1)(a) shall be re-examined by the appointed doctor at intervals of not more than there months or at such intervals as may be directed in writing by the Chief Inspector, and records of such examination shall be entered in the register provided under the said sub- paragraph.

(c) If at any time, the appointed doctor is of opinion that any person is no longer fit for employment in the said manufacturing process on the ground that continuance thereat would involve special danger to health he shall make a record of his findings in the said register and intimate the manager in writing that the said person is unfit to work in the said manufacturing process.

(d) A person so found unfit by the appointed doctor shall be sent by the manager to the Certifying Surgeon with a report from the appointed doctor. The Certifying Surgeon after examination may suspend the said person from work in the said manufacturing process.

2(a) A person employed in the said manufacturing process shall be medically examined by a Certifying Surgeon within thirty days of his first employment in such process and if found fit for employment in the said process he shall be granted by the Certifying Surgeon a certificate of fitness in Form No. 23. The person granted such a certificate shall carry with him, while at work, a token giving reference to such certificate.

(b) After the first examination the person so examined shall be examined by the Certifying Surgeon at intervals of not more than twelve months and a record of such examination shall be entered by the Certifying Surgeon in the special certificate of fitness in Form No. 23.

(c) If at any time the Certifying Surgeon is of the opinion that any person is no longer fit for employment on the ground that continuance therein would involve special danger to health he shall cancel the special certificate of fitness in Form No. 23 of that person.

(d) No person whose special certificate of fitness in Form No. 23 has been cancelled shall be employed or permitted to work unless the Certifying Surgeon after re-examination, again certifies him to be fit for employment in the said process.

(3) The register of results of examination maintained by appointed doctor referred to in sub-paragraph (1)(a) and the special certificates in Form No. 23 granted by the Certifying Surgeon shall be in the custody of the manager of the factory and shall be kept readily available for inspection by an Inspector.

(4) No person other than the person granted a certificate of fitness in Form No. 23 by the Certifying Surgeon and carrying a token referred to in sub-paragraph (2)(a) above shall be allowed to work in any work-room in which the said manufacturing process is carried on.

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 at least one stand pipe for every five such persons having constant supply of water.

(b) 50 per cent of the stand pipes provided under item (1) 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 metres 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 is made available shall be provided on each floor.

(2) Arrangements shall be made to wash factory uniforms/clothing com-pulsorily 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 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 workrooms - No worker shall consume food, drink, pan and supari or tobacco or shall smoke in any work-room 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 clean state and in good repair for the use of the persons employed in the said manufacturing process (a) cloak room with lockers having two compartments one for street clothes and the other for factory clothes, (b) a place, separate from 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 - (1) There shall be provided and maintained for the use of all persons employed in the factory and remaining on 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 manner that hot air from the stove shall not be drawn into any work-room.

(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 - (1) Non-sparking tools shall be provided for the purpose of cleaning or repairing machinery or operating any process where vapours of betanaptht hylamine are evolved.

24. Testing of atmosphere, etc. - Amines in the atmosphere of the work-room 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 time 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 are 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 'A'
(See paragraphs 2, 10, 13 and 15)

The benzenes, toluenes, xylenes, having undergone nitration once or several times (nitrodinitro and trinitro benzene and its homologues) and their chlorinated compounds, naphthalenes, having undergone nitration once or several times, aniline and its homologues (toludine, xylidine, cumidine), anisidine, phenetidine, and their chlorinated, nitrated and alkylated compounds (dimethylanilin, toluylendiamine, phynylhydrazine, toluylhydrazine)

APPENDIX 'B'
(See paragraphs 2, 13, 15, 25 and 26)

Alphanaphthylamine.
Betanaphthylamine.
Benezidine and its salts.
Dianisidine
Tolidine
Dichlorobenzidine

APPENDIX 'C'
(See paragraph 3)
Cautionary Placard

Advice to workers-

(1) Nitro and amino compounds or aromitic 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 [122][soiled][122] 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 longhandled 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 work-room or with soiled hands. Keep food and drink away from the work-place.

(9) If you work with betanaphthylamine or benzidine or its salts, alphanaphthylamine of [123][dianisdine][123],

(a) remember that serious effects will follow after a number of years if great care is not taken to observe absolute cleanliness of body, clothes, machinery and tools,

(b) at meal time, 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.

[124][SCHEDULE XII][124]
Handling and manipulation of corrosive substances

1. Definition - For the purposes of this Schedule,-

(a) "corrosive substance" includes sulphuric acid, nitric acid, hydrochloric acid, hydrofluoric acid, carbolic acid, phosphoric acid, liquid chlorine, liquid bromine, ammonia or anhydrous liquid

ammonia, sodium hydroxide or potassium hydroxide or mixtures thereof or any other substance which the State Government may, by notification in the Official Gazette, specify to be corrosive substance;

(b) "corrosive operation" means an operation of manufacturing, storing, handling, processing, packing or using any corrosive substance in a factory.

2. Flooring - The floor of every work-room of a factory to which this Schedule applies, shall be made of impervious, corrosion and fire resistant material and shall be so constructed as to prevent collection of any corrosive substances. 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, maintain in good order and keep in a clean condition 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 suitable respirators.

(b) The protective equipment provided shall be used by every person engaged in doing any corrosive operation.

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 water at a height of 2 metres secured from a pipe of 25 mms. diameter and fitted with a quick acting valve, or safety tank having dimensions not less than 200 cms. in length 129 cms. in breadth and 60 cms. in depth full of clean water placed at the floor level or

such dimensions as are approved by the Chief Inspector of Factories, so that in case of injury to the worker by any corrosive substances, the injured part can be thoroughly flooded with water.

5. Cautionary notice - A cautionary notice in the following form printed in the language which the majority of the workers employed in the factory understand shall be affixed prominently close to the place where any of the corrosive operations is carried out and where it can be easily and conveniently read by the workers. If any worker is illiterate, effective steps shall be taken to explain carefully to him the contents of the notice so affixed:-

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Cautionary notice
Danger

Corrosive substances cause severe burns and vapours thereof may be extremely hazardous.

Use protective wears.

In case of contact, immediately flood the part affected with plenty of water for at least 15 minutes.

Get medical attention quickly.

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6. Transport - (a) Corrosive substances shall not be filled, moved or carried except in containers, and when they are to be transported, the containers shall be included in crates of sound construction and of sufficient strength.

(b) Containers having a capacity of 10 or more litres of a corrosive substance shall be placed in a receptacle or crate and then carried by more than one person at a height below the waistline unless a

suitable rubber wheeled truck is used for the purpose.

(c) Containers for corrosive substances shall be clearly labelled as such.

7. Devices for handling corrosive substances - (a) Suitable tilting or lifting devices shall be used for emptying jars or carboys and other containers or corrosive substances.

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

8. Opening of valves - Valves fitted to containers holding a corrosive substance which do not work freely shall not be forced open. They shall be opened by a worker suitably trained for the purpose.

[125]**[8-A. Prevention of splashing of corrosive substance leaking -** All flange joints on lines carrying corrosive substances under pressure shall be provided with guards to prevent splashing of corrosive substance leaking through the joints due to gasket failures on workers working nearby.][125]

9. Cleaning tanks, stills, etc. - (a) In cleaning out or removing residues from stills or other large chambers used for holding corrosive substances, wooden implements shall be used to prevent production of arseniuretted hydrogen (Arsine).

(b) Whenever it is necessary for any worker to enter confined spaces, like chambers or tanks, which were used to stock corrosive substances, while for the purpose of cleaning or other maintenance work, all possible precautions required under section 36 of the Act shall be taken to ensure the worker's safety.

(c) 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 which are likely to violently react with them or give rise to poisonous fumes or gases after an accidental mixing, eg., turpentine, carbides, metallic powders, combustible materials and cynide salts.

(b) Pumping or filling overhead tanks, receptables, vats and other containers 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 storage capacity of twenty litres or more and pipe lines, valves and fitting used for storing or carrying corrosive substances shall be examined thoroughly every year for finding out any defects; and the defects shall be removed forthwith. A register shall be maintained of every such examination made and it shall be produced before the Inspector, whenever required.

11. Fire-extinguishers - An adequate number of suitable types of fire extinguishers or other fire-fighting equipments, depending on the nature of the chemicals stored in any place in a factory, shall be placed near each such place and such fire-extinguishers or other fire-fighting equipments shall be regularly tested and refilled. Clear instructions as to how the extinguishers or other equipments should be used, printed in the language which the majority of the workers employed in such factory understand, shall be affixed near each extinguisher or other equipment. Sufficient number of workers shall be trained in fire-fighting practices.

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 infrequency of the process, or for any other reason to be recorded in writing 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 the provisions indicated in such certificate on such

conditions as he may specify therein. Such certificate may at any time be revoked by the Chief Inspector.

SCHEDULE XIII

Manufacturing of bangles and other articles from cinematograph film and toxic and inflammable solvents.

1. Definition - For the purposes of this Schedule-

(a) toxic and inflammable solvents mean-

(i) solvents like acetone, tetrachlorethane, alcohol, denatured spirit, phenol, amylacitate, butyle acetate, diacetone, alcohol and such other substances which in the opinion of the Chief Inspector are toxic and inflammable;

(ii) "bangle polish" and "bangle mixture" and such other solvents by whatever trade name they are known, used in the manufacture of bangles and other articles from cellulose films:

(b) "suspension" means suspension from employment in any process in which toxic and inflammable solvents are used, by written certificates in the Health Register signed by the Certifying Surgeon, who shall have the power of suspension as regards all persons employed in any such process;

(c) "approval" means approved by the Chief Inspector;

(d) "first employment" means first employment in any manufacturing process referred to in this Schedule and also re-employment in such manufacturing process following any cessation of employment for a continuous period of three calendar months.

2. Application - This Schedule shall apply in respect of all factories or any part thereof in which the process of manufacture of bangles and other articles from cinematograph film or from toxic and inflammable substance or from both (hereinafter referred to as the said manufacturing process) is carried on.

3. Prohibition relating to employment of women and young persons - No women or young persons shall be employed or permitted to work in any room in which any of the said manufacturing process is carried out or in any room in which toxic or inflammable substances or both are stored or treated.

4. Medical examination - (1) No person shall be employed in any of the said manufacturing processes unless he has been examined by the Certifying Surgeon within seven days preceding his first employment and certified fit for such employment.

(2) No person shall be employed in any of the said manufacturing processes unless he is re-examined by the Certifying Surgeon at least once during each calendar month or at such intervals as may be specified in writing by the Chief Inspector.

(3) The Certifying Surgeon shall examine persons employed in any of the said manufacturing processes by giving due notice to all concerned.

(4) A Health Register in Form 7 containing the names of all workers employed in any of the said manufacturing processes shall be kept.

(5) No person after suspension shall be employed without written sanction from the Certifying Surgeon entered in or attached to the Health Register.

5. Protective clothing - Protective clothing shall be provided and maintained in good repair for all workers employed in the factory and such clothing shall be worn by the workers concerned. The protective clothing shall consist of a suitable apron and if so required by the Chief Inspector a head covering provided in that behalf. The head coverings so provided shall be washed daily.

6. Ventilation - Every workroom in which cinematograph film or toxic and inflammable solvents or both are handled or manipulated or used shall be provided with inlets and outlets of adequate size so as to secure and maintain efficient ventilation in all parts of the room during working hours:

Provided that the preparation of "cylinders" from cinematograph film and toxic and inflammable solvents, cutting of such cylinders into bangles and heat treatment of the bangles shall be carried out in an open space under cover, unless specially exempted by the Chief Inspector.

7. Drying of cinematograph film - (1) Drying of cinematograph film shall not be done except under such conditions as will prevent the cinematograph film from coming into contact or proximity with any source of heat or heated surface in such a manner as would render the cinematograph film liable to be ignited or decomposed.

(2) Loose unwound cinematograph film shall be enclosed during drying in such a manner that a person in a room will be protected as far as practicable from an outburst of flame.

(3) The temperature in any part of drying enclosure for loose unwound cinematograph film other than a safety accetate film shall not at any time exceed 110°F. A thermometer shall be kept available in every room in which such drying is done.

(4) Boiling of raw film either alone or in conjunction with other chemicals or heating of bangles and other articles made of film shall be carried out in an open space.

(5) A sufficient number of buckets filled with water shall be provided near the places where bangles are subjected to heat treatment.

8. Storage of raw materials - (i) Each roll or package of cinematograph film used in any of the said manufacturing processes, shall except when required to be exposed for the purposes of the work carried on, be kept in a separate box, properly closed and constructed of metal or other approved metal.

(ii) Without prejudice to the Cinematograph Film Rules, 1948, municipal rules and other rules in force, all cinematograph films not being actually used or manipulated shall be kept in a room or chamber or similar enclosure approved by the Chief Inspector. Toxic and inflammable solvents stock shall be stored in approved place or containers.

9. Disposal of waste films - (i) All waste end scrap of cinematograph film shall be collected at frequent intervals during each day and be placed in strong metal receptacles fitted with self-closing lids and clearly marked with words "Film Waste".

(ii) No material liable to ignite spontaneously nor anything likely to ignite or decomposed cinematograph film shall be placed in the receptacle

(iii) At the end of each day's work waste and scrap films shall be either transferred to a store-room or removed from the premises.

(iv) Waste films and shavings shall be destroyed by burning in an open place under controlled conditions. They shall not be allowed to be thrown or scattered in or about the premises of the factory.

10. Prohibition of smoking - (i) No person shall be allowed to smoke in any room in which cinematograph film is manipulated, stored or used.

(ii) No open fire or light or any smoking materials or matches nor anything likely to ignite or decompose cinematograph film shall be allowed in any store-room or in any room in which cinematograph film or toxic inflammable solvents or both are stored, manipulated or used:

Provided that the Chief Inspector may permit the use of coal sigree in the heat treatment of bangles subject to such conditions as he may specify in writing.

11. Caution with regard to electrical installation - All electrical installations and fittings shall be of flame-proof type.

12. Floor of work-rooms - The floor of every work-room in which any of the said manufacturing processes are carried on shall be-

(a) of cement or similar material so as to be smooth and impervious to water;

(b) maintained in sound condition;

(c) kept free from materials, plant or other obstruction not required for, or produced in, the process carried on in the room;

(d) cleaned daily after being thoroughly sprayed with water at a time when no other work is being carried on in the room.

13. 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 any of the said manufacturing processes.

14. Washing facilities - There shall be provided and maintained in a cleanly state and in good repair for the use of all persons, 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 60 centimeters for every five such persons employed at any one time and having a constant supply of water from taps of jets above the trough at intervals of not more than 60 centimetres; 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 a constant supply of water laid on; and

(iii) a sufficient supply of clean towels made of suitable material which shall be renewed daily, which supply if so required by the Inspector, 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.

15. Facilities for bathing - The Chief Inspector may require any factory occupier to provide sufficient bath accommodation for all persons engaged in all or in any of the said manufacturing processes and also sufficient supply of soap and clean towels.

