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PART I-Orders and Notifications by the Governor of West Bengal, the High Court, Government Treasury, etc.

GOVERNMENT OF WEST BENGAL

LABOUR DEPARTMENT

NOTIFICATION

No. 340 L.W./L.W./IR-4/85.—2nd April 1986.—In exercise of the power conferred by section 112 of the Factories Act, 1948 (Act 63 of 1948), the Governor is pleased hereby to make after previous publication. as required by section 116 of the said Act, the following amendments in the West Bengal Factories Rules, 1958, as subsequently amended namely :—

Amendments

In the said Rules,-

1. (a) in rule 2, omit clauses (d), (f) and (j);

(b) in clause (k), for the word "State" substitute the word "state";

- 2. (a) in rule 3(i) in the marginal note, after the word and figure "section 6", insert the words and figures "and section 112.";
- (b) for the first para of sub-rule (1), substitute the following sub-rule :---
 - "(1) No building, part of building or structure, shall be constructed, extended, or taken into use as a factory or a part of factory on any site unless previous permission in writing has been obtained from the Chief Inspector for the site and for the construction. extension or use of the building, part of a building or structure, on such site.";
- (c) after sub-rule (3), insert the following sub-rule :---
 - "(4) Copies of the approved plans shall be preserved and be readily available for examination by the Inspector on demand.";

- 3. after rule 3, insert the following rule :---
 - "3A. Submission of plans.—The Chief Inspector may require for the purposes of the Act, submission of plans of any factory which was either in existence on the date of commencement of the Act or which has not been constructed or extended since then. Such plans shall be drawn to scale showing—
 - (a) the site of the factory and immediate surroundings including adjacent buildings and other structures, roads, drains, etc.,
 - (b) the plan, elevation and necessary cross-sections of the factory buildings, indicating all relevant details relating to safety of the building or structure, natural lightings, ventilation and means of escape in case of fire and the position of the plant and machinery, aisles and passageway, and
 - (c) such other particulars as the Chief Inspector may require.";
- 4. in rule 4---
 - (a) for sub-rules (1) and (2), substitute the following sub-rules:---
 - "(1) The occupier of every factory shall submit to the Chief Inspector an application as nearly as possible in Form No. 2 in duplicate for its registration and grant of licence at least fifteen days before the occupier begins to occupy or use any premises as a factory.
 - (2) Every such application shall be accompanied by a treasury receipt showing payment of fees specified in the Schedules 'A', 'B' and 'C' hereto as the case may be.
 - (3) The Chief Inspector may call for such other particulars as he may require before registration and grant of licence.";
- 5. (a) for rule 5, substitute the following rule :---
 - **'5.** Grant of licence.—(1) The Chief Inspector may on the application being made to him under sub-rule (1) of rule 4 and on payment of fees required under 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 as nearly as possible in Form No. 3 subject to compliance with such condition as may be specified in the licence:
 - Provided that where the Chief Inspector refuses to grant licence, he shall record in writing the reasons for such refusal and communicate the same to the applicant.
 - (2) Every licence granted under this rule shall remain in force up to the 31st December of the year for which the licence is granted.";
- (b) for Schedule C, substitute the following Schedule :----

"SCHEDULE C

1. Scale of fees payable for licence and annual renewal of licence for factories wherein no power is used, i.e., factories as defined in section 2(m)(i) of the Factories Act, 1948—

| Maximum numbe on any day dr | Fee paya Rs. | ble | | | | | |
|--------------------------------|-----------------|------------|---------|-----|-----|-----------|--------|
| A 20 to 30 | •• | •• | •• | • • | •• | 10 | |
| B 31 to 50 | •• | •• | • • | •• | • • | 25 | |
| C 51 to 100 | | •• | | •• | •• | 65 | |
| D 101 to 200 | •• | | •• | •• | •• | 95 | |
| E 201 to 300 | | •• | •• | •• | •• | 125 | |
| $F \ 301 \ to \ 500$ | | •• | •• | •• | •• | 220 | |
| G 501 to 750 | •• | •• | •• | •• | •• | 300 | |
| H 751 to 1,000 | •• | •• | •• | •• | •• | 375 | بندر م |
| I All over 1,000 | without | any upware | l limit | •• | | 450 | |

- 2. Fee payable for granting licence and annual renewal of licence by factories declared under section 85
- 10'';

- 6. for rule 6, substitute the following rule :---
 - 6. Renewal of Licence.—(1) Every application for renewal shall be submitted as nearly as possible in Form No. 2, in duplicate, to the Chief Inspector, on or before the 31st December of the year prior to that to which the application relates.
 - (2) The fee that shall be charged for the renewal of a licence shall be subject to the scale of fees laid down in Schedule A or Schedule B or Schedule C as may then be applicable to the factory in respect of which application for renewal of licence is submitted to the Chief Inspector:
 - Provided that if the fee for renewal of licence is not deposited within the time specified in sub-rule (1), then, notwithstanding any other action which may be taken, the amount of the fee payable for renewal of the licence shall be 25 per cent in excess of the amount which would otherwise be payable, if the payment is made within three calendar months of the time specified and shall be 50 per cent in excess of the amount which would three calendar months. The Chief Inspector may, however, waive payment of excess fee if he is satisfied that there was sufficient reason for delay in payment:
 - Provided further that if part of the renewal fee is paid within the due date then the excess fee shall only be payable on the balance due.
 - (3) The Chief Inspector may call for such other particulars as he may require before renewing a licence.
 - (4) The Chief Inspector may, on application being made to him under subrule (1) and on payment of fees prescribed in sub-rule (2), and on being satisfied with the requirement of the Act and the rules made thereunder renew a licence in Form No. 3 subject to compliance with such conditions as he may think fit.
 - (5) Every licence renewed under this rule shall remain in force up to the 31st December of the year for which the licence is renewed.";
- 7. for rule 7, substitute the following rule:-
 - **447.** Amendment of licence.—(1) A licence granted under rule 5 and renewed under rule 6 may be amended by the Chief Inspector.
 - (2) A licensee whose licence requires to be amended shall submit to the Chief Inspector an aplication as nearly as possible in Form No. 2.
 - (3) The Chief Inspector may call for such other particulars as he may require for amendment of licence.
 - (4) A licensee whose licence requires to be amended by virture of increase in the number of workers to be employed or additional power to be installed shall pay a fee of rupees five plus the amount by which the fee payable for the amended licence exceeds the fee already paid for the licence :
 - Provided that if the application together with original receipted challan showing payment of fee payable for amendment under this sub-rule is not submitted prior to the date on which the licence requires to be amended, then, notwithstanding any other action which may be taken, the amount of fee payable for such amendment shall be rupees five plus 50 per cent in excess of the amount by which the fee payable for the amended licence exceeds the fee originally paid for the licence."

- 8. for rule 8, subsitute the following rule :---
 - "8. **Transfer of licence.**—(1) (a) The holder of a licence may, at any time before the expiry of the licence, apply to the Chief Inspector for permission to transfer his licence to another person.
 - (b) The Chief Inspector may call for such other particulars as he may require.
 - (2) The Chief Inspector may, if he approves of the transfer, enter upon the licence under his signature, an endorsement to the effect that the licence has been transferred to the person named.
 - (3) A fee of five rupees shall be charged on each such endorsement. The person to whom the licence is to be transferred shall submit a notice of occupation as nearly as possible in Form No. 2, and shall pay the endorsement fee.";
- 9. for rule 9, substitute the following rule:-
 - "9. Use of premises as factory.—(1) An occupier shall not use any premises as a factory unless a licence has been issued in respect of such premises and is in force for the time being :
 - Provided that if application for grant, renewal or amendment of licence with all particulars in Form No. 2 has been submitted, accompanied by treasury receipt showing that correct fee has been deposited, the premises shall be deemed to be duly licensed until such date, as the Chief Inspector grants, renews or amends the licence or refuses in writing to grant or renew the licence.
 - (2) The licence or a copy of the licence shall be displayed at a cosnspicuous place at or near the main entrance to the factory.";

10. in rule 10, for the word and figure "rule 6", substitute the word and figure "rule 7";

- 11. in rule 12-
 - (1) for the heading substitute the following heading :----

"Mode of payment of fees";

- (2) after sub-rule (1), add the following proviso -----
 - "Provided that when the head of account under which the licence fees have to be deposited is changed, the Chief Inspector may direct the occupiers to deposit fees payable under this sub-rule under such other head of account as he may specify.";
- 12. in rule 13, for the marginal note, substitute the following note :---

"Rules 13 and 13A prescribed under sections 7 and 112";

- 13. in rule 14, for the words "Provincial services", substitute the words "West Bengal State Services";
- 14. for rule 15, substitute the following rule ----
- "15. Power of Inspectors.—An Inspector shall, for the purposes of the Act, have power to do all or any of the following things :—
 - (a) to photograph any worker, to inspect, examine, measure, copy, photograph, sketch, direct testing of or test, as the case may be, any building or room, any plant, machinery, appliance or apparatus, article or substances, any register or document or anything provided for in order to give effect to the provisions of the Act;
 - (b) in the case of an Inspector who is a duly qualified medical parctitioner, to carry out such medical examination as may be necessary;

- (c) to seize or take copies of such registers, records or other documents or portions thereof as he may consider relevant in respect of an offence under the Act, which he has reasons to believe has been committed;
- (d) enquire into any accident or dangerous occurrence whether causing bodily injujy, disability or disease, or the possibility of any accident or diseaseiand ;
- (e) to prosecute, conduct or defend before a court any complaint or other proceeding arising under the Act or in the discharge of his duties as an Inspector.";
- 15. in rule 19, for the words "Director of Health Services", substitute the words "Public Health Engineering Directorate and or prevention and control of Water Pollution Board",
- 16. in sub-rule (10) of rule 25, delete the words "The National Physical Laboratory, London, or,":
- 17. in rules 34, 36, 37, 38 and 41 for the words "Directorate of Health Services" wherever they occur, substitute the words "Public Health Engineering Directorate";
- 18. in Schedule I to rule 47, for the heading, substitute the following heading:---

"Jute Textile and Jute Textile products";

19. for the marginal note to rule 48, substitute the following:-

"rules 48 to 52 prescribed under section 41 and section 112";

- 20. for rule 49, substitute the following rules:-
 - "49. Examination of eye-sight of certain workers.—(1) No person shall be allowed to operate a crane, locomotive or fork-lift truck, or to give signals to a crane or locomotive operator unless his eye-sight and colour vision have been examined and declared fit by a qualified ophthalmologist to work whether with or without the use of corrective glasses.
 - (2) The eye-sight and colour vision of the person as referred to in sub-rule
 (1) shall be reexamined at least once in every period of 12 months up to the age of 45 years and once in every 6 months beyond that age.
 - (3) Any fee payable for an examination of a person under this rule shall be paid by the occupier and shall not be recoverable from that person.
 - (4) The record of ezmination or re-examination carried out as required under sub-rules (1) and (2) shall be maintained in Form 17A.
 - 49A. Railways in factories.—(1) This rule shall apply to railways in the precincts of a factory which are not subject to the Indian Railways Act, 1890 (9 of 1890) in a factory.
 - (2) Gateways: A gateway through which a railway track passes shall not be used for the general passage of workers into, or out of, a factory.
 - (3) Barriers and Turngates :(a) Where building or walls contain doors or gates which open to a railway track a barrier about 1 metre high shall be fixed parallel to and about 60 cm. away from the building or wall outside the opening and extending several feet beyond it at either end, so that any person passing out may become aware of an approaching train when his pace is checked at the barrier.
 - If the traffic on the nearest track is all in one direction, the barrier shall be in the form of an "L" with the end of the short leg abutting on to the wall and the other end opening towards the approaching train.