16. Cloak-room - If the Chief Inspector so requires, there shall be provided and maintained for use of persons employed in any of the said manufacturing processes-

(a) a cloak-room for clothing put off during working hours with adequate arrangement for drying the clothing, if wet;]

(b) separate and suitable arrangements for the storage of protective clothing provided under paragraph 5.

17. 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 of the said manufacturing processes is carried on.

18. Mess-room - If the Chief Inspector so requires, there shall be provided and maintained for the use of all persons employed in the factory 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 shall be placed under the charge of a responsible person and shall be kept clean.

19. Fire-fighting appliances - (1) Adequate mean of extinguishing fires having regard to the amount of celluloid present in the room at any one time shall be kept constantly provided for each work-room and store-room.

(2) The fire-fighting appliances shall be maintained in good condition and kept in a position which is easily accessible.,

20. Means of escape in case of fire - Adequate means of escape in case of fire shall be provided in every room in which cinematograph film is manipulated, used or stored and the means of escape shall not be deemed adequate unless-

(a) at least two separate exits are provided from every such room and two safe ways of escape from the building are available for all persons employed in the factory, and

(b) all doors and windows provided in connection with the means of escape are constructed to open outwards readily.

21. Cautionary notices - (i) Cautionary notices explaining the dangers to which workers are exposed due to any of the said manufacturing processes being carried shall be affixed in prominent positions in the factory where they may be easily and conveniently read by the persons employed. The said notices shall be printed in the languages understood by the majority of workers employed in the factory.

(ii) If any person employed in the factory is illiterate, effective steps shall be taken to explain carefully to such illiterate persons the contents of the notices.

22. 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 are not necessary for the protection of the persons employed in the factory, he may by a certificate in writing exempt such factory from all or any of the provisions on such conditions as he may specify therein. Such certificate may at any time be revoked by the Chief Inspector, without assigning any reasons.

SCHEDULE XIV

Processes involving manufacture, use or evolution of carbon disulphide and hydrogen sulphide

1. Definitions - For the purposes of this Schedule-

(a) (i) "breathing apparatus" means a helmet or face piece with necessary connections by means of which the person using it in a poisonous, asphyxiating or irritant atmosphere breathes ordinary air; or

(ii) any other suitable apparatus approved in writing by the Chief Inspector;

(b) "churn" means the vessel in which the prepared cellulose pulp is treated with carbon disulphide;

(c) "dumping" means the drawing off of molten sulphur from the sulphur posts in the process of manufacture of carbon disulphide;

(d) "efficient exhaust draught" means localised ventilation effected by mechanical means for the removal of gas or vapour, so as to prevent it as far as practicable from escaping into the air of any occupied room. No draught shall be deemed to be efficient if it fails to remove smoke generated at the point where such gas or vapour originates;

(e) "fume process" means any process in which carbon disulphide or hydrogen sulphide is produced, used or given off;

(f) "life belt" means a belt made of leather or other suitable material which can be securely fastened round the body with a suitable length of rope attached to it each of which is sufficiently strong to sustain the weight of a man;

(g) "suspension" means suspension from employment in any fume process by written certificate in the health register in Form 7 signed by the Certifying Surgeon, who shall have power of suspension as regards all persons employed in any such process.

2. Prohibition relating to employment of women and young persons - No women or young person shall be employed or permitted to work in any fume process or in any room in which any such process is carried on.

3. Efficient exhaust draught and supply of fresh air - (1) No churn shall be opened unless it has been previously subjected to an efficient exhaust draught so that when the churn is opened the concentration of carbon disulphide in the working room does not exceed 20 parts per million and no worker shall be allowed to introduce his head inside the churn or enter it unless the concentration of carbon disulphide fumes inside the churn is 20 parts per million or less, and unless the exhaust draught arrangement is continued so as to reduce the concentration of carbon disulphide to 20 parts per million or less so long as the worker or his head is inside the churn.

(2) Hydrogen sulphide or carbon disulphide evolved in any room where any fume process is carried on shall be removed by an efficient exhaust draught.

(3) When the ventilation apparatus normally required in connection with the process referred to in clause (2) is ineffective or is stopped for any purpose whatever work in the said room which is not carried on mechanically without the presence of any person, shall not be carried on and the worker shall be made to leave the room as soon as possible but in any case not later than 15 minutes after such an occurrence:

Provided that any person wearing a breathing apparatus may be allowed to remain in the said work-room.

Explanation - The Chief Inspector may determine what constitutes normal ventilation apparatus in any given case on the representation duly made by the manager.

(4) In a room where any process is carried on so that irritant or offensive fumes are emitted there shall be provided suitably placed inlets of sufficient area for the supply of fresh air to the room.

4. Air analysis - (1) Air analysis for the measurement of concentration of carbon disulphide and hydrogen sulphide shall be carried out every eight hours or at such intervals as may be directed by the Chief Inspector at places where fume process is carried on and the result of such analysis shall be recorded in a register specially maintained for this purpose.

(2) If the concentration of either carbon disulphide or hydrogen sulphide exceeds 20 parts per million, the manager shall report the concentration reached and the duration of such concentration to the Chief Inspector. The report shall state the reasons for such increase.

(3) On receipt of such information, the Chief Inspector may direct the manager to take such measures as he may specify in that behalf and it shall be the duty of the manager to comply with such directions.

5. Electric fittings in carbon disulphide fume process-room except the spinning room - All electric fittings in a room in which a fume process evolving carbon disulphide is carried on, other than a spinning-room, shall be of flame-proof construction and all electric conductors shall either be enclosed in metal conduits or be lead-sheathed.

6. Washing facilities - The occupier shall provide and maintain in a clean state and in good repair, for the use of all persons employed in a fume process, wash place under cover with at least one tap or stand-pipe, having a constant supply of clean water for every five such persons, the taps, or stand-pipe being spaced not less than 120 centimetres apart with a sufficient supply of soap and clean towels.

7. Protective equipment - (1) The occupier shall provide, maintain in good repair and keep in clean condition protective clothing and other equipment as specified in the table below:-

Table

Process	**Protective clothing and other equipment**
(i) Dumping	Overalls, face-shields, gloves and footwear all made of suitable material
(ii) Spinning	Suitable aprons and gloves
(iii) Process involving or likely to involve contact with viscose solution	Suitable gloves and footwear
(iv) Any other process	Protective clothing and equipment as may be directed by the .Chief Inspector by an order in writing.

(2) The occupier shall make arrangements for the examination and cleaning of all the protective equipment at the close of each day's work and for the repair or replacement thereof when necessary.

8. Use of protective equipment - Every person shall use the protective equipment provided to him under paragraph 7.

9. Storage of protective equipment - A suitable room, rooms or lockers shall be provided exclusively for the storage of all the protective equipment supplied to employees and no such equipment shall be stored at any place other than the room, rooms or lockers so provided.

10. Mess-room - (1) There shall be provided and maintained for the use of all the persons remaining within the premises during the meal intervals, a suitable mess-room providing accommodation of at least 10,000 square centimetres per head furnished with-

(a) a sufficient number of tables and chairs or benches with back rests,

(b) an arrangement for washing hands and utensils, and

(c) adequate means for warming food.

(2) The mess-room shall be kept under the charge of a responsible person and shall be kept clean.

11. Prohibition relating to smoking etc. in carbon disulphide fume process room - No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in a room in which fume process producing carbon disulphide is caused and notice in the language understood by the majority of the workers shall be posted in the factory prohibiting smoking and carrying of matches, fire or naked light or other means of producing light or spark into room:

Provided that fire, naked light or other means of producing a naked light or spark may be carried in such room only when required for the purposes of the process itself under direction of a qualified supervisor.

12. Prohibition to remain in fume process room - No person during his intervals for meal, or rest shall remain in any room wherein fume process is carried on.

13. Medical examination - (1) Every person employed in a fume process shall be examined by the Factory Medical Officer once in every six months and by the Certifying Surgeon once in every 12 months or at such other intervals as may be specified in writing by the Chief Inspector on a date or dates of which due notice shall be given to all such persons and such examination shall take place on the factory premises.

(2) Every person employed in a fume process shall present himself at the appointed time for such examination.

(3) A Health Register containing the names of all the persons employed in a fume process shall be kept in Form 7.

(4) No person, after suspension, shall be employed in a fume process without the written sanction of the Certifying Surgeon entered in the Health Register.

[126]**[13A. Medical facilities -** (1) The occupier of the factory shall appoint at least a part-time qualified medical practitioner, possessing M.B.B.S. degree and having post graduate diploma in Industrial Health or possessing M.B.B.S. degree and having five years experience in industry as occupational health physician. The medical practitioner so appointed shall be required to put in minimum four hours' attendance on every working day in the ambulance-room for carrying out the duties specified in the following sub-paragraph (2):

Provided that, in cases of factories employing less than 500 workers per day, the Chief Inspector of Factories may allow attendance for shorter duration after taking into consideration all the relevant facts of each case.

(2) The medical practitioner so appointed shall perform the following duties, that is to say,-

(a) to maintain Health Register, in Form 7;

(b) to undertake medical supervision of persons engaged on dangerous operations specified in rule 114 of these rules;

(c) to look after health, education and rehabilitation of sick, injured or affected workers;

(d) to carry out inspection of work-rooms where dangerous operations are carried out and to advise the management of the measures to be adopted for protection of health of the workers involved therein.

(3) For the purpose of medical supervision by the medical practitioner so appointed, the occupier shall provide for his exclusive use a room in the factory premises which shall be properly cleaned, adequately lighted, ventilated and furnished with a screen, a table with office stationery, chairs and other facilities and instruments including X-Ray arrangements for Schedules IV, X and XVII, for such examinations and such other equipments as may be prescribed by the Chief Inspector of Factories from time to time.

14. Breathing apparatus and measures - There shall be provided in every factory where fume process is carried on, sufficient supply of-

(a) a breathing apparatus,

(b) oxygen and suitable means of its administration, and

(c) life belts.

(2)(i) The breathing apparatus and other appliances shall-

(a) be maintained in good condition and kept in an ambulance room or in some other place so as to be readily available, and

(b) be thoroughly inspected once every month by a competent person, appointed in writing by the occupier.

(ii) A record of the condition of the breathing apparatus and other appliances shall be entered in a book provided for that purpose which shall be produced when required by an Inspector.

(3) Sufficient number of workers shall be trained and given a periodic refresher course in the use of breathing apparatus and respirators and artificial respiration so that at least 2 such trained persons would be available in each fume process room during all the working hours of the factory.

(4) Respirators shall be kept properly labelled in clean, dry, light-proof cabinets and if liable to be affected by fumes, shall be protected by suitable containers. Respirators shall be dried after use and shall be periodically disinfected.

15. Cautionary placard and Instructions - Cautionary placards in the form specified by the Chief Inspector 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 fume process regarding the health hazards connected with their duties and the best preventive measures and method to protect themselves.

16. Exemption - If in respect of any factory, department or departments, 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 in such department or departments, he may, by certificate in writing, exempt such

department or departments for 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 XV
Manufacture and manipulation of dangerous pesticides

1. Definition - For the purpose of this Schedule-

(a) "pesticides" means agents used for the purpose of destroying or arresting the growth or increase of harmful organisms;

[127][(b) "dangerous pesticides" means insecticides as defined in section 3(e) of the Insecticides Act, 1968 (46 of 1968), or any other substance declared as dangerous pesticides By the Chief Inspector of Factories in writing;][127]

(c) "suspension" means suspension from employment in any process in which dangerous pesticides is used by written certificate in the Health Register in Form 7 signed by the Certifying Surgeon, who shall be competent to suspend all persons employed in such process;

(d) "first employment" means first employment in any manufacturing process referred to in this Schedule and also re-employment in, such manufacturing process following any cessation of employment for a continuous period exceeding three calendar months;

(e) "efficient exhaust draught" means localised ventilation effected by 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 smoke generated at the point where such gas, vapour, fume or dust originates;

(f) "manipulation" includes mixing, blending, filling, emptying, packing, handling or using of a dangerous pesticide.

2. Application - This schedule shall apply in respect of all factories or any part thereof in which the process of manufacture or manipulation of a dangerous pesticide (hereinafter referred to as the said manufacturing process) is carried on.

3. Cautionary placard - A cautionary placard in the form specified in [128][Appendix][128] attached to this Schedule and printed in the language of the majority of the workers employed, shall be affixed in prominent place frequented by them in the factory where the placards can be easily and conveniently read by the workers and arrangements shall be made by the occupier to instruct periodically all workers employed in the said manufacturing process regarding the health hazards connected with it and methods to protect themselves.

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 any room in which a dangerous pesticide is stored.

5. Air space - In every room in which the said manufacturing process is carried on, there shall be at least 15 cubic metres of air space, excluding any space occupied by machinery equipment or any other article, for any person employed therein, and in computing this air space, no height over 3.5 metres shall be taken into account.

6. Prohibition of the said manufacturing process without efficient exhaust draught - The said manufacturing process shall not be carried on without the use of efficient exhaust draught when-

(a) a container holding a dangerous pesticide is emptied, or

(b) a dangerous pesticide is introduced into container, tank, hopper or machine of filled in small-sized packings, or

(c) a powder or a liquid is prepared from a dangerous pesticide, or

(d) a dangerous pesticide is blended, unless the process is completely enclosed.

7. Floor of work-room - The floor of every work-room in which the said manufacturing 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) sloping and provided with gutters for adequate drainage, and

(d) thoroughly washed daily by means of hose-pipe.

8. Work-benches - The work-benches at which a dangerous pesticides manipulated shall-

(a) have smooth surface and be of non-absorbent material, preferably of stainless steel, and

(b) be cleaned daily.

9. Waste - (a) A suitable receptacle with tightly-fitting cover shall be provided and used for depositing waste like cloth, paper or other materials soiled with a dangerous pesticide.

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

10. Empty containers used for dangerous pesticides - Such containers shall be destroyed or thoroughly cleaned of their contents and treated with an inactivating agent before being discarded.

11. Manual handling - A dangerous pesticide shall not be required or allowed to be manipulated by hand except by means of long-handled scoop.

12. Protective clothing - (1) Protective clothing shall be provided and maintained in good repair for all workers and such clothing shall be worn by the workers concerned. The protective clothing shall consist of-

(a) long pants and shirts or overalls with long sleeves and head coverings,

(b) rubber gloves, gum boots, rubber aprons, chemical safety goggles and respirators.

Where the pesticide contains oil, the rubber gloves, boots and apron shall be of synthetic rubber.

(2) Where the worker has to handle a dangerous pesticide-

(a) containing phosphorus or nicotine, the protective clothing shall be washed daily both inside and outside, and if the protective clothing mentioned in clause (a) of sub-paragraph (1) is soiled with such pesticides it shall be changed immediately; and

(b) not containing phosphorus or nicotine, the protective clothing mentioned in clause (a) of sub-paragraph (1) shall be washed frequently.

13. Medical examination - (1)(a) No person shall be employed in the said manufacturing process unless he has been examined by the Certifying Surgeon within seven days preceding his first employment and certified fit for such employment.

(b) No person shall be employed in the said manufacturing process unless he is re-examined by the Certifying Surgeon at least once in every three calendar months.

(c) The Certifying Surgeon shall examine persons employed in the said manufacturing process by giving due notice to all concerned.

(d) A Health Register in Form 7 containing the names of all workers employed in the said manufacturing process shall be kept.

(e) No person after suspension shall be employed without written sanction from the Certifying Surgeon entered in or attached to the Health Register.

(2) The Chief Inspector may order any suitable clinical test or tests to be carried out in respect of the workers employed in any factory where the said manufacturing process is carried on at such intervals as he deems fit.

[129]**[14. Medical facilities -** (1) The occupier of the factory shall appoint at least a part-time qualified medical practitioner, possessing M.B.B.S. degree and having a diploma in Industrial Health or possessing M.B.B.S. degree and having five years experience in industry as occupational health physician. The medical practitioner so appointed shall examine and, if necessary, treat on the premises of the factory all workers who handle dangerous pesticides for effects of excessive absorption at least once a week. The occupier shall make necessary arrangements to ensure quick availability of the medical practitioner, so appointed or any other qualified medical practitioner in emergency cases. The medical practitioner, so appointed, shall be required to put in minimum four hours' attendance on every working day in the ambulance room for carrying out the duties specified in the following sub-paragraph (2):

Provided that, in cases of factories employing less than 500 workers per day, the Chief Inspector of Factories may allow attendance for shorter duration after taking into consideration all the relevant facts of each case.

(2) The medical practitioner, so appointed, shall perform, in addition to the duties specified in sub-paragraph (1), the following duties, that is to say,-

(a) to maintain Health Register in Form 7;

(b) to undertake medical supervision of persons engaged on dangerous operations specified in rule 114 of these rules;

(c) to look after health, education and rehabilitation of sick, injured or affected workers;

(d) to carry out inspection of work rooms where dangerous operations are carried out and to advise the management of the measures to be adopted for protection of health of the workers involved therein.

15. 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 rest interval shall be allowed for washing to each person who has been employed in the said manufacturing process.

16. Washing and bathing facilities - (1) There shall be provided and maintained in cleanly state and in good repair for the use of all persons employed, 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 places shall have stand-pipes placed at intervals of not less than one metre.

(3) Not less than one half of the total number of washing place shall be provided with bath-rooms.

(4) Sufficient supply of clean towels made of suitable material shall be provided:

provided that such towels shall be supplied individually for each worker if so ordered by the Inspector.

(5) Sufficient supply of soap and nail brushes shall be provided.

17. Food, drinks, etc., prohibited in work-room - No food, drinks, pan, supari or tobacco shall be consumed or brought by any worker into any work-room in which the said manufacturing process is carried on.

18. Cloak-room - There shall be provided and maintained for the use of persons employed in the said manufacturing process-

(a) a cloak-room for clothing put off during working hours with adequate arrangements for drying clothing, if wet;

(b) separate and suitable arrangements for the storage of protective clothing provided under paragraph 12.

19. Mess-room - There shall be provided and maintained for the use of all persons, employed in the factory and remaining on the premises during the rest 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.

20. 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 reasons all or any of the provisions of this Schedule are not necessary to the protection of the persons employed in the factory, he may by certificate in writing exempt such factory from all or any of the provisions, on such conditions as he may specify therein. Such certificate may at any time be revoked by the Chief Inspector, after recording his reasons therefor.

[130]**[21. Manipulation not to be undertaken -** Manipulation of a pesticide other than those mentioned in clause (b) of this Schedule shall not be undertaken in any factory unless a certificate regarding its dangerous nature or otherwise is obtained from the Chief Inspector.][130]

APPENDIX I
List of dangerous Pesticides

Parathion.

Diazinon

Hexaethyl tetraphosphate
Tetraethyl pyrophosphate
Tetraethyl ditriophyrophosphate
Demeton (systex)
Schradan (OMPR)
Para-Oxon (E. 600)
Methyl Parathion
Dimefox
Sulphotepp
EPN
Nicotine or its compounds
Mercury compounds
Methyl bromide
Cyanides
Chlordane
Endrin
Aldrin
Dieldrin
Texaphene
Dinitro-o-cresol
Arsenical compounds
Cyrolite
Pentachlorophenol
Carbojuran

APPENDIX II
Cautionary Placard

1. Pesticides are generally poisonous substances.

2. Therefore in rooms where these are handled-

(a) do not chew, eat, drink or smoke; keep food or drink away from pesticides;

(b) use the protective wear supplied e.g. gloves, aprons, clothes, boots, etc.

3. Before meals or when any part of the body has come in contact with the pesticides, wash with soap and water.

4. Before leaving the factory, take a bath and change your clothing.

5. Do not use any container that has contained a pesticide as a pot for food or drink.

6. Do not handle any pesticide with bare hands; use a handled scoop.

7. Avoid spilling of any pesticide on body, floor or table.

8. Maintain scrupulous cleanliness of body and clothing and of your surroundings.

9. In case of sickness like nausea, vomiting or giddiness, inform the manager who will make necessary

arrangements for treatment.

[131][SCHEDULE XVI
Compression of oxygen and hydrogen produced by electrolytic process [132][or by steam iron process]][132]

1. Definition - For the purpose of this Schedule "compression of oxygen and hydrogen" means any process by which oxygen or hydrogen is manufactured or evolved by electrolytic process [133][or by steam iron process.]][133]

2. Application - This Schedule applies in respect of factories or any part thereof in which the process of compression of oxygen and hydrogen is carried on.

3. Situation of electrolyser plant room etc. - The room in which electrolyser plant is installed shall be separate from the plant for storing and compressing oxygen and hydrogen. The room in which electric generator and the distribution panel are installed shall not communicate with any other room in which any process is carried on.

[134][4. Testing the purity of oxygen and hydrogen - (1) The purity of oxygen and hydrogen shall be tested by a competent person at least once in every shift, at the following points:

(i) in the electrolyser room,

(ii) At the gas holder inlet, and

(iii) At the suction end of the compressor:

Provided that where the electrolyser plant is fitted with automatic recorder of purity of oxygen and hydrogen with alarm lights, the purity of the gases may be tested likewise at the suction end of the compressor only.]][134]

(2) The purity figures obtained as a result of the test shall be entered and signed by the person carrying out such test in a register, to be kept for the purpose.

5. Compression of oxygen and hydrogen prohibited in certain circumstances - Where the purity of oxygen or hydrogen as tested under paragraph 4 is found to be less than 98 per cent, the oxygen or hydrogen shall not be subjected to the process of compression.

[135][6. Provision of negative pressure switch - In addition to the limit switch, to switch off the compressor motor, to make it impossible to empty the gas holder to the point causing vacuum inside the gas holder, a sensitive negative pressure switch shall be provided in or adjacent to the suction main for hydrogen, close to the gas-holder and between the gas holder and the hydrogen compressor, to switch off the compressor motor in the event of the gas holder being emptied to the extent as to cause vacuum]][135].

7. Warning signal - The bell of any holder shall not be permitted to go within 30 centimetres of its lowest position when empty and a visual and an audible warning signal shall be fitted to the gas-holder to indicate that this limit is reached.

8. Purity of raw material - The water and caustic soda used for making lye shall be chemically pure within the pharmaceutical limits.

9. Construction of electrical connections - Electrical connections at the electrolyser cells and at the electric generator terminals shall be so constructed as to preclude the possibility of wrong

connections leading to the reversal of polarity. An automatic device shall be provided to cut off power in the event of reversal of polarity owing to wrong connections either at the switch board or at the electric generator terminals.

10. Maintenance of gas-pipes, gas holders and compressed gas storage vessels - (i) Oxygen and hydrogen gas-pipes shall be painted with distinguishing colours. In the event of leakage at the joints of hydrogen gas pipe, holder or a storage vessel or in the event of any breakdown, the pipe and storage system after repairs and reconnections carried out as per paragraph 13 of this Schedule and in accordance with the requirements of Rule 73-C of the Maharashtra Factories Rules, 1963, shall be purged of all air and gases using a suitable inert gas, before drawing in hydrogen gas.

(ii) Before drawing in hydrogen gas in any new or existing system not in use every pipe, gas-holder, compresses gas vessel in the system shall be purged of all air and gases using a suitable inert gas.

11. Electrical wiring and other sources of ignition - Wherever hydrogen gas is generated, compressed, transferred or stored all electrical wiring, apparatus and other installations shall be of flame-proof construction. All sources of ignition shall be prevented from being present in the above areas. A warning notice shall be exhibited to that effect at prominent places in the above areas.][131]

12. Removal of explosive substances - No part of the electrolyser plant and the gas-holders and compressor shall be subjected to welding, brazing, soldering or cutting until steps have been taken to remove any explosive substance from that part and it is rendered safe for such operation. After the completion of such operation no explosive substance shall be allowed to enter that part until the metal has cooled sufficiently to prevent risk of explosion.

13. Restriction of operation, repair, etc. - No work of operation, repair or maintenance shall be undertaken except under the direct supervision of a person who, by his training, experience and knowledge of the necessary precautions against risk of explosion is competent to supervise such work. No electrical generator after erection or repairs shall be switched on to the electrolyser unless it is certified by any competent person under whose direct supervision, erection or repairs are carried out to be in a safe condition and the terminals have been checked for the polarity as required by these rules.

14. Examination of the plant - Every part of the electrolyser plant and the gas-holders and compressor shall be inspected, checked and overhauled in accordance with a regular schedule maintained by the Manager complying with the instructions of the competent person mentioned in paragraph 13. Every defect noticed shall be rectified forthwith.

[136][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 manipulation of asbestos incidental thereto;

(b) all process in the manufacture of asbestos textiles including preparatory and finishing processes;

(c) making of insulation slabs or sections, composed wholly or partly of asbestos, and processes incidental thereto;

(d) making or repairing of insulating mattresses, composed wholly or partly of asbestos, and

processes incidental thereto;

(e) manufacture of asbestos cardboard and paper;

(f) manufacture of asbestos cement goods;

(g) application of asbestos by 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, figure of appliance for the collection of asbestos dust; and

(j) any other processes in which asbestos dust is given off into the work of environment.

2. Definition - For the purpose of this schedule.

(a) "asbestos" means any fibrous silicate mineral and any admixture containing actionolite, amosite, anthophyllite, thrysotile, crocidolite, tremolite or any mixture thereof, whether crude, crushed or opened;

(b) "asbestos textiles" means yarn or cloth composed of asbestos or asbestos mixed with any other material;

(c) "approved" means approved for the time being in writing by the Chief Inspector;

(d) "breathing apparatus" means a helmet or face piece with necessary connection by means of which a person using it breathes air free from dust, or any other approved apparatus;

(e) "efficient exhaust draught" means localised ventilation by mechanical means for the removal of dust so as to prevent dust from escaping into air of any place in which work is carried on. No draught shall be deemed to be efficient which fails to control dust produced at the point where such dust orginates.

(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 applied 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 on;

(f) sack cleaning machines;

(g) mixing and blending of asbestos by hand; and

(h) any other process in which dust is given off into the work environment.

(2) Exhaust ventilation equipment provided in accordance with 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 work place.

(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 systems - (1) All ventilation 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 examination and tests and the state of the plant and the repairs or alteration (if any) found to be necessary shall be kept and shall be available for inspection by an Inspector.

6. Segregation in case of certain process - Mixing or 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 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 scheme 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 work place.

(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 surfaces 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 surfaces at the work place at the end of the working shift and shall be transferred without delay to suitable receptacles. Any spillage of asbestos waste occurring during the course of the work at any time shall be removed and transferred to the receptacles maintained for the purpose without delay.

10. Breathing apparatus and protective clothing - (1) An approved breathing apparatus and protective clothing shall be provided and maintained in good conditions for use of every persons 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- strickles;

(d) in filling, beating, or levelling in the manufacture or repair of insulating mattresses, and

(e) in any other operation or circumstance 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 the 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 persons shall be employed to perform any work specified in sub-paragraph (1) for which breathing apparatus is necessary to be provided under that sub-paragraph unless he has been fully instructed in the proper use of that equipment.

(8) No breathing apparatus provided in pursuance of sub-paragraph (1) which has been worn by a person shall be worn by another persons 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 conveniently accessible position for all persons employed in operations to which this schedule applies 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 standpipes placed at intervals of not less than one metre.

(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 individually for each worker if so ordered by the Inspector.

(5) Sufficient supply of soap and nail brushes shall be provided.

13. Messroom - (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 messroom which shall be furnished with:-

(a) sufficient tables and benches with back rest, and

(b) adequate means for warming food.

(2) The messroom shall be placed under the charge of a responsible person and shall be kept clean.

14. Prohibition of employment of young persons - No young person shall be employed in any of the processes 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

peri metre of every asbestos processing area to warn all persons regarding:-

(a) hazards to health from asbestos dust.

(b) need to use appropriate protective equipment.

(c) prohibition of entry to unauthorised persons or authorised persons but without protective equipment.

(2) Such notice shall be in the language understood by the majority of the workers.

17. Air monitoring - To ensure the effectiveness of the control measures, monitoring of asbestos fibre in air shall be carried out once 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 examination - (a) No worker shall be employed in any factory on any of the processes specified in clause 1, unless he has been medically examined by the Medical Inspector of Factories/Certifying Surgeon and has been declared fit and granted a Certificate of fitness in [137][Form No. 23][137].

(b) Every worker employed on any of the aforesaid processes on the date on which the Schedule comes into force shall be radiologically examined by the qualified radiologist at the cost of the occupier and the standard size-X-ray plate shall be submitted to the Medical Inspector of Factories Certifying Surgeon for medical examination within three months of the said date.

(c) Every worker employed on any of the aforesaid processes shall be medically examined by the Medical Inspector of Factories/Certifying Surgeon at intervals of twelve months after the first medical examination conducted under sub-clauses (a) and (b). If at any time the Medical Inspector of Factories/Certifying Surgeon, is of the opinion that the person employed in the said process shall be examined radiologically by a qualified radiologist, he may direct the occupier to arrange for such examination at his cost and then to submit the standard size chest X-ray plate of the worker to the Medical Inspector of Factories/Certifying Surgeon.

(d) A worker already in employment and declared unfit by the Medical Inspector of Factories/Certifying Surgeon shall not be allowed to work on any of the processes specified in clause (1), unless he has been examined again along with standard size chest X-ray plate from a qualified radiologist at the cost of the occupier and has been certified to be fit to work on the said processes again.

(e) A worker declared to be unfit to work on any of the aforesaid processes, may be employed on such other work or process as may be considered safe and as may be advised by the Medical Inspector of Factories/Certifying Surgeon.

(f) The Medical Inspector of Factories/Certifying Surgeon may direct that a worker may be X-rayed or he may be subjected to further examination by a specialist or to any other examination clinical, pathological or otherwise or that he should undergo a specified treatment, and it shall be the responsibility of the employer (occupier and manager) to arrange for the specified examination and/or treatment and to bear all expenses thereof or in connection therewith.

(g) The Certifying Surgeon shall after each examination grant a certificate in [138][Form No. 23][138].