- (b) If the distance between wall and track cannot be made to accommodate such a barrier, the barrier or a turngate shall be placed at the inside of the opening.
- (c) Where a footway passes close to a building or other obstruction as it approaches a railway track, a barrier or a turngate shall be fixed in such a manner that a person approaching the track is compelled to move away from the building or obstruction and thus obtain timely sight of an approaching locomotive or wagon.
- (4) Growds: (a) Workers' pay-windows, first-aid stations and other points where a crowd may collect shall not be placed near a railway track.
- (b) At any time of the day when workers are starting or ending work, all railways traffic shall cease for not less than five minutes.
- (5) Locomotives: (a) No locomotive shall be used in shunting operations unless it is in good working order.
- (b) Every lecomotive and tender shall be provided with efficient brakes, all of which shall be maintained in good working order. Brake-shoes shall be examined at suitably fixed intervals and those that are worn out shall be replaced at once.
- (c) Water-gauge glasses of every locomotive, whatever is its boiler pressure, shall be protected with substantial glass or metal screens.
- (d) Suitable steps and hand holds shall be provided at the corners of the locomotive for the use of shunter.
- (e) Every locomotive crane shall be provided with lifting and jacking pads at the four corners of the locomotive for assistaing in re-rating operations.
- (f) It shall be clearly indicated on every locomotive crane in English and in a language understood by the majority of the workers in the factory, for what weight of load and at what radius the crane is safe.
- (6) Wagens: (a) Every wagon (and passenger coach, if any) shall be provided either with self-acting brakes capable of being applied continuously or with efficient hand brakes which shall be maintained in good working order. The hand brakes shall be capable of being applied by a person on the gound and fitted with a device for retaining them in the applied position.
- (b) No wagon shall be kept standing within 3 metres of any authorised crossing.
- (c) No wagon shall be moved with the help of crow bars or pinch bars.
- (7) Riding on locomotive wagon or other rolling stock : No person shall be permitted to be upon (whether inside or outside) any locomotive, wagon or other rolling stock except where secure foothold and handhold are provided.
- (8) Attention to brakes and doors : (a) No locomotive, wagon or other rolling stock shall be kept standing unless its brakes are firmly applied and, where it is on a gradient, without sufficient number of properly constructed scotches placed firmly in position.
- (b) No train shall be set in motion until the shunting jamadar has satisfied himself that all wagon doors are securely fastened.
- (9) **Projecting loads and cranes**: (a) If the load on a wagon projects beyond its length, a guard or dummy truck shall be used beneath the projection.
- (b) No loco-crane shall travel without load unless the jib is completely lowered and positioned in line with the track.
- (c) When it is necessary for a loco-crane to travel with a load, the jib shall not be swung until the loco-crane has come to rest.

- (10) Loose-shunting : Loose-shunting shall be permitted only when it cannot be avoided. It shall never be performed on a wagon not accompanied by a man capable of applying and pinning down the brakes. A wagon not provided with brakes in good working order and capable of being easily pinned down shall not be loose-shunted unless there is attached to it at least another wagon with such brakes. Loose-shunting shall not be performed with, or against, a wagon containing passengers, live-stock or explosives.
- (11) Fly-shunting : Fly-shunting shall not be permitted on any factory railway.
- (12) The shunting jamadar: (a) Every locomotive or wagon in motion in a factory shall be in charge of a properly trained jamadar.
- (b) Before authorising a locomotive or wagon to be moved, the shunting jamadar shall satisfy himself that no person is under or in botween or in front of the locomotive or wagon.
- (13) Hand signals: The hand signals used by the shunting jamadar by day and night shall be those prescribed by the shunting rules of railways, working under the Indian Railways Act (9 of 1890).
- (14) Night work and fog: (a) In factories where persons work at night, no movement of locomotive, wagon or other rolling stock otherwise than by hand shall be permitted between sunset and sunrise unless the tracks and their vicinity are lighted on a scale of not less than 10 lux as measured at the horizontal plane at the ground level.
- (b) In no circumstances shall any locomotive or train be moved between sunset and sunrise or at any time when there is fog, unless it carries a white head light and a red rear light.
- (15) **Speed control**: (a) A locomotive or train shall not be permitted to move at a speed greater than seven kilometres per hour.
- (b) A train, locomotive, wagon or other rolling stock shall not be moved by mechanical or electrical power unless it is preceded at a distance of not less than 10 metres during the whole of its journey by a shunting jamadar, who shall be provided with signalling flags or lamp and whistle, necessary for calling the attention of the driver.
- (16) **Tracks**: (a) The distance (i) between tracks and (ii) between tracks and buildings, blind walls or other structures and (iii) between tracks and materials deposited on the ground shall be respectively not less than—
 - (aa) from centre to centre of parallel tracks, the overall width of the widest wagon of that gauge plus twice the width of the door of such a wagon when opened directly outward plus 1 metre;
 - (bb) from a building or structure other than a loading platform to the centre of the nearest track, half the overall width of the widest wagon of that gauge, plus the width of its door when opened outward, plus 1.5 metres ;
 - (ce) from material stacked or deposited alongside the track, on the ground or on a loading platform, to the centre of the nearest track, half the overall width of the widest wagon of that gauge, plus half the width of its door when opened directly outward, plus 1 metre.
- (b) Sleepers of a track shall be in level with the ground and at all crossings of track with a road or walkway, the surface of the road or walkway shall be in level with the top of the rails.
- (c) All track ends shall be equipped with buffer stops of adequate strength.
- (d) Barriers of substantial construction shall be securely and permanently fixed across any doorway or gateway in a building or in a wall which conceals an approaching train from view, between the building and the track as prescribed in clause (a) of sub-rule (3).

- (e) Where track are carried on a gantry or other elevation, a safe footway or footways with hand rails and toe-boards shall be provided at all positions where persons work or pass on foot, and where there is an opening in the stage of an elevated track for the dropping of material to a lower level, the position shall be adequately fenced or the opening itself provided with a grill through which a person cannot fall.
- (f) All point levers shall have their movements parallel to, and not across, the direction of the track.
- (g) All loading platforms which are more than 60 cm. above the level of the ground on which the track is laid and more than 15 metres in length, shall be provided with steps at intervals not greater than 15 metres apart to enable the platform to be easily mounted from the track.
- (h) Turn tables on plant railways shall be provided with locking devices which will prevent the tables from turning while locomotives or wagons are being run on or off the tables.
- (i) Workers shall be prohibited from passing under, between or above railway wagons.
- (17) **Crossing**: (a) At all crossing of a track with a road or walkway, danger or crossing signs and whereever reasonably practicable, blinking light or alarm lights shall be provided. At all important crossing, gates or barriers manned by watchmen shall be provided. Swinging gates and barriers shall be secured against inadvertent opening or closing.
- (b) All crossings, warning signs, gates and barriers shall be illuminated during hours of darkness.
- (18) **Duties of drivers and shunters**: It shall be the duty of every driver of a locomotive, or a shunter including a shunting jamadar, to report without delay to their superior any defect in permanent way, locomotive or rolling stock.
- (19) Young persons not to be employed as drivers of locomotive or as shunters: No person who is under 18 years of age and no person who is not sufficiently competent and reliable shall be employed as a driver of a locomotive or as a shunter.
- (20) The Chief Inspector may by an order in writing exempt a factory or part of it from all or any of the provisions of this rule to such extent and on such conditions as he deems necessary.";
- 21. for rule 56, substitute the following rule :---

"56. Pressure Vessel and Plant.—(1) In this rule—

- (a) 'design pressure' means the maximum pressure that a pressure vessel or plant is designed to withstand safely when operating normally;
- (b) 'maximum permissible working pressure' is the maximum pressure at which a pressure vessel or plant is permitted to be operated or used under this rule and is determined by the technical requirements of the process ;
- (c) 'Plant' means a system of piping that is connected to a pressure vessel and is used to contain any gas, vapour or hquid under pressure greater than the atmospheric pressure, and includes the pressure vessel ; and
- (d) 'pressure vessel' means a vessel that may be used for containing, storing, distributing, transferring, distilling, processing or otherwise handling any gas, vapour or liquid under pressure greater than the atmospheric pressure and includes any pipeline, fitting or other equipment attached thereto or used in connection therewith.

(2) Nothing in this rule shall apply to-

- (a) vessels having internal diameter not exceeding 150 mm. and a capacity not exceeding 145 litres ;
- (b) vessels made of ferrous materials having an internal operating pressure not exceeding one kilogram per square centimetre;
- (c) steam boilers, steam and feed pipes and their fittings coming under the purview of Indian Boilers Act. 1923 (5 of 1923);
- (d) metal bottles or cylinders or pressure vessels used for storage or transport of compressed gases or liquid or dissolved gases under pressure covered by the Gas Cylinder Rules, 1981 and the Static and Mobile Pressure Vessels (Unfired) Rules, 1981 framed under the Indian Explosive Act, 1884 (4 of 1884);
- (e) vessels in which internal pressure is due solely to the static head of liquid;
- (f) vessels with a nominal water capacity not exceeding 500 litres connected in a water-pumping system containing air that is compressed to serve as a cushion ;
- (g) vessels for nuclear energy application ;
- (h) refrigeration plant having a capacity of 3 tons or less of refrigeration in 24 hours ; and
- (i) working cylinders of steam engines or prime movers, feed pump and steam traps, turbine casings, compressor cylinders, steam separators or dryers, steam strainers, steam de-super-heaters, oil separators, air receivers for fire sprinkler installations, air receivers of monotype machines provided the maximum working pressure of the air receiver does not exceed 1.23 kg. per sq./em. (20 lbs./sq.in.) and the capacity 84.95 litres (3 cu. ft.), air receivers of electrical circuit breakers, air receivers of electrical relays, air vecsels on pumps, pipe coils, accessories of instruments and appliances, such as cylinders and piston assemblies used for operating relays and interlocking type of guards, vessels with liquids subjected to static head only, and hydraulically operating cylinders other than any cylinder communicating with an air loaded accumulator.
- (3) Every pressure vessel or plant used in a factory-
 - (a) shall be properly designed on sound engineering practice ;
 - (b) shall be of good construction, sound material, adequate strength and free from any patent defect; and
 - (c) shall be properly maintained in a safe condition :
 - Provided that the pressure vessel or plant in respect of the design and construction of which there is an Indian standard or a standard of the country of manufacture or any other law or regulation in force, shall be designed and constructed in accordance with the said standard, law or regulation, as the case may be and a certificate thereof shall be obtained from the manufacturer or from a competent person which shall be kept and produced on demand by an Inspector.
- (4) Every pressure vessel shall be fitted with-
 - (a) a suitable safety value or other effective pressure releiving device of adequate capacity to ensure that the maximum permissible working pressure of the pressure vessel shell not be enceeded. It shall be set to operate at a pressure not exceeding the maximum permissible working pressure and when more than one protective device is provided, only one of the devices used be set to operate at the maximum permissible working pressure and the additional device shall be set to discharge at a pressure not more than 5 per cent in excess of the maximum permissible working pressure ;