(h) The manager shall maintain all the certificates in a proper register or file and shall produce all the certificates before an Inspector whenever demanded.

(i) The manager shall maintain the detail of every Medical Examination in Form No. 7 and the register

shall be produced before an Inspector whenever demanded.

19. Medical facilities - (1) The occupier of the factory shall appoint at least a part-time qualified medical practitioner, possessing M.B.B.S. degree and having post-graduate diploma in Industrial Health or possessing M.B.B.S. degree and having five years' experience in Industry as occupational health physician. The medical practitioner so appointed shall be required to put in minimum four hours, attendance on every working day in the ambulance room for carrying out the duties specified in the following sub-paragraph (2):

Provided that, in case of factories employing less than 500 workers per day, the Chief Inspector of Factories may allow attendance for shorter duration after taking into consideration all the relevant facts of each case.

(2) The medical practitioner so appointed shall perform the following duties that is to say:-

(a) to maintain Health Register, in Form 7.

(b) to undertake medical supervision of persons employed in the factory.

(c) to look after health, education and rehabilitation of sick, injured or affected workers;

(d) to carry out inspection of work-rooms where dangerous operations are carried out and to advise the management of the measures to be adopted for protection of health of the workers involved therein.

(3) For the purpose of medical supervision by the medical practitioner so appointed the occupier shall be provided for his exclusive use a room in the factory premises which shall be properly cleaned, adequately lighted, ventilated and furnished with a screen, a table with office stationery, chairs and other facilities and instruments including X-ray arrangement for such examinations and such other equipments as may be prescribed by the Chief Inspector from time to time.

[139][(4) Occupier of the factory shall maintain and keep maintaining, the health records of every worker upto a minimum period of 40 years from the beginning of the employment or 15 years after retirement or cessation of employment, whichever is later.][139]

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 reasons 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 writting which he may at his discretion revoke at any time exempt such factory from all or any of such provisions subject to such donations, if any, as he may specify therein.

[140][SCHEDULE XVIII
Manufacture or Manipulation of Manganese and its Compounds

1. Definition - 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) "First Employment" means first employment in any manganese process and includes also re-employment in any manganese process following any cessation of employment for a continuous period exceeding 3 calendar months.

(c) "Manipulation" means mixing, blending, filling, emptying, grinding, sieving, drying, packing, sweeping, or otherwise handling of manganese, or a compound of manganese, or an ore mixture

containing manganese.

(d) "Efficient Exhaust Draught" 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.

2. Application - The schedule shall apply to every factory in which or in any part of which any manganese process is carried on.

3. Exemption - If in respect of any factory, the Chief Inspector is satisfied that owing to any exceptional circumstances, or infrequency of the process, or for any other reason, application of all or. any of the provisions of this schedule is not necessary for the protection of the persons employed in such factory he may by an order in writing which he may at his discretion revoke, exempt such factory from all or any of the provisions on such conditions and for such period as he may specify in the said order.

4. Isolation of process - Every manganese process which may give rise to dust, vapour or mist containing manganese, shall be carried on in a totally enclosed system or otherwise effectively isolated from other processes so that other plants and processes and other parts of the factory and persons employed on other work or process may not be affected by the same.

5. Exhaust draught - No process in which any dust, vapour or mist containing manganese is generated shall be carried out except under an efficient exhaust draught which shall be applied as near to the point of generation as practicable.

6. Medical facilities - (1) The occupier of the factory shall appoint a qualified Medical Practitioner whose appointment shall be subject to confirmation by the Chief Inspector. The qualified Medical Practitioner so appointed shall be called Appointed Doctor [Appointed Doctor shall be required to put in minimum four hours' attendance on very working day in the ambulance room for carrying out the duties specified in the following sub-paragraphs (3), (4) and (5):

Provided that, in the case of factories employing less than 500 workers per day, the Chief Inspector of Factories may allow attendance for shorter duration after taking into consideration all the relevant facts of each case.][140]

(2) The occupier shall provide for the purpose of Medical Examination a room at the factory premises for exclusive use by appointed Doctor. The room so provided shall be properly cleaned, adequately lighted, ventilated and furnished with a screen, a table (with writing materials), chairs and facilities, equipments and instruments for examination and investigation. Such facilities shall be subject to approval by the Medical Inspector of Factories.

(3) The appointed Doctor shall carry out pre-employment examination of every person intended to be employed in manganese process. All workers employed in manganese process shall be examined by the appointed Doctor at an interval not exceeding three months and records of such examinations shall be maintained in a form approved by the Chief Inspector of Factories and shall be made available to any Inspector on demand.

(4) The occupier and the appointed Doctor of the factory shall notify forthwith any case or suspected case of poisoning by manganese to the Chief Inspector of Factories and Medical Inspector of Factories.

[141][(5) In addition to the duties specified in sub- paragraphs (3) and (4), the appointed doctor shall perform the following duties, that is to say][141],-

(a) to maintain Health Register in Form 7;

(b) to undertake medical supervision of persons engaged in dangerous operations specified in rule 114 of these rules;

(c) to look after health, education and rehabilitation of sick, injured and affected workers;

(d) to carry out inspection of work-rooms where dangerous operations are carried out and to advise the management of the measures to be adopted for protection of health of the workers involved therein].

7. Medical examination - (1) Every person employed in a manganese process shall be medically examined by Medical Inspector of Factories/Certifying Surgeon within 14 days of his first employment and thereafter at intervals of not more than six months.

(2) If a person medically examined is found fit for employment on manganese process, the Medical Inspector of Factories/Certifying Surgeon shall grant a certificate of fitness in [142][Form No. 32][142] which shall be kept in the custody of the Manager of the factory. The certificate shall be readily produced by the Manager whenever required by an Inspector and the person granted such a certificate shall be provided with a token made a metal with the number of the certificate inscribed thereon and said person shall always carry said token on the person while at work.

(3) If a person is found unfit for work in any manganese process the Medical Inspector of Factories/Certifying Surgeon shall grant a certificate to that effect and such person shall not be allowed to work in any manganese process.

(4) If the Medical Inspector of Factories/Certifying Surgeon finds that any worker who had been granted a certificate of fitness at a previous medical examination is no longer fit to be employed on any manganese process, he may revoke the previous certificate and no person whose certificate of fitness has been revoked shall be allowed to work on any manganese process. The Medical Inspector of Factories/Certifying Surgeon may require such person to be produced before him for fresh medical examination after such period as he may specify in writing on the revoked certificate and in the Health Register in Form No. 7.

(5) If the Medical Inspector of Factories/Certifying Surgeon is of the opinion that person had become permanently unfit for employment on any manganese process he shall make an entry to that effect in the certificate and in the Health Register and no such person shall be allowed to work in any manganese process.

(6) If the Medical Inspector of Factories/Certifying Surgeon is of the opinion that any special expert examination or test is necessary for a proper diagnosis in a doubtful case, he may direct the manager and/or the Occupier to get the worker examined by such expert, or to get such tests carried out as may be specified by him and the Manager or the Occupier as the case may be shall comply with the direction given within a specified time and produce the report of examination or test as the case may be before the Medical Inspector of Factories/Certifying Surgeon.

(7) If the Medical Inspector of Factories/Certifying Surgeon is of the opinion that any person is not fit for employment in any manganese process but is fit to be employed on any other work he may advise the Manager or the Occupier to employ the said person on such other job as may be safe for him. The Medical Inspector of Factories/Certifying Surgeon may advise the worker to undergo such treatment as he may consider necessary.

(8) If any person has any doubt regarding the diagnosis or decision of the Medical Inspector of Factories/Certifying Surgeon, he may make an appeal to the Chief Inspector of Factories and the Chief Inspector may refer the case to the Medical Inspector of Factories or to a Medical Committee

constituted by him for this purpose of which the Medical Inspector of Factories shall be a member. The decision of the Medical Inspector or the Committee as the case may be shall be final in the matter.

8. 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 work place 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 equipments.

9. Prohibition relating to women and young persons - No women or young persons shall be employed or permitted to work in any manganese process.

10. Food, drinks prohibited in work-room - No food, drinks, 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.

11. Mess room - There shall be provided and maintained for the use of 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.

12. Washing and bathing facilities - The following washing and bathing facilities shall be provided and maintained in clean state and in good repair for the use of all persons employed in manganese process:-

(a) A wash place under cover with clean towels, soap and nail brushes and with at least one stand pipe for every ten such persons having constant supply of water.

(b) 50 per cent of the stand pipes provided under item (a) above may be located in bathroom where water shall be made available during the working hours of the factory and for one hour thereafter.

(c) Clean towels to be provided individually to each worker and supply hot water if so ordered by an Inspector.

(d) In addition to taps mentioned under item (a) one stand pipe in which warm water is made available to be provided on each floor.

13. Cloak-room - If the Chief Inspector so requires, there shall be provided and maintained for the use of persons employed in manganese process a cloak room for clothing put off during working hours with adequate arrangement for drying the clothing.

14. Cautionary placard and 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 arrangement 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 best preventive measures and methods to protect

themselves. The notices shall always be maintained in a legible condition:-

Cautionary Notice
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 equipment provided for the purpose.

7. If you get severe headaches, prolonged sleeplessness or abnormal sensations on the body, report to the Manager who would make arrangement for your examination and treatment.

SCHEDULE XIX
Carbon di-sulphide Plants

1. Application - This schedule shall apply to all electric furnaces in which carbon di-sulphide 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 lay-out shall be such that only a minimum number of workers are exposed to the risk of any fire or explosion at one time.

(b) Every electric furnace and every plant in which carbon disulphide is condensed, and 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 subjected 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 and adequately grouted 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 of seamless tube construction and shall have arrangements 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 alarm signals in the control room and simultaneously stop power supply for the furnace operation and to stop the further supply of water. The alarm system and the actuating device shall be checked every day.

4. Maintenance of charcoal level - It shall be ensured that the electrodes are kept covered with charcoal bed when the furnace is in operation.

5. Charcoal separator - An effective arrangement shall be provided 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 topped from a point between the off take pipe from the electric furnace and sulphur separator.

7. Pyrometer and manometer - (a) Each electric furnace shall be fitted with adequate number of pyrometers to indicate temperatures as near to the correct figures as practicable, at various points in the furnace. The dials for reading the temperatures shall be located in the control room.

(b) Manometers or any other suitable devices shall be provided for indicating pressure-

(i) In the off take pipe before and after the sulphur separator; and

(ii) In primary and secondary condensers.

8. Prevention of back flow of gas - (i) All piping carrying carbon di-sulphide shall be fitted with checkvalves, water-seals or some other effective devices at suitable positions so as to prevent gas from flowing back into any electric furnaces in the event of its shutdown.

(ii) Overhead storage tank or tanks of adequate capacity shall be provided to ensure supply of cooling water by direct gravity feed to the condensers in case of emergency such as power shut-down etc. at least for the duration during which it would be possible to initiate and complete the procedures for the shut- down of the furnace.

9. Inspection and maintenance of electric furnaces - (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 furnaces are opened for cleaning or dashing 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 places forming shall found corroded to the extent that safety of the furnace is endangered shall be replaced.

10. Maintenance of record - The following hourly records shall be maintained in a log book-

(i) manometer readings at the points specified in 7(b)(i) and (ii)

(ii) gas temperature indicated by pyrometers and all other vital points near the sulphur separator and primary and secondary condensors;

(iii) water temperature and flow of water through the syphon in the electrodes, provided that where there is a system for positively ensuring more than the minimum requirement of water-flow through syphon system and where an arrangement is also available for an instantaneous cut off of power wherever there is low flow of water, the provisions of the sub-clause may not apply;

(iv) primary and secondary voltages current and energy consumed.

11. Electrical apparatus, wiring and fittings - All buildings in which carbon di-sulphide is refined or stored shall be provided with electrical apparatus, wiring and fittings which shall afford adequate protection from the 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 di-sulphide 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 safe place as quickly as possible in case of an emergency. At least two independent staircases of adequate width shall be provided in every building housing the furnaces at reasonable intervals at opposite ends. These shall always be kept clear of all obstructions and so designed as to afford easy passage.

14. Warning in case of fire - There shall be adequate arrangement for giving warnings in case of fire or explosion which shall operate on electricity and in case of failure of electricity by some mechanical means.

15. Fire-fighting equipment - (a) Adequate number of suitable fire extinguishers or other fire-fighting equipment shall be kept in constant readiness for dealing with risks, involving and depending on the amount and nature of materials store.

(b) Clear instructions as to how the extinguishers or other equipment should be used printed in the language which the majority of the workers employed understand, shall be affixed to each extinguisher or other equipment and the personnel trained in their use.

16. Bulk-sulphur - (a) Open or semi-enclosed spaces for storage of bulk sulphur shall be sited with due regard to danger which may arise from sparks given off by nearby 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 be of non-combustible construction, adequately ventilated and so designed as to provide a minimum of ledges on which dust may lodge.

(c) The bulk sulphur in the enclosures shall be handled in such a manner as to minimise the formation of dust clouds and no flame, smoking or matches or other sources of ignition shall be employed during its handling.

(d) No repairs involving flames, heat or use of 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 di-sulphide is concerned, refined or stored shall be under adequate supervision at all times while the furnaces and plant are in operation.

(b) Workers in-charge of operation and maintenance of electric furnaces and the plants shall possess qualifications at least equivalent to High School Leaving Certificate Examination and shall also be 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 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 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 operatives-

(i) when operation valves or cocks controlling fluids etc.,

(ii) drawing off of molten sulphur from sulphur pots, and

(iii) handling charcoal or sulphur.

(b) Suitable respiratory protective equipment shall be provided and stored in the appropriate place for use during abnormal conditions or in an emergency.

(c) Arrangement shall be made for the proper and efficient cleaning of all such protective equipment.

21. Cloak-room - 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 clothes. The accommodation so provided shall be placed in the charge of a responsible person and shall be kept clean.

22. Unauthorised persons - Only maintenance and repair personnel, persons directly connected with the plant operation and those accompanied by authorised persons shall be admitted into the plant.

SCHEDULE XX
Benzene

1. This schedule is made to provide protection against hazards of poisoning from benzene and shall apply in respect of 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 per cent 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 vapours to the working atmosphere.

(d) "Efficient exhaust draught" means localised ventilation effected by mechanical means for the removal of gases, vapours and dusts or fumes so as to prevent them from escaping into the air of any work room. No draught shall be deemed to be efficient if it fails to remove smoke generated at the point where such gases, vapour, fumes or dusts originate.

3. Prohibition and substitution - (a) 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.

[143][(a-1) Use of benzene and substances containing benzene is prohibited in the following processes, namely:-

(i) manufacture of varnishes, paints and thinners; (ii) cleaning and degreasing operations.][143]

(b)Where suitable substitutes are available, they shall be used instead of benzene or substances containing benzene. This provisions, however, shall not apply to the processes specified in Appendix A.

(c) 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, the 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 vapours to prevent their escape into the air of the work rooms so that the concentration of benzene in the air does not exceed 25 parts per million by volume or 80 mg/m_3.

(c) Air analysis for the measurement of concentration of benzene vapours in air shall be carried out every 8 hours or at such intervals as may be directed by the Chief Inspector at places where process involving use of benzene is carried on and the result of such analysis shall be recorded in a register specially maintained for this purpose. If the concentration of benzene vapours in air as measured by air analysis, exceeds 25 parts per million by volume or 80 mg/m_3, the Manager shall forthwith report the concentration to the Chief Inspector stating the reasons for such increase.

(e) 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 the 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 materials not affected by benzene or its vapours.

(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 women or young persons shall be employed or permitted to work in any workroom involving exposure to benzene or substances containing benzene.

7. Labelling - Every container holding benzene or substances containing benzene shall have the word "Benzene" and approved danger symbols clearly visible on it shall also display information on benzene content, warning about inflamability of the chemical.

8. Improper use of Benzene -

(a) The use of benzene or substance containing benzene by workers for cleaning their hands or their work clothing shall be prohibited.

(b) Workers shall be instructed on the possible dangers arising from such misuse.

9. Prohibition of consuming food, etc., in work room - No workers shall be allowed to store or consume food or drink in the work room in which benzene or substances containing benzene are manufactured, handled or used. Smoking and chewing tobacco or pan shall be prohibited in such work room.

10. Instructions as regards risk - 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 are manufactured, handled or used.

12. Washing and bathing facilities - (i) The following washing facilities and bathing facilities shall be provided and maintained in cleanly state and in good repair for the use of all persons employed in operations which involves manufacture, handling or use of Benzene or substances containing Benzene:-

(a) A wash-place under cover with clean towels, soap and nail brushes and with at least one stand pipe for every ten persons having constant supply of water.

(b) 50 per cent of the stand pipes provided under item (a) above to be located in bathroom. Water shall be made available during the working hours of the factory and for one hour thereafter.

(c) Clean towels to be provided individually to each worker and supply of hot water if so ordered by an Inspector.

(d) In addition to taps mentioned under item (a), one stand pipe in which warm water is made

available to be provided on each floor.

(ii) Cloak room - A cloak room with lockers for each worker, having two compartments one for street-clothing and one for work- clothing, shall be provided.

(iii) Mess room - A mess room furnished with tables and benches with means for warming food shall be provided and where a canteen or other proper arrangements exist for the workers to take their meals, the requirements of mess room may be dispensed with.

13. Medical examination - (a) Every worker who is to be employed in processes involving use of benzene or substances containing benzene, shall undergo,-

(i) a thorough pre-employment medical examination including a blood test for fitness for employment by a Medical Inspector of Factories/Certifying Surgeon.

(ii) periodical medical examination including blood test and other biological tests at intervals of every 6 months by the factory medical officer with the assistance of a laboratory.

(b) Certificates of pre-employment medical examination and periodical medical examination including tests, shall be entered in a health register in Form No. 7 and Medical Inspector of Factories/Certifying Surgeon may grant Certificate in [144][Form No. 23][144], which shall be produced on demand by an Inspector.

(c) If the factory medical officer on examination at any time is of the opinion that any worker has developed signs or symptoms of benzene exposure, he shall make a record of his findings in the said register and inform the Manager in writing.

On receipt of the information from the factory medical officer, the Manager of the factory shall send the worker so found exposed, to the Medical Inspector of Factories/Certifying Surgeon who shall, after satisfying himself with the findings of the factory medical officer and conducting necessary examinations, issue orders of temporary shifting of the worker or suspension of the worker in the process.

(d) The medical examination shall be arranged by the occupier or manager of the factory and the worker so examined shall not bear any expenses for it.

[145]**[13-A. Medical facilities -** (1) The occupier of the factory shall appoint at least a part-time qualified medical practitioner, possessing M.B.B.S. degree and having a diploma in Industrial Health or possessing M.B.B.S. degree and having five years' experience in industry as occupational health physician. The medical practitioner so appointed shall be required to put in minimum four hours' attendance on every working day in the ambulance-room for carrying out the duties specified in the following sub-paragraph (2):

Provided that, in the cases factories employing less than 500 workers per day, the Chief Inspector of Factories may allow attendance for shorter duration after taking into consideration all the relevant facts of each case.

(2) In addition to the duties specified in sub-paragraph (1) the medical practitioner so appointed shall perform the following duties, that is to say,-

(a) to maintain Health Register in Form 7;

(b) to undertake medical supervision of persons engaged in dangerous operations specified in rule 114 of these rules;

(c) to look after health, education and rehabilitation of sick, injured or affected workers;

(d) to carry out inspection of work-rooms where dangerous operations are carried out and to advise the management of the measures to be adopted for protection of health of the workers involved therein].

14. Exemption - If in respect of any factory, the Chief Inspector is satisfied that owing to exceptional circumstances or infrequency of the process or for any other reason all or any of the provisions of this schedule are not necessary for the protection of employees, the State Government or subject to control of State Government the Chief Inspector may by a certificate in writing exempt such factory, from all or any of the provisions on such conditions as he may specify therein. Such certificate may at any time be revoked by Chief Inspector after recording his reason therefor.

APPENDIX- A
(Clause 3(b))

1. Production of benzene.

2. Process where benzene is used for chemical synthesis

3. Motor Spirits (used as fuel).

APPENDIX B
(Clause II)

(a) The hazards - (i) Benzene and substances containing benzene are harmful.

(ii) Prolonged or repeated breathing of benzene vapours may result in act of 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 vapours.

(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 vapours 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) Use respiratory protective equipment in places where benzene vapours 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 measures to be taken in 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 15 minutes, with clean running water and immediately secure medical attention.

(iii) In case of unusual exposure to benzene vapour call a physician immediately. Until he arrives, do the following:-

If the exposed person is conscious-

(a) Move him to fresh air in open.

(b) Lay down without a pillow and keep him quite 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 skin, lips, ear, finger, nail, beds), he should be provided with medical oxygen or oxygen carbon dioxide mixture. If needed he should be given artificial respiration.

Oxygen should be administered by trained person only.

[146][SCHEDULE XXI][146]

Process of extracting oils, wax and fats from vegetable and animal sources in Solvent Extraction Plants

1. Application - This Schedule shall apply to factories in which the process of extraction of oil, wax and fats from oil-cakes, oil-seeds or any other material from vegetable and animal source is carried out in Solvent Extraction Plants.

2. Definition - In this Schedule, unless the context otherwise requires,-

(a) 'Competent Person' means a person who-

(i) is at least a member or associate member of the Mechanical or Chemical Engineering Branch of the Institute of Engineers (India), or

(ii) is a member or associate member of the Indian Institute of Chemical Engineers, or

(iii) is a graduate of a statutory University in Chemical Engineering, and

(iv) possess a minimum ten years' experience of design or construction of flammable process plants specially the Solvent Extraction Plants.

Provided that the State Government or Chief Inspector of Factories, subject to control of the State Government, may accept any other person as a Competent Person, if it or he is satisfied regarding suitability of qualifications and experience of that person.

(b) 'Plant' means the Solvent Extraction Plants;

(c)'Preparatory Process' means the operations involving the equipment used for the preparation of the material for solvent extraction;

(d) 'Solvent' means an inflammable liquid such as pentane, hexane, heptabe, mineral turpentine and the like.

(e) 'Solvent Extraction Plant' means any plant in which the process of extraction of oil, wax or fats from oil-cakes, oil seeds or any other material from vegetable and animal sources, by the use of solvents is carried on and includes the plant for recovery of the solvent.

3. Location and Lay-out - (1) No plant shall be permitted within a distance of 30 metres from any residential locality or site for public utility.

(2) The plant shall not be put into commission unless it is certified by a Competent Person that the plant, machinery and its other equipment are designed, fabricated and erected according to the best know practices pertaining to the process and the said certificate is submitted to the Chief Inspector, at least one month before the commissioning of the plant.

(3) A 1.5 metres high continuous" wire fencing shall be provided around the plant, upto a minimum distance of 15 metres from the plants.

(4) Boiler Houses and other buildings where open flame processes are carried on shall be located at least 30 metres away from the plant.

(5) If godowns and buildings where preparatory processes are carried on are located at a distance of less than 30 metres from the plant, these shall be located at least 15 metres away from the plant, and 1.5 metres high continuous barrier wall of non-combustible materials shall be erected at a distance of not less than 15 metres from the plant so that it extends to at least 30 metres of vapour travel around its ends from the plant to the possible sources of ignition:

Provided that, the existing units may be exempted from any of the provisions of this paragraph on such conditions as the State Government may deem fit.

4. Electrical Installations - (1) All electrical meters, wirings and other electrical equipments installed or housed in the plant shall be of the flame-proof constructions.

(2) 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 equipments not required to be energised shall be properly bounded together and connected to earth so as to avoid accidental rise in the electrical potential of such parts above the earth potential.

5. Prohibition relating to smoking - Smoking or carrying any source of ignition shall be strictly prohibited within a distance of 30 metres from the plant. For this purpose 'NO SMOKING' signs shall be permanently displayed in the area of the plant.

6. Precautions against friction - (1) All the hand-tools required to be used in the plant shall be of non-sparking type.

(2) No machinery or equipment of the plant shall be belt driven:

Provided that, the plants existing prior to the date of commencement of these rules may continue with belt drives if the belts are of anti-static type and, in the opinion of a Competent Person, a proper earthing arrangement is made.

(3) No person shall be allowed to enter and work in the plant if he is wearing clothes made of nylon or such other fibres which can generate static electrical charge, or if he is wearing footwear which is likely to cause sparks by friction.

7. Fire-fighting apparatus - (1) Adequate number of portable fire extinguishers suitable for use against flammable liquid shall be provided in the plant.

(2) An automatic water spray sprinkler system on a wet-pipe or openhead defuge system with sufficient supply of storage water shall be provided over the plant area throughout the building in which the plant is housed.

(3) This requirement shall be in addition to the requirements under any other provisions of the Maharashtra Factories Rules, 1963, regarding fire fighting apparatus and water supply.

8. Precautions against power failure - Provisions shall be made for automatic cutting off of steam in the event of power failure and also for emergency over-head water supply for feeding water by gravity to condensors for at least half an hour which shall come into the play automatically with the power failure.

9. Magnetic Separators - Oil cake shall be fed to the extractor by conveyor through a hopper, and magnetic separator shall be provided to remove any pieces of iron during its transfer.

10. Venting - (1) Tanks containing solvents shall be projected with emergency venting to relieve excessive internal pressure in the event of fire.

(2) All emergency relief vents shall terminate at least 6 metres above the ground and be so located that vapours will be directed away from the plant.

11. Waste Water - Process waste water shall be passed through flash evaporator to remove any solvent before it is discharged into a sump which shall be located within the fenced area but shall not be closer than eight metres to such fence.

12. Ventilation - The shed for the plant shall have adequate natural ventilation and if it is housed in building having ventilation which in the opinion of the Inspector, is inadequate, at least six air changes per hour shall be ensured by mechanical means.

13. House Keeping - (1) Solvent shall not be stored in an area covered by the plant except in quantities not exceeding 5 litres, which shall be stored in suitable safety cans.

(2) Waste materials such as oily rag, other waste and absorbents used to wipe off solvents, oil and grease in the plant shall be deposited in suitable containers and removed from the premises at least once a day.

(3) Premises where the Solvent Extraction Process is carried on and the outer area within 15 metres from it shall be kept free from any combustible materials and any spills of oils or solvent shall be cleared up immediately.

14. Examination and repairs - (1) (a)The Plant shall be examined by the Competent Person to

determine any weakness or corrosion and wear, once in every twelve months. The Competent Person shall then furnish a report of such examination to the Inspector, with his recommendations as to whether the plant is in safe condition to work and the measures, if any, which in his opinion are necessary to be taken and the time by which such measures shall be taken, so as to ensure that the plant and equipment can be used without any danger to the workers, in the factory.

(b) If any defects which are causing or likely to cause imminent danger to the life or safety of the workers working on such plant are found by the Competent Person, the Competent Person shall immediately submit a report to that effect to the Inspector and Chief Inspector of Factories, stating therein the measures which, in his opinion, are necessary to ensure safety to the workers. When the necessary repairs are carried out, a copy of certificate by Competent Person that the plant has been repaired to his satisfaction shall be forwarded to the Inspector.

(2) The plant shall be pured with inert gas or steam before opening for cleaning or repairs and before introducing solvent after repairs.

15. Operating Personnel - (1) The plant shall be under an overall supervision of a qualified person who shall at least be a graduate of a statutory University of Chemical Engineering or Technology with specialised knowledge of oils and fats with minimum 5 years experience in Solvent or Flammable process plants.

(2) The plant, machinery or equipment shall be in the charge of operators who have been trained and made thoroughly conversant to operate the plant so certified by the qualified person referred to Clause (1).

16. Employment of young persons - No women or young persons shall be employed in the plant.

17. Vapour Detection - A flame-proof and portable combustible gas indicator or any other type of gas indicator as the Chief Inspector of Factories, may, subject to the control of the State Government, approve as safe and suitable for the purpose, shall be provided and maintained in good working order. A schedule of routine sampling of atmosphere at various location as approved by the Competent Person shall be drawn out and entered in a register maintained for the purpose.

18. Additional Provisions for batch-extractors - The following further provisions shall apply to cater type extractor, namely-

(a) When the Solvent is removed from batch extractor by vacuum, vacuum gauges shall be provided and tests shall be carried out to ensure that a minimum vacuum of 650 mm. (26") mercury is obtained and maintained steadily for a minimum period of 30 minutes before the extractor is allowed to be opened for discharged of cake or for persons to enter.

(b) When, on opening the doors of a batch extractor, the extracted meal cannot be dislodged from the extractor freely, the doors shall be closed and the material reheated till the meal dislodges freely from the extractor.

(c) Where Solvent is removed by steam heating, the presence of the Solvent shall be tested at the vent provided on the top of the vessel before opening the vessel.

(d) A log-book of operations with the following particulars shall be maintained and made available on demand to the Inspector: -

(i) Vacuum gauge reading for each charge;

(ii) testing of continuity of electrical bonding and earthing system.

(iii) loss of solvent every 24 hours or loss per tonne of raw materials used.

19. Exemption - If, in respect of any plant, the Chief Inspector is satisfied that owing to exceptional circumstances or for any other reasons, all or any of the provisions of this Schedule are not necessary for the protection of the persons employed in the plant, he may by a certificate in writing exempt such factories from all or any of the provisions on such conditions as he may specify therein. Such certificates may at any time be revoked by the Chief Inspector without assigning any reason.

[147][SCHEDULE XXII
Manufacture or Manipulation of Carcinogenic Dye Intermediates.

1. Application - This Schedule shall apply in respect of all factories or any part thereof where processes in which the prohibited substances and controlled substances mentioned in paragraphs 3 and 4 respectively, are used, handled, manufactured, formed or died, and the processes incidental thereto in the course of which these substances are formed, are carried on. The processes indicated in this paragraph shall hereinafter be referred to as "the said processes", and such a reference shall mean any or all the processes described in this paragraph.