- (b) a suitable pressure gauge with a dial range not less than 1.5 times the maximum permissible working pressure, easily visible and designed to show at all time the correct internal pressure and marked with a prominent red mark at the maximum permissible working pressure of the pressure vessel;
- (c) a suitable attachment for fixing a standard test pressure gauge for checking the accuracy of the pressure gauge referred to in clause
 (b) of this sub-rule ;
- (d) a suitable stop valve or valves by which the pressure vessel may be isolated from other pressure vessels or plant or source of supply of pressure. Such a stop valve or valves shall be located as close to the pressure vessel as possible and shall be easily accessible; and
- (e) a suitable drain cock or value at the lowest part of the pressure vessel for the discharge of the liquid or other substances that may collect in the pressure vessel :
- Provided that it shall be sufficient for the purpose of this sub-rule if the safety valve or pressure relieving device, the pressure gauge and the stop valve are mounted on a pipeline immediately adjacent to the pressure vessel and where there is a range of two or more similar pressure vessels served by the same pressure lead, only one set of such mountings need to be fitted on the pressure lead immediately adjacent to the range of pressure vessels provided they cannot be isolated :
- Provided further that in cases where owing to the nature of the process or the action of the contents of the vessels, a pressure gauge or safety valve or both cannot work reliably, a tested and reliable working thermometer with a sufficient large scale, on which shall be clearly marked the maximum permissible temperature in the vessel or pyrometers or rupture discs in addition to the pressure gauge and safety valve may be fitted as may be directed by the Chief Inspector.
- (5) (a) Every pressure vessel which is designed for a working pressure less than the pressure at the source of supply, or less than the pressure which can be obtained in the pipe connecting the pressure vessel with any other source or supply, shall be fitted with a suitable pressure reducing valve or other suitable automatic device to prevent the maximum permissible working pressure of the pressure vessel being exceeded
- (b) To further protect the pressure vessel in the event of failure of the reducing valve or device, at least one suitable safety valve or other pressure, relieving device of adequate capacity sufficient to release all the steam vapour or gas without undue pressure rise as determined by the pressure at the source of supply and the size of the pipe connecting the source of supply, shall be fitted close to the reducing valve on the low pressure side.
- (6) (a) No new pressure vessel or plant shall be taken into use in a factory after coming into force of this rule unless it has been hydrostatically tested by a competent person at a pressure at least 1.3 times the design, pressure, and no pressure vessel or plant which has been previously used or has remained isolated or idle for a period exceeding 6 months or which has undergone alterations or repairs shall be taken into use in a factory, unless it has been thoroughly examined by a competent person externally, and internally, if practicable, and has been hydrostatically tested by the competent person at a pressure which shall be 1.5 times the maximum permissible working pressure :
- Provided, however, that the pressure vessel or plant which is so designed and constructed that it cannot be safely filled with water or lquid or is used in service whereven traces of water cannot be tolerated, shall be pneumatically tested at a pressure not less than the design pressure or the maximum permissible working pressure as the case may be, subject to the condition that—
 - (i) where the source of pressure is higher than the test pressure, precaution against over-pressurisation of vessel or plant under test shall be taken by the use of suitable reducing valve, pressure gauge and safety valve or adequate size ;

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- (ii) steps shall be taken to ensure that people are not likely to be injured in the event of bursting either by containing the vessel under test within a blast pit, or by retaining wall, or by ensuring that such personnel are adequately protected ; and
- (iii) the vessel under test should not be approached for close inspection untill after the test the pressure has been reduced :
- Provided further that the pressure vessel or plant which is lined with glass shall be tested hydrostatically or pneumatically as required at a pressure not less than the design pressure or maximum permissible working pressure, as the case may be.
- Explanation.—Design pressure shall be not less than the maximum permissible working pressure and shall take into account the possible fluctuations of pressure during actual operation.
- (b) No pressure vessel or plant shall be used in a factory unless there has been obtained from the maker of the pressure vessel or plant or froms a competent person a certificate specifying the design pressure or maximum permissible working pressure thereof, and stating the nature of tests to which the pressure vessel or plant and its fitting (if any) have been subjected, and every pressure vessel or plant so used in a factory shall be conspicuously marked so as to enable it to be identified as to be the pressure vessel or plant to which the certificate relates and the certificate shall be kept available for perusal by the Inspector.
- (c) No pressure vessel or plant shall be permitted to be operated or used at a pressure higher than its design pressure or maximum permissible working pressure as shown in the certificate.
- (7) Every pressure vessel or 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 :
 - Provided that if by reason of the construction of a pressure vessel or plant, a thorough internal examination is not possible, this examination may be replaced by a hydrostatic test which shall be carried out once in every period of two years ;
 - (c) hydrostatically tested once in every period of four years :
 - Provided that in respect of a pressure vessel or plant within walls, such as sizing cylinder made of copper or any other non-ferrous metal, periodic hydrostatic test may be dispensed with subject to the condition that the requirements laid down in sub-rule (8) are fulfilled :
 - Provided further that when it is impracticable to carry out thorough external examination of any pressure vessel or plant every six months as required in clause (a) of this sub-rule, or if owing to its construction and use the pressure vessel or plant cannot be hydrostatically tested as required in clauses (b) and (c) of this sub-rule, a thorough external examination of the pressure vessel or plant shall be carried out at least once in every period of two years, and at least once in every
 - period of four years a thorough systematic non-destructive test, like ultrasonic test, to detect defects of all parts shall be carried out.
 - (8) (a) In respect of any pressure vessel or plant of thin walls such as sizing cylinder made of copper or any other non-ferrous metal the maximum permissible working pressure shall be reduced at the rate of 5 per cent of the original maximum permissible working pressure for every year of its use after the first five years and no such cylinder shall be allowed to continue to be used for more than twenty years after it was first taken into use.

- (b) If any information as to the date of construction, thickness of walls, or maximum permissible working pressure is not available, the age of such pressure vessel or plant shall be determined by the competent person in consulation with the Chief Inspector from the other particulars available with the manager.
- (c) Every new and second hand pressure vessel or plant of thin walls to which repairs likely to effect its strength or safety have been carried out, shall be tested before use to at least 1.5 times its maximum permissible working pressure.
- (9) (a) A report of the result of every examination or test, carried out, shall be completed in the prescribed Form No. 9 within seven days of completion of the work and shall be signed by the personma king the examination or test, and shall be kept available for perusal by the Inspector at all hours when the factory or any part thereof is working.
- (b) 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 other relevent remarks with reasons and may authorise the pressure vessel or plant to be used and kept in operation subject to a lowering of maximum permissible working pressure, or to more frequent or special examination or test, or subject to both of these conditions.
- (c) The competent persons making report of any examination under this rule, shall within seven days of the completion of the examination, send to the Inspector a copy of the report in every case where the maximum permissible working pressure is reduced or the examination shows that the pressure vessel or plant or any part thereof cannot continue to be used with safety unless certain repairs are carried out or unless any other safety measure is taken.
- (d) If a competent person fails to make a thorough examination as required by this rule or makes a report which is false or deficient in any material particular or fails to send to the Inspector a copy of the report as required by clause (c) of this sub-rule, he shall be guilty of an offence.
- (10) Where the report of any examination under this rule specifies any condition for securing the safe working of any pressure vessel or plant, the pressure vessel or plant shall not be used unless the specified condition is fulfilled.
- (11) If the Chief Inspector is not satisfied as to the competence of the person employed to make the examination or as to the thoroughness of the examination, he may require the pressure vessel or plant to be re-examined by a person nominated by him by an order in writing.
- (12) (a) The requirements of this rule shall be in addition to and without any prejudice to and not in derogation of the requirements of any other law in force.
- (b) Certificates or reports of any examination, or test of any pressure vessel or plant to which sub-rules (7) to (9) do not apply, conducted or required to be conducted under any other law in force and other relevent record relating to such pressure vessel or plant, shall be properly maintained as required under the said law and shall be produced on demand by the Inspector.";

[PART]

22. (a) in sub-rules (1) and (2) of rule 57, for the words "Woman or young person", substitute the word "worker";

(b) for the Schedule to rule 57, substitute the following Schedule :---

"SCHEDULE

Class of worker

Maximum limit

| (b) (c) (d) (e) | Adult female Adolescent male Adolescent female Male child | · · · · · · · · · · · · · · · · · · · | ••• •• •• | · · · · · · · | 30 30 20 16 | Kg. Kg. Kg. Kg. Kg. |
|--------------------------|--|---------------------------------------|-----------------|---------------------|----------------------|---------------------------------|
| (e) | Male child | •• | • • | •• | 16 | Kg. |
| (f) | Female child | •• | • • | • • | 14 | Kg."; |

23. for rule 58, substitute the following rule :--

- ••58. Protection of eyes.—Effective screens or suitable goggles shall be provided for the protection of persons employed in or in the immediate vicinity of the following processes :—
- (a) The processes specified in Schedule I annexed hereto, being processes which involve risk of injury to eyes from particles or fragments thrown off in the course of the processes.
- (b) The processes specified in Schedule II annexed hereto, being processes which involve risk of injury to eyes by reason of exposure to excessive light or infra-red or ultra-violet radiations.

SCHEDULE-I

(a) Turning, drilling, breaking, cutting, chipping, grinding, dressing or carving, as the case may be, of bricks, stones, slags, concrete, abrasive wheels or other similar materials.

(b) Dry grinding of metals applied by hand to a revolving wheel or disc or band driven by mechanical power.

(c) Routing, turning, arting, facing, milling, shaping, sawing or other similar operations on metals where work is done dry either by cutting tool or abrasive wheels.

(d) Fettling, cutting out cold rivets, bolts, pins, lugs or other similar articles, or chipping scurfing or descaling of any surface by means of a hammer, chiesel punch or similar hand tools.

(e) Breaking of metal by means of hammers or other tools driven by mecha-, nical power, or work with drop hammers or other power hammers.

(f) Work at a furnace where there is risk to the eyes from molten substances, and pouring, or skimming of molten substances.

(g) Sawing, turning, mortising, moulding, planing, thicknessing or similar other operations on wood or other non-metalic substances.

(h) Handling or manipulation of acids, corrosive liquids or materials, or plant or part of plant which contains such acids, liquids or materials.

SCHEDULE-II

(a) Welding or cutting of metals by means of electric, oxy-acetylene of similar processes.

(b) Work on furnaces, process such as rolling, casting or forging of metal or any other process wherein there is risk of injury to eyes from exposure to excessive light or infra-red or ultra-violet radiations;"

24. (a) in rule 61 substitute the marginal note by the following:-

"rule prescribed under sub-section (7) of section 38 and section 41".

- (b) for rule 61, substitute the following rule:-
 - "61. Fire.—(1) Processes, equipment, plant, etc., involving serious explosio and serious fire hazards : In every factory—
 - (a) all processes involving serious explosion and flash fire hazards shall be located in segregated buildings where the equipment shall be so arranged that only a minimum number of emplyees 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 fireresistant construction;
 - (c) all equipment and plant involving serious fire or flash fire hazard shall, wherever possible, be so constructed and installed that in case of fire they can be easily isolated;
 - (d) all ventilation ducts, pneumatic converyors and similar equipment involving a serio usfire risk shall be provided with flame-arresting or automatic fire extinguishing appliances; and
 - (e) in all work places having serious fire or flash-fire hazards, passages between machines, installation or piles of material shall be at least 90 cm wide.
 - (2) Access for fire fighting : Buildings and Plants shall be so laid and roads, passageways, etc., shall be so maintained as to permit unobstructed access for fire fighting.
 - (3) Protection scainst lightning : Protection from lightning shall be provided for-
 - (a) a building in which explosive or highly flammable substances are manufactured, used, handled or stored ;
 - (b) storage tanks containing oils, paints, or other flammable liquids;
 - (c) grain elevators; and
 - (d) buildings, tall chimneys or stacks where flammable gasses, fum dust or lint are likely to be present.
 - (4) Explosives : All explosives shall be handled transported, stored and used in accordance with the provisions of the Indian Explosives Act, 1984 (4 of 1834).
 - (5) 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 accomulation 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) no transmission belts with iron fasteners shall 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 flame. frictional sparks, over-heated surfaces of machinery or plant, chemical or physical-chemical reaction and radiant heat.