2. Definitions - For the purposes of this Schedule unless the context otherwise requires,-

(a) "Controlled Substances" means chemical substances mentioned in paragraph 4 of this Schedule;

(b) "Efficient Exhaust Draught" means localised ventilation effected by mechanical means for the removal of gas, vapour, dust or fume so as to prevent them from escaping into the air of any place in which work is carried on. No draught shall be deemed to be efficient which fails to remove smoke generated at the point where such gas, vapour, fume or dust originate;

(c) "First Employment" means first employment in the said processes and also re-employment in such processes following any cessation of employment for a continuous period exceeding three calendar months;

(d) "Prohibited Substances" means chemical substances mentioned in paragraph 3 of this Schedule.

3. Prohibited substances - For the purpose of this Schedule, the following chemical substances shall be classified as "prohibited substances" except when these substances are present or are formed as a by-product of a chemical reaction in a total concentration not exceeding one per cent:-

(a) Beta-naphthylamine and its salts;

(b) Benzidine and its salts;

(c) 4-amine diphenyl and its salts;

(d) 4-nitro diphenyl and its salts; and

(e) any substance containing any of these compounds.

4. Controlled substances - For the purpose of this Schedule the following chemical substances shall be classified as "controlled substances", namely:-

(a) Alpha-naphthylamine or alphanaphthylamine containing not more than one per cent of betanaphthylamine either as a by- product of chemical reaction or otherwise and its salts;

(b) Ortho-tolidine and its salts;

(c) Dianisidine and its salts;

(d) Dichlorobenzidine and its salts;

(e) Auramine;

(f) Magenta.

5. Prohibition of employment - No person shall be employed in the said processes in any factory in which any prohibited substance is used, handled, manufactured, processed or formed unless the process is duly certified and exempted by the Chief Inspector under paragraph 26.

6. Requirements for processing or handling controlled substances - (1) Wherever any of the controlled substances are formed, manufactured, processed, handled or used, all necessary steps shall be taken to prevent inhalation, ingestion or absorption of the said controlled substance by the workers while engaged in processing that substance, and its storage or transport within the plant, or in cleaning or maintenance of the concerned equipment, plant, machinery and storage area.

(2) All operations shall be carried out in a totally enclosed system. Wherever such enclosure is not possible, efficient exhaust draught shall be applied at the point where the controlled substances are likely to escape into the atmosphere during the process.

(3) The controlled substances shall be received in the factory in tightly closed containers and shall be so kept except when these substances are used, handled or manipulated. The controlled substances shall leave the factory only in tightly closed containers approved by the inspector to be safe for carrying the controlled substances. All the containers shall be clearly labelled to indicate the contents.

7. Efficient exhaust draught - Unless the manufacturing process is completely enclosed so as not to dust or fume it shall be carried on without the use of an efficient exhaust draught when any controlled substance,-

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

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

8. Personal protective equipment - (1) The following items of personal protective equipment shall be provided and issued to every worker employed in the said processes, namely:-

(a) Long trousers and shirts or overalls with full sleeves and head coverings. The shirt or coverall shall over the neck completely.

(b) Rubber gum-boots.

(2) The following items of personal protective equipment shall be provided in sufficient numbers for use by workers employed in the said processes, namely:-

(a) Rubber hand-gloves,

(b) Rubber-aprons,

(c) Airline respirators or other equivalent respiratory protective equipment.

(3) It shall be the responsibility of the manager to maintain all items of personal protective

equipment in a clean and hygienic condition and in good state of repair.

9. Prohibition relating to employment of women and young persons - No woman or young persons shall be employed or permitted to work in any room in which the said processes are carried on.

10. Floors of work room - The floor of every work room in which the said processes are carried on shall be:

(a) smooth and impervious to water without using asphalt or tar in the composition of the floor,

(b) maintained in a good state of repair,

(c) with a suitable slope for easy draining and provided with gutters, and

(d) thoroughly washed daily with the drain water being led into a sewer through a closed channel.

11. Disposal of empty container - (1) Empty containers used for holding or storing controlled substances shall be thoroughly cleaned of their contents and treated with an inactivating agent before being discarded.

(2) Empty non-metallic containers used for holding controlled substances shall be burnt.

12. Manual handling - Controlled substances shall not be allowed to be mixed, filled, emptied or handled except by means of a scoop with a handle. Such scoop shall be thoroughly cleaned daily.

13. Instructions regarding risk - Every worker on his first employment in the said processes shall be fully instructed on the properties of the toxic chemicals to which he is likely to be exposed and of the dangers involved and the precautions to be taken. Workers shall also be instructed on the measures to be taken to deal with an emergency.

14. Cautionary placards - Cautionary placards in the form specified in the Appendix to this Schedule and printed in the language of the majority of the workers employed in the said processes shall be affixed in prominent places frequented by them in the factory, where the placards can be easily and conveniently read. Arrangements shall be made by the manager to instruct periodically all such workers regarding the precautions contained in the cautionary placards.

15. Medical examinations - (1) Every worker employed in the said processes shall be examined by a Medical Inspector of Factories or a Certifying Surgeon within 14 days of his first employment. Such examination shall include tests which the Medical Inspector of Factories or Certifying Surgeon may consider appropriate and shall include exfoliative cytology of the urine. No worker shall be allowed to work after 14 days of his first employment in the factory unless certified fit for such employment by the Medical Inspector of Factories or Certifying Surgeon.

(2) Every worker employed in the said processes shall be re- examined by a Medical Inspector of Factories or Certifying Surgeon at least once in every six calendar months. Such examination shall include tests which the Medical Inspector of Factories or Certifying Surgeon may consider appropriate but shall include exfoliative cytology of the urine.

(3) A person medically examined under sub-paragraph (1) shall be granted by the Medical Inspector of Factories or Certifying Surgeon a certificate of fitness in Form No. 23. Record of each re-examination carried out under sub-paragraph (2) shall be entered in the certificate. The Certificates shall be kept in the custody of the manager of the factory.

(4) The record of each examination carried out as referred to in sub-paragraphs (1) and (2) including

the nature and the results of the tests shall be entered by the Medical Inspector of Factories or Certifying Surgeon in a health register in Form No. 7.

(5) The certificates of fitness and the health register shall be kept readily available for inspection by any Inspector.

(6) If at any time the Medical Inspector of Factories or Certifying Surgeon is of the opinion that a person is no longer fit for employment in the said processes or in any other work on the ground that continuance therein would involve damage to his health, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in these documents shall also include the period for which he considers that the said person is unfit for work in the said processes or in any other work, as the case may be.

(7) No person who has been found unfit to work as said in sub- paragraph (6) shall be re-employed or permitted to work unless the Medical Inspector of Factories or Certifying Surgeon, after further examination, again certifies him to be fit for employment.

(8) No worker shall be required to pay the charges or fees for the medical examination, re-examination or tests required to be done under this paragraph. Such charges or fees shall be paid by the occupier of the factory.

16. Medical facilities - (1) The occupier of the factory shall appoint a qualified medical practitioner whose appointment shall be subject to confirmation by the Chief Inspector. The qualified medical practitioner so appointed shall be known as the appointed doctor.

(2) The occupier shall provide,-

(a) for the purpose of medical examination which the appointed doctor wishes to conduct at the factory premises for his exclusive use, a room which shall be properly cleaned, adequately ventilated, lighted and furnished with a screen, a table (with writing material), chairs and facilities and instruments for such examination, and

(b) Oxygen gas cylinder with qualified personnel for its administration.

(3) A record of medical examinations and appropriate tests carried out by appointed doctor shall be maintained in a form approved by the Chief Inspector.

(4) No person shall be employed in the said process unless he has been examined by using appropriate tests and found fit for the said process by the appointed doctor.

(5) Persons examined in compliance with sub-paragraph (4) shall be re-examined by the appointed doctor at intervals of not more than 3 months or at such other intervals as may be directed in writing by the Chief Inspector and records of such examination shall be entered in the register provided under sub-paragraph (3).

(6) If at any time, the appointed doctor is of opinion that any person is no longer fit for employment in the said process on the ground that continuance thereat would involve special danger to health, he shall make a record of his findings in the said register and intimate the manager in writing that the said person is unfit to work in the said process.

(7) A person so found unfit by the appointed doctor shall be sent by the manager to the Medical Inspector of Factories or the Certifying Surgeon with a report from the appointed doctor. The Medical Inspector of Factories or Certifying Surgeon after examination may suspend the said person from work in the said process.

(8) No worker shall be required to pay the charges or fees for the medical examination, re-examination or tests required to be done under this paragraph. Such charges or fees shall be paid by the occupier of the factory.

17. Obligations of the workers - It shall be the duty of the persons employed in the said processes to submit themselves for the medical examination including exfoliative cytology of urine by the Medical Inspector of Factories or Certifying Surgeon or the appointed doctor as provided for under these rules.

18. Washing and bathing facilities - (1) The following washing and bathing facilities shall be provided and maintained in a clean state and in good repair for the use of all workers employed in the said processes, namely:-

(a) A wash place under cover having constant supply of water and provided with clean towels, soap and nail brush and with at least one stand pipe for every five such workers.

(b) 50 per cent of the stand pipes provided under clause (a) shall be located in bathrooms 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 in close proximity of the area housing the said processes but the same shall not be at a distance longer than 15 meters. Before the end of each shift one hour shall be allowed for bathing for each worker who is employed in the said processes and at least 10 minutes shall be allowed for washing before each meal in addition to the regular time allowed for meals.

(d) Clean towels shall be provided individually to each worker.

(e) In addition to the taps mentioned under clause (a), one stand pipe, in which warm water is made available, shall be provided on each floor.

(2) Arrangement shall be made to wash factory uniforms and other work clothes every day.

19. Food, drinks, etc. prohibited in work-room - No worker shall consume food, drink, pan, supari or tobacco or shall smoke on any premises in which the said processes are carried on and no worker shall remain in any such room during intervals of meals or rest.

20. Cloak room - There shall be provided and maintained in a clean state and in good repair for the use of the workers employed in the said processes:-

(a) a cloak room with lockers having two compartments - one for street clothes and the other for work clothes, and

(b) a place separate from the locker room and the mess room for the storage of protective equipments provided under paragraph 7. The accommodation so provided shall be under the care of a responsible person and shall be kept clean.

21. Mess room - There shall be provided and maintained for the use of workers employed in the said processes who remain on the premises during the meal intervals, a mess room which shall be furnished with tables and benches and provided with suitable means for warming food. Mess shall be placed under the charge of a responsible person and shall be kept clean.

22. Drying oven or stoves - (1) Every drying stove shall be efficiently ventilated to the outside air in such manner that hot air from the stove shall not be drawn into any work-room.

(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. Restrictions on age of persons employed - No worker under the age of 40 years shall be engaged in the factory in the said processes for the first time after the date on which the Schedule comes into force.

24. Separation of processes - The said process shall be carried on in a room or rooms which shall not directly communicate with any other room or rooms not having the said process except through a passage open entirely to outside atmosphere.

25. Testing of atmosphere etc. - The prohibited substances in the atmosphere of the work-room where the manufacturing process is carried on shall be estimated once in every week and records of results of such estimation shall be made available when required by the Inspector.

26. Exemptions - (1) The Chief Inspector may by a certificate in writing (which he may at his discretion revoke at any time) and subject to such conditions, if any as may be specified therein, exempt any process in the course of which any of the prohibited substances is formed, processed, manufactured, handled or used, from the provisions of paragraph 5 if he is satisfied that the process is carried out in a totally enclosed and hermetically sealed system in such a manner that the prohibited substance is not removed from the system except in quantities no greater than that required for the purposes of control of the process or such purposes as is necessary to ensure that the product is free from any of the prohibited substances.

(2) The Chief Inspector may allow the manufacture, handling or use of benzidine hydrochloride, if he is satisfied that all the processes in connection with it are carried out in a totally enclosed system in such a manner that no prohibited substance other than benzidine hydrochloride is removed therefrom except in quantities no greater than that required for the purposes of control of the processes or such purposes as is necessary to ensure that the product is free from prohibited substances and that adequate steps are taken to ensure that benzidine hydrochloride is, except while not in a totally enclosed system kept wet with not less than one part of water to two parts of benzidine hydrochloride at all times.

27. Exemptions-General - 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 are not necessary for the 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 of all or any of such provisions subject to such conditions, if any, as he may specify therein.

APPENDIX
Cautionary Placard/Notice

1. Dye intermediates which are nitro or amino derivatives or aromatic hydrocarbons are toxic. You have to handle these chemicals frequently in this factory.

2. Use the various items of protective wear to safeguard your health.

3. Maintain scrupulous cleanliness at all times, thoroughly wash hands and feet before taking meals. It is essential to take a bath before leaving the factory.

4. Wash off any chemical falling on your body with soap and water. If splashed with a solution of the chemical remove the contaminated clothing immediately. These chemicals are absorbed through skin and are known to produce cyanosis. Contact the medical officer or appointed doctor immediately and get his advice.

5. Handle the dye intermediates only with long handled scoops, never with bare hands.

6. Alcoholic drinks should be avoided as they enhance the risk of poisoning by the chemicals.

7. Keep your food and drinks away from the place of work. Consuming food, drinks or tobacco in any form at the place of work is prohibited.

8. Serious effects from work with toxic chemicals may follow after many years. Great care must be taken to maintain absolute cleanliness of body, clothes, machinery and equipment.

[148][SCHEDULE XXIII
Highly Flammable Liquids and Flammable Compressed Gases.

1. Application - These rules shall be applicable to all factories where highly flammable liquids or flammable compressed gases are manufactured, stored, handled or used.

2. Definitions - For the purpose 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 (30 of 1934) gives off flammable vapours at a temperature less than 32 degree centigrade;

(b) "flammable compressed gas" means flammable compressed gas as defined in Section 2 of the Static and Mobile Pressure Vessels (Unfired) Rules, 1981 framed under the Explosives Act, 1884.

3. Storage - (1) Every flammable liquid or flammable compressed gas used in every factory shall be stored in suitable fixed storage tank, or in suitable closed vessel located in a safe position under the ground, in the open or in a store room of adequate fire resistant construction.

(2) Except as necessary for use, operation or maintenance, every vessel or tank which contains or had contained a highly flammable liquids 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 System for Conveying Highly Flammable Liquids - Wherever it is reasonably practicable, highly flammable liquids shall be conveyed within a factory in totally enclosed system consisting of pipe 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 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 off or dilute such spills or leakage as to prevent formation of 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 in stored, conveyed, handled or used or where there is danger of fire or explosion 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 foot wear having iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction;

(d) Smoking, lighting 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 surface of machinery or plant, 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 materials, procedures and the process of fire fighting, shall be to the standards and levels prescribed by the Indian Standards applicable, and in any case not inferior to the stipulations under Rule 71-B.

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 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 XXIV
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 in 90 dB or above.

(c) "Decibel" means one-tenth of "Bel" which is the fundamental division of a logarithmic scale used to express the ratio of two specified or implied quantities, the number of 'Bels' denoting such a ratio being the logarithmic to the base of 10 of this ratio). The noise level (or the sound such a ratio being the logarithmic to the base of 10 of this ratio. The notice level (or the sound pressure level) corresponds to a reference pressure of 28 x 10 newtons per square meter 00002 or 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-weighing" 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 number of short term exposures) per day, in hours.	**Sound pressure level in dBA**
8	90
6	92
4	95
3	97
2	100
11/2	102
1	105
3/4	107
1/2	110
1/4	115

Notes:- (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 Inspect Noise

Peak sound pressure level in dB	**Permitted number of impulses or impact per day**
140	100
135	315
130	1,000
125	3,160
120	10,000

Notes:- (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 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 maxima at intervals of one second or less, the noise is to be considered as a continuous one and the criteria given in Table 1 would apply. In other cases, the noise is to be considered as impulsive or impact noise and the criteria given in Table 2 would apply.

(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

$$\text{sum of the fractions } \frac{C1}{T1} + \frac{C2}{T2} \text{ exceeds unity,--}$$

Where the C1, C2, etc. indicate the total time of actual exposure at a specified noise level and T1, T2, etc. denote the time of exposure permissible at that level. Noise exposure of less than 90 dBA may be ignored in the above calculation.

(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 greater extent feasible by such control measures, and each worker so exposed shall be provided with suitable protectors so as to reduce the exposure to noise to the levels specified in sub-clause (1).

(5) Where the ear protectors provided in accordance with sub-clause (2) and worn by a worker cannot still attenuate the noise reaching near his ear, as determined by substracting the attenuation value in dBA of the ear protectors concerned from the measured sound pressure level, to a level permissible under Table 1 or Table 2 as the case may be, the noise exposure period shall be suitably reduced to correspond to the permissible noise exposure specified in sub-clause (1).

(6)(a) In all cases where the prevailing sound levels exceeds for permissible levels specified in sub-clause (1) there shall be administered and effective hearing conservation programme which shall include among other hearing conservation measures, pre-employment and periodical auditory 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 place 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-clause (1) shall be subjected to an auditory examination by a Certifying Surgeon within 14 days or 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.

[149][SCHEDULE xxv
Handling and Processing of Cotton

1. Application - This Schedule shall apply to all factories or part of factories in which any of the following processes are carried on.

(a) Opening of cotton bale.

(b) Carding.

(c) Combing of cotton.

(d) Spinning of cotton yarn.

(e) Cleaning of waste cotton.

2. Definition - For the purpose of this Schedule, "Efficient exhaust draught" means localised ventilation by mechanical means, for the removal of cotton dust so to prevent dust from escaping into the air of any place in which work is carried on.

Explanation - No draught shall be deemed to be efficient which fails to control dust produced at the source.

3. Exhaust Draught Examination and Test - (1) An efficient exhaust draught shall be provided and maintained by the occupier for the following processes and machines to trap cotton dust or fluff at the source of origin and those in air;

(a) bale breaking and mixing of cotton;

(b) blow room machinery, cards, combing, spinning, winding machines;

(c) machines used for processing waste cotton;

(d) any other process in which cotton dust is given off into the work environment.

(2) All equipment for extraction of cotton dust or fluff shall be examined and tested by competent person at least once in every six months and any defects disclosed by such examination and tests, shall be rectified. A register about such examination and test shall be maintained by the Occupier.

4. Protective appliances - The occupier shall make arrangement for,-

(a) supply of a suitable personal protective appliances to all workers likely to exposed to cotton fluff or dust;

(b) supply of these appliances on individual basis;

(c) maintaining these appliances in working condition by cleaning and replenishment;

(d) storage of these appliances in hygienic condition;

(e) education of workers to use these appliances; and

(f) proper supervision to ensure the workers are using these appliances in working process.

5. Medical Examination - (1) The occupier shall arrange for medical examination of workers by a qualified medical practitioner having adequate experience in treatment of person affected by lung ailments at least once in a period of 6 months. Such medical examination shall include lung function test, immunoglobulin test and any other test or tests which may be found necessary to detect the cases of above referred disease.

(2) The occupier shall keep a continuous medical surveillance so that susceptible workers may be detected and transferred out of the exposure before irreversible damage cause to the health of the workers.

6. Environment Monitoring - The occupier of the factory shall ensure that,

(a) cotton dust in the ambient air of the workroom or any other place where cotton is processed or handled shall not exceed concentration 0.2 mg/m_3,

(b) environment in those areas shall be regularly monitored and results shall be made available to the Chief Inspector of Factory on demand.

7. Control Measures - Without prejudice to the other methods as stated above for prevention of above referred disease, the Occupier shall adopt such other control measures like adoption of vacuum stripping of cards instead of brush stripping, cleaning of the workroom by vacuum cleaners instead of brooms, etc. or any other measures as the Chief Inspector of Factories may suggest at any time.

8. House Keeping - A high standard of house keeping shall be provided and maintained by the occupier.

9. Exemption - If in respect of any factory, the Chief Inspector of Factories is satisfied that owing to exceptional circumstances all or any of the provisions of this schedule are not necessary for the protection of the workers of the factory, the Chief Inspector of Factories may certify in writing (which at his discretion revoke at any time) exempt such factory from all or any of such provisions of this schedule subject to such conditions, if any, as he may specify therein.][149]

115. Notification of accidents or dangerous occurrences - [150][(1) Where any accident specified in sub-clause (a) of clause 1 of the Schedule hereto appended or [151][any dangerous occurrence][151] specified in clause 2 of the said Schedule takes place in a factory the manager of the factory shall, within 4 hours of the happening of such accident or occurrence, send notice thereof by telephone, special messenger or telegram to the Inspector and the Administrative Medical Officer, Employees' State Insurance Scheme, Bombay, appointed as Additional Inspector under the Act; and where the accident is fatal or of such a serious nature that it is likely to prove fatal, notice as aforesaid shall also be sent to-

(a) the District Magistrate or Sub-Divisional Magistrate, [152][XX][152]

(b) the Officer-in-charge of the nearest [153][police station, and

(c) the nearest relatives of the injured or deceased person.][153]

[154][(2) The notice so given shall be confirmed by the Manager of the factory to the authorities mentioned in sub-rule (1) by sending to them a written report in the case of an accident in Form 24 or in Form 16 appended to Employees' State Insurance (General) Regulations, 1950, and in the case of a dangerous occurrence, in Form 24-A within 12 hours of the taking place of any such accident or occurrence referred to in that sub-rule.][154]

(3) Where any accident of a minor character, specified in sub-clause (b) of the said clause (1), takes place in factory, the manager shall, within 24 hours after the expiry of the period specified in the said sub-clause (b), send notice thereof to the Inspector in [155][Form 24][155] or Form No. 16 appended to Employees' State Insurance (General) Regulations, 1950.

(4) If in the case of an accident, the injured person subsequently dies due to such accident, information of his death wherever known shall be sent by the manager by telephone, special messenger or telegram within 24 hours of the occurrence to-

(a) the Inspector;

(b) the Administrative Medical Officer, Employees' State Insurance Scheme, Bombay;

(c) the District Magistrate or Sub-Divisional Magistrate; and

(d) the Officer-in-charge of the nearest Police Station.

Explanation - For the purpose of this rule, "accident of a serious nature" means an accident which results in-

(i) immediate loss of any part of the body or any limb or part thereof;

(ii) crushed or serious injury to any part of the body due to which loss of the same is obvious or any injury which is likely to prove fatal;

(iii) unconsciousness; or

(iv) severe burns or scalds due to chemicals, steam or any other cause.

SCHEDULE

1. (a) Accidents which cause death to any person or are of a serious nature.

(b) Accidents which cause such bodily injury as will prevent or will probably prevent the person injured from working for a period of 48 hours immediately following the accident.

3. The following classes of [156][dangerous occurrences][156], whether or not they are attended by personal injury or disablement: -

(a) Bursting of a vessel used for containing steam under pressure greater than atmospheric pressure, other than plant which comes within the scope of the Indian Boilers Act.

(b) Collapse or failure of a crane, derrick, winch, [157][lift][157], hoist or other appliances used in raising or lowering persons or goods, or any part thereof, or the overturning of a crane.

[158][(c) Explosion, fire, bursting out, leakage or escape of any molten metal, hot liquor, or gas causing bodily injury to any person or damage to any part or portion of the factory in which persons are employed or damage to any plant, machinery or material][158];

[159][(d) Explosion of a receiver or container used in any process, or used for storage at a pressure greater than atmospheric pressure, of any gas or any gases (including air) or any liquid or any solid][159].

(e) Collapse or subsidence of any floor, gallery, roof, bridge, tunnel, chimney, wall or building forming part of a factory or within the compound or curtilage of factory.

Rule prescribed under section 89

116. Notice of poisoning or disease - [160][A notice in Form 25 shall be sent forthwith (but not later than four hours), to the Chief Inspector, Medical Inspector of Factories,][160] and the Administrative Medical Officer, Employees' State Insurance Scheme, Bombay, appointed as Additional Inspector under the Act, by the Manager of a factory in which there occurs a case of lead, phosphorus, mercury, manganese, arsenic, carbon, bisulphide or benzene poisoning or poisoning by nitrous fumes, or by halogen derivatives of the hydrocarbons of the alphatic series, or of chrome ulceration, anthrax, silicosis, toxic anaemia, toxic jaundice, primary opheliomatous cancer of the skin or pathological manifestations due to radium or other radio-active substances or X-rays.

CHAPTER X
Supplemental

Rule prescribed under Section 107

117. Procedure in appeals - (1) An appeal presented under Section 107 shall be lie to the Chief Inspector or in cases where the order appealed against is an order passed by that officer to the State Government or to such authority as the State Government may appoint in this behalf and shall be in the form of a memorandum setting forth concisely the grounds of objection to the order and bearing Court-fees stamps in accordance with the Article 13 of Schedule II to the Bombay Court-fees Act, 1959, and shall be accompanied by a copy of the order appealed against.

(2) Appointment of assessors - On receipt of the memorandum of appeal, the appellate authority shall, if it thinks fit or if the appellant has requested that the appeal should be heard with the aid of assessors, call upon the body declared under Sub-rule (3) to be representative of the industry concerned, to appoint an assessor within a period of 14 days. If an assessor is nominated by such body, the appellate authority shall appoint a second 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 order is appealed against, and shall call upon the two assessors to appear upon such date to assist in the arising 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 Millowners' Association, Bombay;

(2) The Chamber of Commerce, Bombay;

(3) The Indian Merchants' Chamber, Bombay;

(4) The Silk and Art Silk Mills' Association, Bombay;

(5) The Deccan Sugar Factories Association, Bombay;

(6) The Engineering Association of India, Bombay; or

(7) Other association of employers in the industry concerned, if any.

(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 and partly against him, the appellate authority may direct that the fees and travelling expenses of the assessor shall be paid in whole or in part by the appellant.

Rule prescribed under Section 108

118. Display of notices - The abstract of the Act and of the Rules required to be displayed in every factory shall be in Form 26.

Rule prescribed under Section 110

119. Returns - The manager of every factory shall furnish to the Inspector or other officer appointed by the State Government in this behalf the following returns, namely:-

(1) Annual returns - On or before the ast February of each year, an annual return in duplicate in Form 27 relating to the following matters,-

(a) average number of workers employed daily and normal hours worked per week;

(b) leave with wages;

(c) number of discharged or dismissed workers;

(d) wages in lieu of leave;

(e) compensatory holidays;

(f) canteens in the case of factories wherein more than 250 workers ordinarily employed;

(g) creches in the case of factories wherein more than 50 women-workers are ordinarily employed;

(h) shelters, rest-rooms, and lunch-rooms in the case of factories wherein more than 150 workers are ordinarily employed;

[161][(i) accidents and statistics.

[162][(j) Such other matters or items as may be prescribed in Form 27.

[163][(2) ******][163]

(3) Annual return of holidays - Before the end of each year, a return giving notice of all the days on which it is intended to close the factory during the next ensuing year. If in any year a factory is newly started or re-started after+ a closure + during the previous year, such return shall be submitted before the date as such starting or re-starting for the remaining period of the year:

Provided that the State Government may dispense with this return in the case of any specified factory or of any class of factories or of the factories in any particular area:

Provided further that the annual return of holidays shall be dispensed with in case of all factories,-

(a) which regularly observe Sundays as holidays; or

(b) which regularly observe a fixed day in a week as a holiday; or

(c) which observe holidays according to a list approved by the Chief Inspector.

Where the manager of any factory makes any departure from such a holiday or list of holidays as

aforesaid, prior intimation shall be given to the Chief Inspector.

Rule prescribed under Section 109

120. Service of notice - The despatch by post under registered cover of any notice or order shall be deemed sufficient service on the occupier, owner or manager of a factory of such notice or order.

Rules 121 to 124 prescribed under Section 112

121. 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 if the information is available in the factory, or, if made in writing, shall be complied with within seven days on receipt thereof.

122. Muster-roll - (1) The manager of every factory shall maintain a muster-roll of all the workers employed in the factory in Form 29 showing (a) the name of each worker, (b) the nature of his work, and (c) the daily attendance of the worker.

(2) The muster-roll shall be written up afresh each month and shall be preserved for a period of 3 years from the date of last entry in it:

Provided that if the daily attendance is noted in respect of adults and child-workers in the Registers of Workers in Forms 17 and 19, respectively, or the particulars required under sub-rule (1) are noted in any other register, and such registers are preserved for a period of 3 years from the date of last entry in them a separate muster-roll required under sub-rule (1) need not be maintained.

123. Register of accidents and dangerous occurrences - (1) The manager of every factory shall maintain a register of all accidents and dangerous occurrences which occur in the factory in Form 30 showing the-

(a) name of injured person (if any);

(b) date of accident or dangerous occurrence;

(c) date of report on Form 24 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.

(2) The manager of every factory shall furnish to the Inspector annually on or before the 15th February a copy of the entries in Form 30 relating to the year immediately preceding the ast January.

124. Maintenance of Inspection book - (1) The Manager of every factory shall maintain a bound Inspection Book in Form 31 of the size 35cms x 20 cms. and shall produce if when so required by the Inspector or Certifying Surgeon.

(2) The Inspection Book shall contain at least 180 pages. Every third page thereof shall be consecutively numbered and the other two numbered pages between each two consecutively numbered pages shall have a vertical perforated straight line on the margin side at a margin of 2.54

cm.

(3) In case of the Inspection Book containing remarks passed by the Inspector or Certifying Surgeon is lost, the manager of the factory shall forthwith report in writing the loss of the Inspection Book to the Inspector in charge of the area and immediately maintain a new Inspection Book.

The Manager shall obtain as early as possible copies of all available remarks from the Factory Inspection Office concerned, on payment of necessary typing charges.