- (6) Spontaneous ignition : Where materials are likely to induce spontaneous ignition, care shall, be taken to aviod formation of air pocket and to ensure adequate ventilation.
- (7) **Cylinders containing compressed gas** :---Cylinders containing compressed gas may only be stored in open if they are protected against excessive variation of temperature, direct rays of sun, or continuous dampness. Such cylinders shall never be stored near highly flammable substances, furnaces or hot processes. The room where such cylinders are stored shall have adequate ventilation.
- (8) Storage of flammable liquids : (a) The quantity of flammable liquids in any work room shall be the minimum required for the process or processes carried on in such room. Flammable liquids shall be stored in suitable containers with close fitting covers :
- Provided that not more than 20 litres of flammable liquids having a flash point of 21'C or less shall be kept or stored in any work room.
- (b) Flammable liquids shall be stored in closed containers and in limited quantities in well ventilated rooms of Fire resisting construction which are isolated from the remainder of the building by fire walls and self closing fire doors.
- (c) Large quantities of such liquids shall be stored in adequately ventilated buildings of fire resisting construction or in storage tanks, preferably underground, and these shall be located at a distance from any building as required in the Petroleum Rules, 1976.
- (d) Effective steps shall be taken to prevent leakage of such liquids into basements, sumps or drains and to confine any escaping liquid within safe limits.
- (9) Accumulation of flammable dust, gas, fume or vapour in air or flammable waste material on the floors : In every factory,—
 - (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; and
 - (b) no waste material of a flammable nature shall be permitted to accumulate on the floor and shall be removed at least once in a day or shift, and more often, when possible, and such materials shall be placed in suitable metal containers with covers wherever possible.
- (10) Fire exits : (a) In this rule,-
 - (i) "horizontal exit" means an arrangement which allows alternative egress from a floor area to another floor at or near the same level in an adjoining building or an adjoining part of the same building with adequate separation; and
 - (ii) "travel distance" means the distance an occupant has to travel to reach an exit.
- (b) 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 and the same shall be free from any obstruction.
- (c) An exit may be a doorway, corridor, passageway to an internal or external stairway or to a verandah. An exit may also include a horizontal exit leading to an adjoining building at the same level.
- (d) Lifts, escalators and revolving doors shall not be considered as exits for the purpose of this sub-rule.
- (e) The exits shall be clearly visible and sufficiently illuminated with suitable arrangement, to maintain the required illumination in case of failure of the normal source of electric supply.

- (f) The exits shall be marked in a language understood by the majority of the workers.
- (g) 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 liftshafts or stairways where funnel or flue effect may be created inducing an upward spread of fire.
- (h) All exits shall provide continuous means of egress to the exterior of a building or to an exterior open space leading to a street.
- (i) Exits shall be so located that the travel distance on the floor shall not exceed 30 metres.
- (j) In case of those factories where materials of high hazard 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.
- (k) Wherever more than one exit is required for any room, space or floor, exits shall be placed as remote from each other as possible and shall be arranged to provide direct access in separate directions from any point in the area served.
- (1) The unit of exit width, used to measure capacity of any exit, shall be 50 cm. A clear width of 25 cm. shall be counted as an additional half unit. Clear width of less than 25 cm. shall not be counted for exit width.
- (m) Occupants per unit width shall be 50 for stairs and 75 for doors.
- (n) For determining the exits required, the occupant load shall be reckoned on the basis of actual number of occupants within any floor area or 10 square metres per person, whichever is more.
- (o) There shall not be less than two exits serving every floor area above and below the ground floor, and at least one of them shall be an internal enclosed stairway.
- (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 and unimpeded 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, on a corridor or passageway providing continuous and protected means or egress.
- (s) No exit doorway shall be less than 100 cm. in width. Doorways shall be not less than 200 cm. 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 cm. sliding door with up-down movement shall not be installed for this purpose.
- (u) An exit door shall not open immediately upon a flight of stairs. A landing equal to at least the width of the doorway shall be provided in the stairway at each doorway. The level of landing shall be the same as that of the floor which it serves.

- (∇) 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 $2\cdot 4$ metres.
- (y) Internal stairs shall be constructed of non-combustible materials throughout.
- (z) Internal stairs shall be constructed as a self-contained unit with at least one side adjacent to external wall and shall be completely enclosed.
- (aa) A staircase shall not be arranged around a lift-shaft unless the latter is totally enclosed by a material having a fire-resistance rating not lower than that of the type of construction of the former.
- (bb) Hollow combustible construction shall not be permitted.
- (cc) The minimum width of an internal staircase shall be 100 cm.
- (dd) The minimum width of treads without nosing shall be 25 cm. for an internal staircase. The treads shall be constructed and maintained in a manner to prevent slipping.
- (ee) The maximum height of a riser shall be 19 cm. and the number of risers shall be limited to 12 per flight.
- (ff) Hand rails shall be provided with a minimum height of 100 cm. and shall be firmly supported.
- (gg) The use of spiral staircase shall be limited to low-occupant load and to a building of height of 9 metres, unless they are connected to platforms such as balconies and terraces to allow escapees to pause. A spiral staircase shall be not less than 300 cm. in diameter and have adequate head room.
- (hh) The width of a horizontal exit shall be same as for the exit doorways.
- (ii) The horizontal exit shall be equipped with at least one fire door of selfclosing type.
- (jj) The floor area on the opposite or refuge side of a horizontal exit shall, be sufficient to accommodate occupants of the floor areas served allowing not less than 0.3 square metre per person. The refuge area shall be provided with exits adequate to meet the requirements of this sub-rule. At least one of the exits shall lead directly to the exterior or street.
- (kk) Where there is difference in level between connected areas for horizontal exit, ramps not more than 1 in 8 slopes shall be provided. For this purpose steps shall not be used.
- (II) Doors in horizontal exits shall be openable at all times.
- (mm) Ramps with a slope of not more than 1 in 10 may be substituted for the requirements of staircase. For all slopes exceeding 1 in 10 and wherever the use is such as to involve danger of slipping, the ramp shall be surfaced with non-slipping material.
- (nn) In any building not provided with automatic fire alarm, a manual fire alarm system shall be provided if the total capacity of the building is over 500 persons, or if more than 25 persons are employed above or below the ground floor, except that no manual fire alarm shall be required in one-storey buildings where the entire area is undivided and all parts thereof are clearly visible to all occupants.

(oo) The Chief Inspector may by an order in writing exempt any factory or part of it from all or any or the provisions of this rule to such extent and on such conditions as may be deemed necessary".

25(a) in rule 62, substitute the marginal note by-

"rule prescribed under sub-section (7) of section 38 and section 41."

- (b) for rule 62, substitute the following rule :---
 - "62. (1) First-aid fire fighting arrangements.—(a) In every factory there shall be provided and maintained adequate and suitable fire fighting equipment for fighting fires in the early stages, those being referred to as first-aid fire fighting equipment in this rule.
 - (b) The types of first-aid fire fighting equipment to be provided shall be determined by considering the different types of fire risks which are classified as follows :—
 - A. Class A fire—Fire due to combustible materials such as wood, textiles, paper, rubbish and the like: (i) Light hazards—Occupancies like offices, assembly halls, canteens, rest-rooms, ambulance rooms and the like;
 - (ii) Ordinary hazards—Occupancies like saw mills, carpentry shop, small timber yards, book binding shops, engineering workshops and the like;
 - (iii) Extra hazards—Occupancies like large timber yards, godowns, storing fibrous materials, flour mills, cotton mills, jute mills, large wood working factories and the like ;
 - B. "Class B fire": Fire in flammable liquids like oil, petroleum products, solvents, grease paint, etc.
 - C. "Class C fire": Fire arising out of gaseous substances.
 - D. "Class D fire" : Fire from reactive chemicals, active metals and the like.
 - E. "Class E fire": Fire involving electrical equipment and delicate machinery and the like.
- (c) The number and types of first-aid fire fighting equipment to be provided shall be as per the following scale :---
 - A. Class A fire : (i) Light hazard—There shall be one 9-litre water bucket for every 100 square metres of floor area or part thereof and one 9-litre water type (soda-acid or gas pressure or bucket pump) extinguisher for each 6 buckets or part thereof with a minimum of one extinguisher and two buckets per compartment of the building. These equipments shall be so distributed over the entre floor area that no person is required to travel more than 25 metres from any point to reach the nearest equipment.
 - (ii) Ordinary hazard—There shall be one 9-litre water bucket for every 100 square metres of floor area or part thereof and one 9-litre water type (soda-acid, gas pressure or bucket pump) extinguisher for each six buckets or part thereof, with a mimimum of 2 extinguishers and 4 buckets per compartment of the building. These equipments shall be so distributed over the entire floor area that no person is required to travel more than 15 metres from any point to reach the nearest equipment.
 - (iii) Extra hazard—The scale of equipment shall be what is prescribed for ordinary hazard and, in addition, such extra equipment as, in the opinion of the Inspector, are necessary, having regard to the special nature of occupancy :

- Provided that in special cases, the Inspector, after taking into consideration the circumstances, may waive the provision of the buckets prescribed in this sub-clause subject to condition that the number of extinguishers provided is made double than what is prescribed.
- B. Class B fire : In addition to the requirement as laid down in sub-clause A there shall be at least one sand bucket and one fire extinguisher either foam or carbon dioxide or dry powder type per 50 square metres of floor area and these shall be so distributed that no person is required to travel more than 15 metres from any point to reach the nearest equipment.
- C. Class C fire : There shall be at least one carbon dioxide or dry chemical powder extinguisher near each plant or group of plants.
- D. Class D fire : There shall be special dry powder chloride based type of extinguisher, or sand buckets on a scale as laid down for Class B fire provided that the Inspector may direct a higher scale of portable equipment depending upon the risk involved.
- E. Class E fire: There shall be at least one carbon dioxide or dry powder type extinguisher near each plant or group of plants depending upon the risk involved.
- (d) All first-aid fire fighting equipment shall conform to the relevant Indian Standards.
- (e) So far as is reasonably practicable, the first-aid fire fighting equipment shall all be of similar shape and appearance and shall have the similar method of operation.
- (f) All first-aid fire fighting equipment shall be placed in a conspicuous position and shall be readily and easily accessible for immediate use. Generally, these equipment shall be placed as near as possible to the exits or stair landing or normal routes of escape.
- (g) All water buckets and bucket pump type extinguishers shall be filled with clean water. All sand buckets shall be filled with clean, dry and fine sand.
- (h) All other extinguishers shall be charged in accordance with the instruction of the manufacturer.
- (i) Each first-aid fire fighting equipment shall be allotted a serial number by which it shall be referred to in the records. The following details shall be painted with white paint on the body of each equipment :---
 - 1. Serial number,
 - 2. Date of last refilling, and
 - 3. Date of last inspection /test.
- (j) First-aid fire fighting equimpent shall be placed on platforms or in cabinets in such a way that their bottom is 750 mm above the floor level. Fire buckets shall be placed on hooks attached to a suitable stand or wall in such a way that their bottom is 750 mm above the floor level. Such equipment if placed outside the building, shall be under sheds or covers.
- (k) All extinguishers shall be thoroughly cleaned and recharged immediately after discharge sufficient refill materials shall be kept readily available for this purpose at all times.
- (1) All first-aid fire fighting equipment shall be subjected to routine maintenance, inspection, and testing which shall be carried out by properly trained persons. <u>Periodicity</u> of the routine maintenance, inspection and test shall conform to the relevant India Standards.

(2) Other firs fighting arrangements.—(a) Inevery factory, adequate provision of water supply for fire fighting shall be made and where the amount of water required in litres per minute as calculated from the formula A+B+C+D divided by 20 is 550 or more, power driven trailer pumps of adequate capacity to meet the requirement of water as calculated above shall be provided and maintained.

In the above formula—

- A = the total area in square metres of all floors including galleries in all buildings of the factory;
- B = the total area in square metres of all floors and galleries including open spaces in which combustible materials are handled or stored;
- $C = t_{i}^{l}e$ total area in square metres of all floors over 15 metres above ground level; and
- D =the total area in square metres of all floors of all building other than those of fire resisting construction :
- Provided that in areas where the fire risk involved does not require use of water, such areas under B, C or D may, for the purpose of calculation, be halved :
- Provided further that where the areas under B, C or D are protected by permanent automatic fire fighting installations approved by any fire association or fire insurance company, such areas may, for the purpose of calculation, be halved :
- Provided also that where the factory is situated at not more than 3 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 in calculating water supply required under clause (a).
- (b) Each trailer pump shall be provided with equipment as per Schedule appended to this rule. Such equipment shall conform to the relevant Indian Standards.
- (c) Trailer pumps shall be housed in a separate shed or sheds which shall be sited closed to a principal source of water supply in the vicinity of the main risks of the factory.
- (d) 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 all times.
- (e) Water supply shall be provided to give flow of water as required under clause (a) for at least 100 minutes. At least 50 per cent. of this water supply or 450,000 litres whichever is less, shall be in the form of static tanks of adequate capacities (not less than 450,000 litres each) distributed round the factory with due regard to the potential fire risks in the factory. Where piped supply is provided, the size of the main shall not be less than 15 centimetres diameter and it shall be capable of supplying a minimum of 4,500 litres per minute at a pressure of not less than 0.7 kilogram per square centimetre.
- (f) All trailer pumps including the equipment provided with them and the vehicles for towing them shall be maintained in good condition and subjected to periodical inspection and testing as required.

- (b) Sufficient number of persons shall be trained in the proper handling of fire fighting equipment as referred to in clause (a) and their use against the types of fire for which they are intended, to ensure that adequate number of persons are available for fire fighting both by means of first-aid fire fighting equipment and others. Wherever vehicles with towing attachment are to be provided as required in clause (d) of sub-rule (2) sufficient number of persons shall be trained in driving those vehicles to ensure that the desired number of such trained persons are available for driving them whenever the need arises.
- (c) Fire fighting drills shall be held at least once in every 3 months.
- (4) Automatic sprinklers and fire hydrants shall be in addition and not in substitution of the requirements in sub-rules (1) and (2).
- (5) If the Chief Inspector is satisfied in respect of any factory or any part of a factory that owing to the exceptional circumstances such as inadequacy of water supply or infrequency of the manufacturing process or for any other reason, to be recorded in writing, all or any of the requirements of this rule 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 sub-rules subject to conditions as he may by such order specify.

SCHEDULE

EQUIPMENT TO BE PROVIDED WITH TRAILER PUMP

For light trailer pump of a capacity of 680 litres /minute

- 1 Armoured suction hose of 9 metres length, with wrenches.
- 1 Metal suction strainer.
- 1 Basket strainer.
- 1 Two-way suction collecting-head.
- 1 Suction adaptor.
 - 10 Unlined or rubber-lined 70 mm delivery hose of 25 metres length complete with quick-release couplings.
 - 1 Dividing breaching-piece.
 - 2 Branch-piece with 15 mm. nozzles.
 - 1 Standpipe with blank cap.
 - 1 Hydrant key.
 - 4 Collapsible canvas buckets.
 - 1 Fire hook (preventor) with cutting edge.
 - 1 25 mm. manila rope of 30 metres length.
 - 1 Extension ladder of 9 metres length (where necessary).
 - 1 Heavy axe.
 - 1 Spade.
 - 1 Pick axe.
 - 1 Saw.
 - 1 Crowbar.
 - 1 Hurricane lamp.
 - 1 Electric torch.
 - 1 Pair rubber gloves.

For Large trailer pump of a capacity of 1,800 litres/minute

- 1 Armoured suction hose of 9 metres length, with wrenches.
- 1 Metal strainer.
- 1 Basket strainer.
- 1 Three-way suction collecting head.
- 1 Suction adaptor.
- 14 Unlined or rubber-lined 70 mm. delivery hose of 25 metres length complete with quick-release couplings.
- 1 Dividing breaching-piece.
- 1 Collecting breaching-piece.
- 4 Branch pipes with one 25 mm, two 20 mm one difuser nozzles.
- 2 Hydrant keys.
- 6 Collapsible canvas buckets.
- 1 Ceiling hook (preventor) with cutting edge.
- 1 50 mm manila rope of 30 metres length.
- 1 Extension ladder of 9 metres length (where necessary).
- 1 Heavy axe.
- 1 Spade.
- 1 Pick axe.
- 1 Crowbar.
- 1 Saw.
- 1 Hurricane lamp.
- 1 Electric torch.
- 1 Pair rubber gloves.
- 26. in rule 66,-
 - (a) for sub-rule (1) substitute the following rule:
 - "(1) Every ambulance room shall be under the charge of at least one wholetime qualified medical practitioner (hereinafter referred to as medical officer) assisted by at least one qualified nurse or dressercum-compounder and one nursing attendant in each shift:
 - Provided that where a factory works in more than one shift, the Chief Inspector, if he is satisfied that on account of the size of the factory, nature of hazards or frequency of accidents, it is not necessary to employ a whole-time medical officer for each shift separately, may, with the previous approval of the State Government grant exemption from the provisions of this sub-rule and permit employment of only one whole-time medical officer for more than one or all shifts subject to the conditions that—
 - (a) there shall be no relaxation in respect of nursing staff; and
 - (b) the medical officer shall be readily available on call during the working hours of the factory.";

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

The Chief Inspector may by an order in writing exempt a factory or part of it from all or any of the provisions of this rule to such extent and on such conditions as may be deemed necessary.";

- (b) in sub-rule (2), omit the word "dispensary";
- (c) after sub-rule (2), insert the following sub-rule :---
- "(2A) No medical officer shall be required or permitted to do any work which is inconsistent with or detrimental to his responsibilities under this rule.";
- (d) in sub-rule (3), omit the word "dispensary";
- 27. in rule 67 for the word and figures "section 46", substitute the word and figures "sections 46 and 112";
- 28. after sub-rule (1) of rule 70, insert the following sub-rule :---
 - "(1A) In computing the prices referred to in sub-rule (1) the following items of expenditure shall not be taken into consideration, but shall be borne by the occupier:—
 - (a) the rent for the land and building;
 - (b) the depreciation and maintenance charges of the building and equipment provided for the canteen;
 - (c) the cost of purchase, repairs and replacement of equipment including furniture, crockery, cutlery and utensils;
 - (d) the charges and expenses for providing water, lighting and ventilation;
 - (e) the interest on the advance paid for running the canteen and on the amount spent on the provision and maintenance of the building, furniture and equipment provided for the canteen;
 - (f) the cost of fuel or electricity required for cooking or heating of foodstuff or water;
 - (g) any payment, wages or otherwise, made to the employees employed for running the canteen and the cost and washing charges of uniforms provided to them; and
 - (h) any other expenditure which is not related to the actual cost incurred in procuring and purchasing food-stuff, beverages and other items to be served in the canteen.";
- 29. in marginal note of rule 73, after word and figures 'section 47', add the words and figures "and section 112";

30. in rule 94,-

:

(a) in sub-rule (1)---

- (i) for the words "The following operations", substitute the words "The following manufacturing process or operations" and omit the word "operation" after the word "dangerous";
- (ii) for clause (o), substitute the following clause :---
 - "(o) Compression of hydrogen and oxygen produced by electrolysis of water.";
- (iii) after clause (t), add the following clauses :----
 - "(u) Process of extracting oils and fats from vegetable and animal sources in solvent extraction plants.
 - (v) Manufacture or manipulation of manganese and its compounds.
 - (w) Manufacture or manipulation of dangerous pesticides.
 - (x) Manufacture or manipulation of carcinogenic dye intermediates.
 - (y) 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.

(b) in sub-rule (2), for the words "dangerous", substitute the words "manufacturing process, on";

(c) for schedule XV substitute the following schedule :---

"SCHEDULE XV

(Compression of hydrogen and oxygen produced by electrolysis of water).

1. The provision of this Schedule shall apply to all factories where either hydrogen or oxygen or both the gases are manufactured by the electrolytic method with **a** view to compressing the gases for any purpose whatsoever.

2. The water and the caustic soda or the caustic potash used for making lye shall be chemically pure within the pharmaceutical limits.

3. (a) The purity of oxygen and hydrogen shall be tested by a competent person at least once in every four hours at the following posts :---

(i) in the electrolysis room;

(ii) at the gas holder inlet; and

(iii) at the suction end of the compressor :

- Provided, however, that if the electrolyser plant is fitted with automatic recorder of purity of oxygen and hydrogen with alarm signals and lights, it shall be sufficient if the purity of gases is tested at the suction end of the compressor only.
- (b) The results of test or analysis shall be entered in a register showing-
- (i) the date of test, (ii) the time of test, (iii) the purity of the gas tested and (iv) the signature of the person carrying out the test.

(c) The register shall be available to the Inspector at all times during working hours, or when any work is being carried on inside the factory.

4. The oxygen and hydrogen gas shall not be compressed if their purity as determined under paragraph 3 above falls below 98 per cent at any time.

5(a) The room in which the electrolyser plant is installed shall be separate from the plant for storing and compressing the oxygen and hydrogen and also the electric generator room.

(b) High pressure gas vessels shall be preferably located in opensided sheds. If located otherwise, provision shall be made for adequate ventilation to the satisfaction of the Inspector.

6. All electric fittings shall be of flame-proof construction, shall be maintained in flame-proof state, and all electric conductors shall be enclosed in flame-proof metal fittings conduits.

7. Gas holders, gas pipe lines and, wherever possible, high pressure gas vessels shall be effectively earthed.

8. Prominent notices in the language understood by the majority of the workers and legible both in day and night prohibiting smoking or 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 risk of fire or explosion.

9. 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 and in addition an automatic device shall be provided to eut 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. Oxygen and hydrogen pipes shall be painted with distinguishing colours so as to eliminate the possibility of inter-connections.

11. If for any reason hydrogen gas pipe joints are broken, all such pipe lines shall be purged of air after re-connecting and before drawing hydrogen gas.