125. Information regarding closure of factories - (1) The occupier and the manager shall be jointly or severally responsible for sending information in duplicate to the Inspector, of any intended closure of the factory or any shift, section or department thereof, immediately after it is decided to do so, and before the closure takes place, stating-

(a) the date of intended closure;

(b) the reasons for closure;

(c) the number of workers on the muster-roll of the factory on the day the information is sent;

(d) the number of workers likely to be affected by the closure;

(e) the probable period of closure:

Provided that in the case of any factory in respect of which Standing Orders settled or certified under the Bombay Industrial Relations Act, 1946, or any law corresponding to that Act in force in any part of the State or the Industrial Employment (Standing Orders) Act, 1946, as the case may be, provided for the display on the notice-boards of the factory or notice of the proposed closure of the factory or any shift, section, or department thereof, such information to the Inspector shall be given on the date on which such notice is displayed:

Provided further that it shall not be necessary for the occupier or manager to send information of intended closure if the closure is rendered inevitable on account of fire, break-down of machinery, stoppage of power or water supply or any other cause beyond his control.

(2) The occupier and the Manager shall be jointly or severally responsible for sending also information in duplicate to the Inspector as soon as the factory or any shift, section or department thereof, is actually closed in the following form, namely:

Name of factory and full address	**Name of industry**	**Date of closure**	**Reasons for closure**	**Nature of closure whether entire or partial; if partial, the shift, section or department closed**	**Number of workers on the muster roll of factory at the time of closure**	**Number of workers affected by the closure**
1	**2**	**3**	**4**	**5**	**6**	**7**

Class of Industry whether (1) Cotton Textile, or (2) Silk Textile, or (3) Woollen Textile, or (4) Hosiery, or (5) Engineering, or (6) Miscellaneous, should be stated.

(3) The occupier and the manager shall be jointly or severally responsible for sending also information in duplicate to the Inspector as soon as the factory or any shift, section or department thereof is re-opened in the following form, namely:-

Name of factory and full address	Name of industry	Date of closure	Number of workers affected at the time of closure	Factory or any shift, section or department thereof reopened	Number of workers on muster-roll at the time of reopening	Number of workers (i) re-employed (ii) newly employed
1	2	3	4	5	6	7

Class of Industry, whether (1) Cotton Textile, or (2) Silk Textile, or (3) Woollen Textile, or (4) Hosiery, or (5) Engineering, or (6) Miscellaneous, should be stated.

Explanation. 1 - For the purposes of this rule, "closure" means the closing of a factory, or any shift, section or department thereof or the total or partial suspension of work (other than work of a temporary nature) by the occupier or manager of the factory, or total or partial refusal by the occupier or manager of the factory to continue to employ persons employed by him where such refusal does not amount to the discharge, dismissal or suspension of a worker or workers by way of punishment.

Explanation 2 - This rule shall not apply in the case of a closure of any section or department of a factory if such closure does not affect the total number of workers employed in the factory.

[164]**[125-A. Power of exemption -** The State Government may, by notification in the Official Gazette, exempt subject to such conditions as it may consider necessary, any workshop or workplace where a manufacturing process is carried on and which is attached to a public institution maintained for the purposes of education, training or reformation, from all or any of the provisions of these rules][164].

126. Repeal and saving - On the commencement of these rules, the Bombay Factories Rules, 1950, the Central Provinces and Berar Factories Rules, 1949 and the Hyderabad Factories Rules, 1952, shall stand repealed, except as respects things done or omitted to be done.

Foot Note

1. Subs. by G.N. dt. 8.2.1988 M.G.G. Part I-L Ext. P.57.

2. Added by G.N., of 24th May, 1969

3. Added by G.N., of 24th May, 1969

4. Ins. by G.N., dt. 13.3.1984 published in M.G.G. Pt. I-L (Extra) dt. 19.7.84 P.197

5. Subs. by G.N., dt. 1.12.1982 published in M.G.G. Pt. I-L dt, 3.2.83 P.699

6. Ins. by G.N. dt. 8.2.1988 M.G.G. Pt.I-L Ext. P.57.

7. Ins. by G.N. dt. 8.2.1988 M.O.G. Pt.I-L Ext. P.57.

8. Renumbered by G.N. dt. 8.2.1988 M.G.G. Pt.I-L, Ext. P.57

9. Subs. by G.N. of 13.10.1981

10. Subs. by G.N. dt. 30.11.200, M.G.G. Pt.I-L Ext. dt. 30.11.2000 p.243.

11. Subs. by G.N. dt. 22.5.1984

12. Subs. by G.N. 21st May, 1986

13. Subs. by G.N. 20.10.1998

14. Subs. by G.N. of 21st May, 1986

15. Subs. by G.N. dt. 22.5.1984

16. Schedule 'A' Subs, by G.N. dt. 20.10.1998

17. Subs. by G.N. dt. 20.10.1998

18. Subs. by G.N. dt. 20.10.1998.

19. Added by G.N. of 13.10.1981

20. Subs. by G.N. of 30.11.2000

21. Added by G.N. 31.1.1981

22. Subs. by G.N. of 20.10.1998

23. Subs. by G.N. of 20.10.1998

24. Subs. by G.N. of 20.10.1998

25. Subs. by G.N. of 20.10.1998

26. Ins. by G.N. of 8.2.1988

27. Subs. by G.N. of 30th Sept., 1965

28. Ins. by G.N. of 13th October 1981

29. Ins. by G.N. of 23rd August, 1969

30. Ins. by G.N. of 24th July, 1964

31. Ins. by G.N. of 23rd August, 1969

32. Ins. by G.N. of 13th October, 1981

33. Subs. by M.G.G. Pt.I-L, dt. 2.8.1997

34. Ins. by G.N. of 23rd August, 1969

35. Subs. by G.N. of 24th July, 1964

36. Subs. by M.G.G. Pt.I-L, dt. 2.8.1997

37. Ins. by G.N. of 13th Oct, 1981

38. Subs. by G.N. of 13.3.1985 MGG Pt.I-LExt. P.98.

39. Ins. by G.N. of 3.9.1988 MGG Pt.I-LExt. P.341.

40. Subs. by G.N. dt. 4th August, 1998

41. Ins. by G.N. dt. 26.7.1991 p. 300

42. Ins. by G.N. of 13th Oct. 1981

43. Subs. by M.G.G. Pt. I-L dt. 15.3.1997

44. Subs. by G.N. of 30th Sept. 1965

45. Ins. by G.N. of 23rd Aug., 1969

46. Subs. by G.N. of 1.8.1984 MGG Pt.I-L Ext. P.272

47. Subs. by G.N. of 1.8.1984 MGG Pt.I-L Ext. P.272

48. Ins. and renumbered by G.N. dt. 8.2.1988

49. Renumbered by G.N. dt. 8.2.1988

50. Added by G.N. of 15.10.1984

51. Rule 34 del. by G.N. dt 29.5.1976

52. Rule 35 subs. by ibid 29.5.1976.

53. Subs. by G.N. dt. 29th May, 1976.

54. Subs. by G.N. dt. 29th May, 1976.

55. Subs. by G.N. of 17th April, 1975

56. Sub. by G.N. dt. 17th April, 1975

57. Sub. by G.N. dt. 17th April, 1975

58. Ins. by G.N. dt. 29th May, 1976

59. Rule 57 and the Schedules I to IX subs, by G.N. dt. 28th September, 1976

60. Ins. by G.N. dt. 20.7.1981

61. Subs. by MGG Pt. I-L Ext. dt. 10.8.1989 p. 302

62. Added, by MGG Pt.I-L Ext. dt. 10.8.1989 p. 302

63. Subs. by G.N. dt. 26.4.1977

64. Ins. by G.N. of 28th Sept., 1976

65. Subs. by G.N. dt. 28.5.1982 published in M.G.G. Pt.I-L p.5939

66. Subs. by G.N. dt. 19.12.2005 MGG Pt.I-L Ext. dt. 19.12.2005 p.472.

67. Subs. by G.N. dt. 19.3.1977

68. Subs. by G.N. dt. 24.11.1975.

69. Subs. by G.N. dt. 19.3.1977.

70. Subs. by G.N. dt. 17.4.1975.

71. Subs. by MOG Pt.I-L. Ext. dt. 10.8.1989 p. 352

72. Del. by G.N. dt. 20.7.1981

73. Ins. by G.N. of 5th Sept., 1972

74. Subs. by G.N. dated 5th Sept., 1974.

75. Ins. by G.N. of 31st July 1964

76. Ins. by G.N. of 11th May, 1965

77. Ins. by G.N., of 30th June, 1969.

78. Ins. by G.N. of 8th Oct. 1969 and numbered '73E' by *Corrigendum, I. and L.D., No.FAC/1168/142003, Lab-III, dated 3rd December, 1970.

79. Ins. by G.N. dated 17th April 1975

80. Ins. by G.N. dated 2nd July, 1976

81. Ins. by G.N. dated 22.5.1984 published in MGG Part I-L (Extra) 206

82. Rule 73-J to 73-Z ins. by G.Noti. dated 10.1.1990 M.G.G. Pt. I-L Extra P.40.

83. Added by M.G.G. dt. 15.3.1997

84. Added by MGG. Pt.I-L. Ext. dt. 6.12.2001 p. 659

85. Ins. by G.N., dated 17th April, 1975

86. Subs. by O.N. dt. 17th April, 1975

87. Added by Mah. Factories (Third Amendment) Rules, 1982

88. Added by Mah. Factories (Third Amendment) Rules, 1982.

89. Subs. by G.N. dt. 16.10.1971.

90. Added by G.N. dt. 8.10.1982 Published in MGG Pt.I-L dt. 2.12.1982 p.8177

91. Subs. by G.N. dt. 8.10.1982 Published in MGO Pt.I-L, dt. 2.12.1982 p. 8177

92. Added by G.N. dt. 1.8.2000 published in MGG Pt. I-L, Ext. p.99

93. Del. by G.N. dt. 1.8.2000 Published in MGG Pt.I-L, Ext. p.99.

94. Del. by O.N. dt. 1.8.2000 published in MGG Pt.I-L, Ext. p.100

95. Rule 100, 101 and 102 Subs. by Govt. Noti. dt. 21.2.2005 MGG Pt. I-L Ext. dt. 21.2.2005 p. 256-282.

96. Ins. by Govt. Notification dt. 21.2.2005, MGG. Pt.I-L, Ext. dt. 21.2.2005 p.229-230.

97. Subs. by G.N. dt. 1.8.2000 published in MGG Pt.I-L, Ext. P. 100

98. Subs. by G.N. dt. 1.8.2000 published in MGG Pt.I-L, Ext. P. 100

99. Del. by O.N. dt. 1.8.2000 published in MGG Pt.I-L, Ext. p. 100

100. Subs. by G.N., dt. 7.7.1968.

101. Ins. by G.N., dt. 5.4.1965.

102. Ins. by G.N., dt. 8.10.1970.

103. Ins. by G.N., dt. 1.12.1975.

104. Added by G.N., dt. 9.5.1985.

105. Added by G.N., dt. 10.7.1997.

106. Subs. by G.N. dt. 25.3.1975

107. Subs. by G.N. dt. 1.8.2000 published in MGG Pt.I-L, Ext. p.100

108. Ins. by G.N. dt. 13.3.1984 published in MGG Pt.I-L dt. 9.8.1984 p. 3443.

109. Subs. by G.N. dt. 28.9.1998

110. Ins. by G.N., dt. 13.3.1984 published in MGG Pt.I-L, dt. 9.8.1984 P.3444

111. Ins. by G.N., dt. 13.3.1984 published in M.G.G. Pt.I-L, dt. 9.8.1983 p.3445.

112. Subs. by G.N. dt. 23.10.1969

113. Subs. by G.N. dated 3.1.1968

114. Subs. by G.N. dated 3.1.1968

115. Subs. by G.N. dated 3.1.1968

116. Subs. by G.N. dt. 13.3.1984 published in M.G.G. Pt.I-L 9.8.1984 p. 3445.

117. Ins. by G.N., dt. 14.9.1973.

118. Subs. by G.N. dt. 1.12.1965.

119. The word "perferably" deleted by G.N. dt. 1.12.1965.

120. Added by G.N., dt. 1.12.1965.

121. Subs. by G.N. dt. 13.7.1984

122. Subs. by G.N. dt. 1.12.1965.

123. Subs. by G.N . dt. 1.12.1965

124. Subs. by No. d t. 7.7.1978

125. Ins. by G.N. dt. 17.12.1986

126. Ins. by G.N., dated 13.3.1984 published in M.G.G. Pt.I-L. dt. 9.8.1984, p. 3447.

127. Subs. by G.N. dt. 5.8.1987

128. Subs. by G.N. dt. 5.8.1987.

129. Subs. by G.N. dt. 13.7.1984 published in M.G.G. Pt. I-L, dt. 9.8.1984 p. 3447

130. Subs. by G.N. dt. 5.8.1987

131. Ins. vide G.N. I and L.D. No.FAC-1163-Lab III, dt. 5.4.1965

132. The words "or by steam iron process" added by G.N. dt. 17.10.1966

133. The words "or by steam iron process" added by G.N. dt. 17.10.1966

134. Paragraphs 4(1) and 6 were substituted by G.N., dt. 15.9.1973.

135. Paragraphs 6, 10 and 11 substituted by G.N., dt. 15.9.1973.

136. Subs. by G.N. dt. 8.2.1988.

137. Subs. by G.N. dt. 1.8.2000 published in MGG Pt.I-L, Ext.p. 100

138. Subs. by G.N. dt. 1.8.2000 published in MGG Pt.I-L, Ext.p.100

139. Added by G.N. dt. 23.7.1998

140. Schedule XVIII, XIX inserted by G.N., dt. 1.12.1975

141. Ins. by G.N., dt. 13.3.1984 in M.G.G. Pt.I-L dt. 9.8.1984 p.3448.

142. Subs. by G.N. dt. 1.8.200, published in MGG Pt.I-L, Ext. P.100

143. Ins. by G.N., dt. 17.12.1986

144. Subs. by G.N. dt. 1.8.2000, Published in MGG Pt.I-L, Ext. P. 100

145. Ins. by G.N. dt. 13.3.1984, Published in M.G.G. Pt.I-L, dt. 9.8.1984 p.3448

146. Added by G.N. of 20.7.1981

147. Added by O.N., dt. 9.5.1985.

148. Ins. by G.N. dt. 8.2.1988

149. Added by G.N., dt. 10.7.1997

150. Added by G.N., dt. 13.10.1981.

151. Subs. by G.N. dt. 13.10.1981

152. Del. by G.N., dt. 13.10.1981.

153. Subs. by G.N. dt. 13.10.1981

154. Subs. by O.N., dt. 13.10.1981.

155. Added by G.N., dt. 17.12.1971.

156. Subs. by G.N., dt. 13.10.1981.

157. Ins. by G.N., dt. 13.10.1981.

158. Subs. by G.N., dt. 13.10.1981.

159. Subs. by G.N., dt. 13.10.1981.

160. Subs. by G.N., dt. 30.12.1969.

161. Ins. by G.N., dt. 13.10.1981.

162. Ins. by G.N., dt. 29.7.1985.

163. Del. by G.N. dt. 1.8.2000 published in MGG Pt.I-L, Ext.P.100

164. Ins. by G.N., dt. 30.9.1965.