12. Each plant shall be provided with at least two gas holders for each kind of gas fitted with adequate number of interlinked stop values so that no gas holder shall be connected to the compressor and to the electrolyser at the same time:

Provided, however, if an automatic recorder is installed between the gas holder and the hydrogen compressor and if the same is interlocked to switch off the compressor motor in the event of the purity of the gas falling below 98 per cent, it shall be sufficient if one gas holder is provided for the gas being collected and compressed.

13. (a) The bell of any gas holder shall not be permitted to go within 30 centimetres of its lowest position when empty and a limit switch shall be fitted to the gas holder in such a manner as to switch off the compressor motor when the limit is reached.

(b) In addition to the limit switch in 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 hydrogen compressor to switch off the compressor motor in the event of the gas holder being empited to the extent to cause vacuum.

14. No part of the electrolyser plant and the gas holders and compressor shall be subjected to welding, brazing, soldering or cutting until steps have been taken to remove any explosive substance from that part and render the part safe for such operations and after the completion of such operations no explosive substance shall be allowed to enter that part until the metal has cooled sufficiently to prevent risk of explosion.

15. 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 electric generator after erection of repairs shall be switched on to the electrolysers unless the same is certified by the competent persons under whose direct supervision erection or repairs are carried on to be in a safe condition and the terminals have been checked for the polarity as required by paragraph 9.

16. Every part of the electrolyser plant and the gas holders and compressor shall have a regular schedule of overhaul and checking and every defect noticed shall be rectified forthwith.

17. Where the Chief Inspector is satisfied that owing to the special conditions or special methods, all or any of the provisions of this Schedule are not necessary for the protection of persons employed, he may by order in writing exempt any factory from all or any of such provision subject to such conditions as he may specify therein. Such order may at any time be revoked by the Chief Inspector at his discretion";

(d) after Schedule XX add the following schedule :----

"SCHEDULE XXI

Process of extracting oils and fats from vegetables and animal sources in solvent extraction plants

- 1. Definitions.—For the purposes of this schedule—
- (a) "solvent extraction plant" means a plant in which the process of extracting oils and fats from vegetable and animal sources by use of solvents is carried on;
- (b) "solvent" means an inflammable liquid such as pentane, hexane and heptane used for the recovery of oils and fats from vegetable and animal sources;

(c) "fiame proof enclosure" as applied to electrical machinery or apparatus means an enclosure, that will withstand, when covers on other access doors are properly secured, an internal explosion of the flammable gas or vapour which may enter or which may originate inside the enclosure without suffering damage and without communicating internal inflammation (or explosion) to the external flammable gas or vapour.

2. Location and layout.—(a) No solvent extraction plant shall be permitted to be constructed or extended to within a distance of 30 metres from the nearest residential locality.

(b) A continuous wire fencing 1.5 metres high shall be provided around the solvent-extraction plant up to a minimum distance of 15 metres from the plant.

(c) No person shall be allowed to carry matches or an open flame or fire inside the area bound by the fencing.

(d) Boiler houses and other buildings where open fiame processes are carried on shall be located at least 30 metres away from the solvent extraction plant.

(e) If godowns and preparatory processes are at a distance of less than 30 metres from the solvent extraction plant, these shall be at least 15 metres distant from the plant, and a continuous barrier wall of non-combustible material, 1.5 metres high shall be erected at a distance of not less than 15 metres from the solvent extraction 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.

3. Ventilation.—The solvent extraction plant shall be well ventilated and if the plant is housed in a building, the building shall be provided with mechanical ventilation with provision for at least six air changes per hour.

4. Vapour detection: A suitable type of flame-proof and portable combustible gas indicator shall be provided and maintained in good working order and a schedule of routine sampling of atmosphere at various locations as approved by the Chief Inspector shall be drawn out and entered in a register maintained for the purpose.

5. Housekeeping: (a) Solvents shall not be stored in an area covered by solvent extraction plant except in small quantities which shall be stored in approved safety cans.

(b) Waste materials such as oily rags, other wastes and absorbants used to wipe off solvent and paints and oils shall be deposited in approved containers and removed from the premises at least once a day.

(c) Space within the solvent extraction plant and within 15 metres from the plant shall be kept free from any combustible materials and any spills of oil or solvent, shall be cleaned up immediately.

6. Electrical Installations: (a) All electrical motors and wiring and other electrical equipment installed or housed in solvent extraction plant shall be of flame proof construction.

(b) All metal parts of the plant and building including various tanks and containers where solvents are stored or are present and all parts of electrical equipment not required to be energised shall be properly bonded together and connected to earth so as to avoid accidental rise in the electrical potential of such parts above the earth potential.

7. Restriction on smoking: Smeking shall be strictly prohibited within 15 metres distance from solvent extraction plant. For this purospe, 'NO SMOKING' signs shall be permanently displayed in the area.

8. **Precautions against friction :** (a) All tools and equipment including ladders, chains and other lifting trackles required to be used in solvent extraction plant shall be of non-sparking type.

(b) No machinery or equipment in solvent extraction plant shall be belt driven unless the belt used is of such a type that it does not permit accumulation of static electricity to a dangerous level. (c) No person shall be allowed to enter and work in the solvent extraction plant, if wearing clothes mude of nylon or such other fibre that can generate static electrical charge, or wearing footwear which is likely to cause sparks by friction.

9. Fire fighting apparatus: (a) Adequate number of portable fire extinguishers suitable for use against flammable liquid fires shall be provided in the solvent extraction plant.

(b) An automatic water spray sprinkler system on a wet pipe or open-head deluge system with sufficient supply of storage water shall be provided over solvent extraction plant and throughout the building housing such plant.

10. Precautions against power failure: Provision shall be made for the cutting off of steam in the event of power failure and also for emergency overhead water-supply for feeding water by gravity to condensers which shall come into play automatically with the power failure.

11. Magnetic separators; Oil cake shall be fed to the extractor by a conveyor through a hopper and a magnetic separator shall be provided to remove any pieces of iron during its transfer.

12. Vonting: (a) Carks containing solvents shall be protected with emergent venting to relieve excessive internal pressure in the event of fire.

(b) All emergency relief vents shall terminate at least 6 metres above the ground and be so located that vapours will not re-enter the building in which solvent extraction plant is located.

13. Waste Water: Process waste water shall be passed through a flash evaporator to remove any solvent before it is discharged into a sump which should be located within the fenced area but not closer than 8 metres to the fence.

14. Examination and repairs: (a) The solvent extraction plant shall be examined by the competent person to determine any weakness or corrosion and wear once in every 12 months. Report of such examination shall be supplied to the Inspector with his observation as to whether or not the plant is in safe condition to work.

(b) No repairs shall be carried out to the machinery or plant except under the direct supervision of the competent person.

(c) Facility shall be provided for purging the plant with inert gas before opening for cleaning or repairs and before introducing solvent after repairs.

15. Operating personnel: The operation of the plant and machinery in the solvent extraction plant shall be in the charge of such duly qualified and trained persons as are certified by the competent person to be fit for the purpose and no other person shall be allowed to operate the plant and machinery.

16. Employment of women and young persons: No woman or young person shall be employed in the solvent extraction plant.

17. 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 is not necessary for the protection of the workers in the factory, he may by order in writing grant exemption which he may at his discretion revoke, to such factory from all or any of such provisions subject to conditions, as he may think fit."

SCHEDULE XXII

Manufacture or manipulation of manganese and its compounds

1. Application : The schedule shall apply to every factory in which or in any part of which any manganese process is carried on.

- 2. Definitions : For the purposes 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 any ore or any mixture containing manganese; and
- (d) "efficient exhaust ventilation" means loca'ized ventilation effected by mechanical means for the remcval of dust or fume or mist at its source of origin so as to prevent it from escaping into the atmosphere of any place where any work is carried on. No draught shall be deemed to be efficient which fails to remove the dust or fume or mist at the point where it is generated and fails to prevent it from escaping into and spreading into the atmosphere of a work place.

3. Isolation of a process: 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 processes may not be affected by the same.

4. Ventilation of process : No process in which any dust, vapour or mist containing manganese is generated shall be carried out except under an efficient exhaust ventilation which shall be applied as near to the point of generation as practicable.

5. Personal protective equipment: (a) 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.

(b) 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.

(c) The occupier shall provide and maintain for the use of all persons employed suitable accommodation for the storage and make adequate arrangements for cleaning and maintenance of personal protective equipment.

6. Prohibition relating to women and young persons: No woman or young person shall be employed or permitted to work in any manganese process.

7. Food, drinks, etc., prohibited in the work rooms: No food, drink, pan and supari or tobaceo shall be allowed to be brought into or consumed by any worker in any work room in which any manganese process is carried on.

8. **Messroom :** There shall be provided and maintained for the use of the persons employed in a manganese process a suitable messroom which shall be furnished with sufficient tables and benches and adequate means for warming of food. The messroom shall be placed under the charge of a responsible person and shall be kept clean.

9. Washing facilities: There shall be provided and maintained in a clean state and in good condition, for the use of persons employed on manganese process—

- (a) 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 at least 60 centimetres for every ten such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimetres; or
 - (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; and
- (b) sufficient supply of soap or other suitable cleaning material and nail brushes and clean towels.

10. **Cleakroom :** If the Chief Inspector so requires there shall be provided and maintained for the use of persons employed in manganese process a cloakroom for clothing put off during working hours with adequate arrangements for drying the clothing.

11. Cautionary placard and instruction: Cautionary notices in the form specified in appendix 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 the best preventive measures and methods to protect themselves. The notices shall always be maintained in a legible condition.

12. Medical examination: (1) Every person employed in a manganese process shall be medically examined by Certifying Surgeon within 14 days of his first employment and thereafter at intervals of not more than three months.

(2) If a person medically examined is found fit for employment on a manganese process the Certifying Surgeon, shall grant a certificate of fitness in Form 4, 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 any Inspector, and the person granted such a certificate shall be provided with a token made of metal with the number of the certificate inscribed thereon and the said person shall always carry the said token on the person while at work.

(3) If a person is found unfit for work in any manganese process, the Certifying Surgeon shall grant a certificate to that effect and such person shall not be allowed to work in any manganese process.

(4) (a) If the Certifying Surgeon finds that any worker who had been granted a certificate of fitness at a previous medical examination was 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.

(b) The 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 17.

(5) If the Certifying Surgeon is of the opinion that a person had become permanently unfit for employment on any mangadese 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 mangadese process.

(6) If the 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 Certifying Surgeon. (7) If the 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 Certifying Surgeon may also 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 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.

13. 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.

APPENDIX

CAUTIONARY NOTICE

Manganese and Manganese Compounds

1. Dust, fumes and mists of manganese and its compounds are toxic when inhaled or when ingested.

- 2. Do not consume food or drink in or near the work place.
- 3. Take a good wash before taking meals.
- 4. Keep the working area clean.
- 5. Use the protective clothing and equipment 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. In case of sickness like headaches, prolonged sleeplessness or abnormal sensations on the body, report to the manager should be informed who would make necessary arrangements for your examination and treatment.

SCHEDULE XXIII

Manufacture or manipulation of dangerous posticides

1. Application: This schedule shall apply in respect of all factories or any part thereof in which the process of manufacture or manipulation of dangerous pesticide hereinafter referred to as the said manufacturing process is carried on.

- 2. Definitions : For the purpose of this schedule-
- (a) "dangerous pesticide" means any product proposed or used for controlling, destroying or repelling any pest or for preventing growth or mitigating effects of such growth including any of its formulations which is considered toxic under and is covered by the Insecticides Act, 1968 and the rules made therounder and any other product, as may be notified from time to time by the State Government;
- (b) "manipulation" includes mixing, blending, formulating, filling, emptying, packing or otherwise handling;

- (c) "efficient exhaust draught" means localized mechanical ventilation for removal of smoke, gas, vapour dust, fume or mist so as to prevent them from escaping into the air of any work room in which work is carried on. No exhaust draught shall be considered efficient if it fails to remove smoke generated at the point where such gas, fume, dust, vapour or mist originates from the process;
- (d) "first employment" shall mean first employment in any manufacturing process to which this schedule applies and shall also include re-employment in the said manufacturing process following any cessation of employment for a continuous period exceeding three calendar months; and
- (e) "suspension" means suspension from employment in any process wherein a dangerous pesticide is manipulated, by written certificate in the health register in Form 17 signed by the Certifying Surgeon who shall be competent to suspend all persons employed in such process.

3. Ventilation: (a) In every work room or area where a dangerous pesticide is manipulated, adequate ventilation shall be provided at all times by the circulation of fresh air.

(b) Unless the process is completely enclosed, the following operations during manipulation of a dangerous pesticide shall not be undertaken without an efficient exhaust draught—

- (i) emptying a container holding a dangerous pesticide;
- (ii) blending a dangerous pesticide;
- (iii) preparing a liquid or powder formulation containing a dangerous pesticide; and
- (iv) changing or filling a dangerous pesticide into a container, tank hopper or machine or small sized containers.

(c) In the event of a failure of the exhaust draught provided on the above operation, the said operation shall be stopped for this.

4. Manipulation not to be undertaken: Manufacture or manipulation of a pesticide shall not be undertaken in any factory unless a certificate regarding its dangerous nature or otherwise is obtained from the Chief Inspector.

5. Manual handling: (a) A dangerous pesticide shall not be required or allowed to be manipulated by hand except by means of a long handled scoop.

(b) Direct contact of any part of the body with a dangerous pesticide during its manipulation shall be avoided.

6. Prohibition relating to employment of women or young persons: No. woman or young person shall be employed or permitted to work in any room in which the said manufacturing process is carried on or in any room in which dangerous pesticide is stored.

7. Instruction to workers: Every worker on his first employment shall be fully instructed on the properties including dangerous properties of the chemicals handled in the said manufacturing process and the hazards involved. The employees shall also be instructed in the measures to be taken to deal with any emergency. Such instructions shall be repeated periodically.

8. Cautionary notices and placards: Cautionary notices and placards in the form specified in appendix to this schedule and printed in the language of the majority of the workers shall be displayed in all work places in which said manufacturing process is carried on so that they can be easily and conveniently read by the workers. Arrangements shall be made by the occupier and the manager of the factory to periodically instruct the workers regarding the health hazards arising in the said manufacturing process and methods of protection Such notices shall include brief instructions regarding the periodical clinical tests required to be undertaken for protecting health of the workers.

9. Protective clothing and protective equipment: (a) Protective clothing consisting of long pants and shirts or overalls with long sleeves and head coverings shall be provided for all workers employed in the said manufacturing process.

(b) (i) Protective equipment consisting of rubber gloves, gum boots, rubber aprons, chemical safety goggles and respirators shall be provided for all workers employed in the said manufacturing process.

(ii) Gloves, boots, aprons shall be made from synthetic rubber where a pesticide contains oil.

(c) Protective clothing and equipment shall be worn by the workers supplied with such clothing and equipment.

(d) Protective clothing and equipment shall be washed daily from inside and outside of the workers handle pesticides containing necotine or phosphorous and shall be washed frequently if handling other pesticides.

(e) Protective clothing and equipment shall be maintained in good repair.

10. Floors and work-benches: (a) Floors in every work room where dangerous pesticides are manipulated shall be of cement or other impervious material giving a smooth surface;

(b) Floors shall be maintained in good repair, provided with adequate slope leading to a drain and thoroughly washed once a day with hose pipe.

(c) Work-benches where dangerous pesticides are manipulated shall be made of smooth, non-absorbing material preferably stainless steel and shall be cleaned at least once daily.

11. Spillage and waste: (a) If a dangerous pesticide during its manipulation splashes of spills on the work-bench, floor or on the protective elothing worn by a worker, immediate action shall be taken for thorough decontamination of such areas or articles.

(b) Cloth, rags, paper or other material scaled or sciled with a dangerous pesticide shall be deposited in a suitable receptacle with tight fitting cover. Contaminated waste shall be destroyed by burning at least once a week;

(c) Suitable deactivating agents, where available, shall be kept in a readily accessible place for use while attending to a spillage.

(d) Easy means of access shall be provided to all parts of the plant for cleaning maintenance and repairs.

12. Empty containers used for dangerous pesticides : Containers used for dangerous pesticides shall be thoroughly cleaned of their contents and treated with an inactivating agent before being discarded or destroyed.

13. Food, drinks and smoking prehibited: (a) No food, drink, tobacco, pan or supari shall be brought into or consumed by any worker in any workroom in which the said manufacturing process is carried out.

(b) Smoking shall be prohibited in any workroom in which the said manufacturing process is cauried out.

14. Measurem: (a) There shall be provided and maintained for the use of all workers employed in the factory in which the sold manufacturing process is carried on and remaining on the premises during the rest intervals, a suitable messroom which shall be furnished with—

(i) sufficient tables and benches with back rest; and

(ii) adequate means for warming food.

(b) The messroom shall be placed under the charge of a responsible person and shall be kept clean.

15. Time allowed for washing: (a) 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 worker engaged in the manipulation of dangerous pesticide.

(b) Every worker engaged in the manipulation of dangerous pesticides shall have a thorough wash before consuming any food and also at the end of the day's work.

16. Washing and bathing facilities: (a) There shall be provided and maintained in a clean state and in good repair for the use of all workers employed in the factory where the said manufacturing process is carried on adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 5 persons employed.

(b) The washing places shall have standpipes placed at intervals of not less than one metre.

(c) Not less than one half of the total number of washing places shall be provided with bathrooms.

(d) Sufficient supply of clean towels made of suitable materials shall be provided.

(e) Sufficient supply of soap and nail brushes shall be provided.

17. **Gloakroom :** There shall be provided and maintained for the use of all workers employed in the factory where the said manufacturing process is carried on—

- (i) a cloakroom for clothing put off during working hours with adequate arrangements for drying clothing, if wet; and
- (ii) separate and suitable arrangements for the storage of protective clothing provided under paragraph 9.

18. Medical examination: (a) Every worker employed in the said manufacturing process shall be examined by the certifying Surgeon within seven days of the first employment and no worker shall be allowed to work unless certified fit for such employment by the Certifying Surgeon.

(b) Every worker employed in the said manufacturing process shall be reexamined by Certifying Surgeon at least once in 6 calendar months.

(c) Due notice shall be given to the Certifying Surgeon and the concerned workers regarding the arrangements for examination of workers employed in the said manufacturing process after obtaining the consent regarding the arrangement from the Certifying Surgeon;

(d) Health register in Form 17 containing names of all workers employed in the said manufacturing process shall be maintained.

(e) No worker after suspension shall be employed without written sanction from the Certifying Surgeon entered in or attached to the health register.

19. Medical facilities: (a) The occupier shall engage a qualified medical practitioner approved by the Chief Inspector who shall examine and when necessary treat on the premises of the factory, all workers who are employed in the said manufacturing process, for effects of excessive absorption of the dangerous pesticides at least once a week.

(b) The occupier shall make necessary arrangements to ensure quick availability of qualified medical practioner in emergency.

(c) The occupier shall provide medicines and antidotes and other equipment required for treatment of excessive absorption of dangerous pesticides.

(d) Records of such examinations and treatments and tests shall be maintained in a form approved by the Chief Inspector and shall be made available to Inspector.

(e) The Chief Inspector may order suitable clinical test or tests to be carried out at specified intervals in respect of workers in any factory where such manufacturing process is carried on. Charges for such test or tests shall be borne by the employer.

(f) Every worker in any factory where the said manufacturing process is carried on, shall undergo the prescribed examinations, tests and treatments.

20. **Exemption:** If in respect of any factory the Chief Inspector is satisfied that owing to the exceptional circumstances or the infrequency of the said manufacturing process or for any other reason which he shall record in writing all or any of the provisions of this schedule are not necessary for the protection of the workers employed in the factory, he may by a certificate in writing exempt such factory from all or any of the provisions on such condition as he may specify therein. Such certificate may at any time be revoked by the Chief Inspector after recording his reasons therefor.

APPENDIX

CAUTIONARY NOTICE

Insecticides and pesticides

1. Chemicals handled in this plant are poisonous substances.

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

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

4. A good wash shall be taken before meals.

5. A good bath shall be taken at the end of the shift.

6. Protective clothing and equipment supplied shall be used while working in this area.

7. Containers of pesticides shall not be used for keeping food stuff.

8. Spilage of the chemicals on any part of the body or on the floor or work bench shall be immediately washed away with water.

9. Clothing contaminated due to splashing shall be removed immediately.

10. Scrupulous cleanliness shall be maintained in this area.

11. Do not handle pesticides with bare hands, use scoops provided with handle.

12. In case of sickness like nausea, vomitting, giddiness, the manager should be informed who would make necessary arrangements for examination and treatment.

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

SCHEDULE XXIV

Manufacture or manipulation of carcinogenic dye intermediates

1. Application: The schedule shall apply in respect of all factories or any part thereof where processes in which the substances mentioned in paragraphs 3 and 4 are formed, manufactured, handled, or used and the processes incidental thereto in the course of which these substances are formed, are carried on. The processes indicated in this paragraph shall be referred to hereinafter as "the said processes", and such a reference shall mean any or all the processes described in this paragraph.

2. Definition: For the purpose of this schedule the following definitions shall apply, unless the context otherwise requires—

- (a) "controlled substances" mean chemical substances mentioned in paragraph 4 of this schedule;
- (b) "prohibited substances" mean chemical substances mentioned in paragraph
 3 of this schedule;
- (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; and
- (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 of any place in which work is carried on. No draught, shall be deemed to be efficient which fails to remove smoke generated at the point where such gas, vapour, fume or dust originates.

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 bye-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-amino diphenyl and its salts;
- (d) 4-nitrodiphenyl 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":---

- (a) alpha-naphthylamine or alpha-naphthylamine containing not more than one per cent of beta-naphthylamine either as a bye 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; and
- (f) magneta.

5. 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 processes are carried on.

6. Prohibition of employment: No person shall be employed in the said processes in any factory in which any prohibited substance is formed manufactured, processed, handled, or used except as exempted by the Chief Inspector as stipulated in paragraph 23. 7. Restriction on age of persons employed: No worker under the age of 40 years shall be engaged in the factory in the said processes for the first time after the date on which the schedule comes into force.

8. Requirements for processing or handling controlled substances: (a) Wherever any of the controlled substances referred to in paragraph 4 are formed, manufactured, processed, handled, or used all practical steps shall be taken to prevent inhalation, ingestion or absorption of the said controlled substance by the workers while engaged in processing that substance, and its storage or transport within the plant, or in clean ng or maintenance of the concerned equipment, plant, machinery and storage areas.

(b) As far as possible 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.

(c) The controlled substances shall be received in the factory in tightly closed containers and shall be kept so except when these substances are in process or in use. The controlled substances shall leave the factory only in tightly closed containers of appropriate type. All the containers shall be plainly lebelled to indicate the contents.

9. Disposal of empty containers: Empty containers used for holding controlled substances shall be thoroughly cleaned of their contents and treated with an inactiviting agent before being discarded.

10. **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.

11. Floer of workrooms: The floor or every workroom in which the said processes are carried on shall be (a) smooth and impervious to water provided that asphalt or tar shall not be used in the composition of the floor, (b) maintained in a state of good repair, (c) with 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.

12. Personal protective equipment: (a) The following items of personal protective-equipment shall be provided and issued to every worker employed in the said processes:---

- (i) long trousers and shirts or overalls with full sleeves and head coverings. The shirt or overall shall cover the neck completely; and
- (ii) rubber gum-boots.

(b) The following items of personal protective equipment shall be provided in sufficient numbers for use by workers employed in the said processes when there is danger of injury during the performance of normal duties or in the event of emergency:—

- (i) rubber hand-gloves;
- (ii) rubber aprons; and
- (iii) airline respirators or other suitable respiratory protect; ve equipment.

(c) 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 repair.

13. Washing and bathing facilities: (a) 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:—

(i) a wash place under cover having constant supply of water and provided with clean towels, soap and nail brushes and with at least one standpipe for every five such workers;

- (ii) 50 per cent of the standpipes provided under clause (i) shall be located in bathrooms where hot and cold water shall be made available during the working hours of the factory and for one hour thereafter;
- (iii) the washing and bathing facilities shall be in close proximity of the area housing the said processes;
- (iv) clean towels shall be provided individually to each worker; and
- (v) in addition to the taps mentioned under clause (i), one standpipe, in which warm water is made available, shall be provided on each floor.

(b) Arrangement shall be made to wash factory uniforms and other work clothes everyday.

14. Time allowed for washing: Before the end of each shift 30 minutes shall be allowed for bathing for each workers who is employed in the said processes. Further at least 10 minutes shall be allowed for washing before each meal in addition to the regular time allowed for meals.

15. **Cleakroom:** 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 cloakroom with lockers having two compartments—one for street clothes and the other for work clothes, and (b) a place separate from the locker room and the messroom, for the storage of protective equipment provided under paragraph 12. The accommodation so provided shall be under the care of a responsible person and shall be kept clean.

16. Messroom: 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 messroom which shall be furnished with tables and benches and provided with suitable means for warming food.

17. Food, drinks, etc., prohibited in workroom: No worker shall consume food, drink, pan, supari or tobacco or shall smoke in any workroom in which the said processes are carried on and no worker shall remain in any such room during intervals for meals or rest.

18. Medical examination: (a) Every worker employed in the said processes shall be examined by a Certifying Surgeon within 14 days of his first employment. Such examination shall include tests which the Certifying Surgeon may consider appropriate and shall include 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 Certifying Surgeon.

(b) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every six calendar months such re-examination shall include tests which the Certifying Surgeon may consider appropriate but shall include exfoliative cytology of the urine.

(c) A person medically examined under sub-paragraph (a) shall be granted by the Certifying Surgeon a certificate of fitness in Form 4. Record of each reexamination carried out under sub-paragraph (b) shall be entered in the certificate which shall be kept in the custody of the manager of the factory.

(d) The record of each examination carried out as referred to in sub-paragraphs (a) and (b) including the nature and the results of the tests shall be entered by the Certifying Surgeon in a health register in Form 17.

(e) The certificate of fitness and the health register shall be kept readily available for inspection by any Inspector.

(f) If at any time the 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 if his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes or in any work as the case may be

in Form 17.

(g) No person who has been found unfit to work as said in sub-paragraph (f) shall be re-employed or permitted to work unless the Certifying Surgeon, after further examination, again certifies him to be fit for employment.

19. Medical facilities: (a) The occupier of every factory in which the said processes are carried on shail engage a qualified medical practitioner for medical surveillance of the workers employed in such processes. His appointment shall be subject to approval of the Chief Inspector of Factories.

(b) The occupier shall provide to him all the necessary facilities for the purpose referred to in sub-paragraph (a).

(c) A record of medical examinations and appropriate tests carried out by the qualified medical practitioner shall be maintained in a form approved by the Chief Inspector.

20. 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 Certifying Surgeon or the qualified medical practitioner as provided for under these rules.

21. 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 to, of the dangers involved and the precautions to be taken. Workers shall also be instructed on the measures to be taken to deal with an emergency.

22. Cautionary placards: Cautionary placards in the form specified in appendix attached to this schedule and printed in the language of the magority 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.

23. Exemptions—Prohibited substances: (a) The Chief Inspector may by a certificate in writing (which he may at his discretion revoke at any time), subject to such conditions, if any, as may be specified therein, exempt any process in the course of which any of the prohibited substances is formed, processed, manufactured handled, or used from the provisions of paragraph 5 if he is satisfied that the process is carried out in a totally enclosed and hermetically sealed system in such a manner that the prohibited substance is not removed from the system except in quantities no greater than that required for the purpose of control of the process or such purposes as is necessary to ensure that the product is free from any of the prohibited substances.

(b) The Chief Inspector may allow the manufacture, handling or use of benzidine hydrochloride provided that all the processes in connection with it are carried out in a totally enclosed system in such a manner that no prohibited substance other than benzidine hydrochloride is removed therefrom except in quantities no greater than that required for the purpose of control of the processes or such purposes as 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.

24. 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 is not necessary for the protection of the workers in the factory, the Chief Inspector may by a certificate in writing (which he may in his discretion revoke at any time), exempt such a factory from all or any of such provisions subject to such conditions, if εn^{-1} , as he may specify therein. 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 seiving of asbestos and any other processes involving handling and manipulation of asbestos incidental thereto;
- (b) all processes in the manufacture of asbestos textiles including preparatory and finising 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, fixture or appliance for the collection of asbestos dust; and
- (j) any other processes in which asbestos dust is given off into the work environment.
- 2. Definition : For the purpose of this schedule ---
- (a) "asbestos" means any fibrous silicate mineral and any admixture containing actionlite, amosite, anthophyllite, dhrysotile, crocidolite, tremolite or any mixture thereof, whether crude, crushed or opened;
- (b) "asbestos textiles" means yern or cloth composed of asbestos or asbestos mixed with any other materials;
- (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 originates;
- (f) "preparing" means crushing, disintegrating, and any other processes in or incidental to the opening of asbestos;
- (g) "protective clothing" means overalls and head covering, which (in either case) will when worn exclude asbestos dust.

3. Tools and Equipment : Any tools or equipment used in processes to which this schedule 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) workplaces 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 workplace.

(3) Arrangements shall be made to prevent asbestos dust discharged from exhaust apparatus being drawn into the air of any workroom.

(4) The asbestos bearing dust removed from any workroom by the exhaust system shall be collected in suitable receptacles or filter bags which shall be isolated from all work areas.

5. Testing and examination of ventilating system : (1) All ventilating systems used for the purpose of extracting or suppressing dust as required by this schedule shall be examined and inspected once every week by a responsible persons. 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 tests 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 : (1) All loose asbestos shall, while not in use, be kept in suitable closed receptacles which prevent the escape of asbestos dust there from and 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 material and shall be kept in good repair.

(2) A sack which has contained asbestos shall not be cleaned by hand beating but by a machine, complying with paragraph 3.

9. Maintenance of floors and workplaces : (1) In every room in which any of the requirements of this schedule apply—

- (a) the floors, work-benches, machinery and plant shall be kept in a clean state and free from asbestos devris 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-paragraph (1) shall, so far as is practicable, be carried out by means of vacuum cleaning equipment so designed and constructed and so used that asbestos dust neither escapes nor is discharged into the air of any workplace.

(3) When the cleaning is done by any method other than that mentioned in sub-paragraph (2), the persons doing cleaning work and any other person employed in that room shall be provided with respiratory protective equipment and protective clothing.

(4) The vacuum cleaning equipment used in accordance with provisions of sub-paragraph (2), shall be properly maintained and after each cleaning operation its 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 workplace 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 Pretective Clothing : (1) An approved breathing apparatus and protective clothing shall be provided and maintained in good conditions for use of every person employed—

- (a) in chambers containing loose asbestos;
- (b) in cleaning, dust settling or filtering chambers of apparatus;
- (c) in cleaning the cylinders, including the doffer cylinders, or other parts of a carding machine by means of hand-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 breatling apparatus and protective clothing provided in accordance with this paragraph 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-paragraph (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 in every month by a responsible person.

(6) A record of the cleaning and maintenance and of the condition of the breathing apparatus shall be maintained in a register provided for that purpose which shall be readily available for inspection by an Inspector.

(7) No person shall be employed to perform any work specified in sub-paragraph(1) for which breathing apparatus is necessary to be provided under 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 person unless it has been thoroughly cleaned and disinfected since last being worn and the person has been fully instructed in the proper use of that equipment.

(11) Separate accommodation for personal clothing : A separate accommodation shall be provided in a conveniently accessible/position for all persons employed in operations to which this schedule applies for storing of personal clothing. This should be separated from the accommodation provided under sub-paragraph (2) of paragraph 10 to prevent contamination of personal clothing. (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 materials 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 perimeter of every asbestos processing area to warn all persons regarding—

- (a) hazards to health from asbestos dust,
- (b) need to use appropriate protective equipment,
- (e) prohibition of entry of unauthorised persons, or authorised persons but without protective equipment.

(2) Such notices shall be in the language understood by the majority of the workers.

17. Air Monitoring : To ensure the effectiveness of the control measures, monitoring of asbestos 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 facilities and records of medical examinations and tests : (1) The occupier of every factory or part of the factory to which the schedule applies, shall—

- (a) employ a qualified medical practitioner for medical surveillance of the workers covered by this schedule whose employment shall be subject to the approval of the Chief Inspector of Factories;
- (b) provide to the said medical practioner all the necessary facilities for the purpose referred to in clause (a).

(2) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspectors. 19. Medical examination by Certifying Surgeon : (1) Every worker employ ed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function test, tests for detecting asbestos fibres in sputum and chest X-ray. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

(2) Every worker employed in the process referred to in sub-paragraph (1) shall be re-examined by a Certifying Surgeon at least once in every twelve calendar months. Such examinations shall, wherever the Certifying Surgeon considers appropriate, include all the tests specified in sub-paragraph (1) except chest X-ray which will be carried out once in 3 years.

(3) The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 25. The record of examination and re-examinations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

(4) The Certificate of Fitness and the health register shall be kept readily available for insepction by the Inspector.

(5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that said person is unfit to work in the said processes.

(6) No person who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said processes unless the Certifying Surgeon, afte further examination, again certifies him fit for employment in those processes.

20. **Exemptions**: If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other 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.

APPENDIX

CAUTIONARY PLACARD/NOTICE

Carcinogenic dye intermediates

1. Dye intermediates which are nitro 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 own health.

3. Maintain scruplous 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 known to produce cyanosis. Contact the medical officer or appointed doctor immediately and get his advice.

5. Handle the dye intermediates only with long handle 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 work place. 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.

SCHEDULE XXV

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.

- 31. (a) in the marginal note to rule 99, for the word and figures "section 88", substitute the word and figures "section 88A";
- (b) for rule 99, substitute the following rule:---
 - "99. Dangerous occurrence.—(1) The following occurrences in a factory, whether or not attended by personal injury or disablement, are declared as dangerous occurrences:—
 - (a) Bursting of a plant used for containing or supplying steam under pressure greater than atmospheric pressure;
 - (b) explosion of a receiver or container used for the storage at a pressure greater than atmospheric pressure of any gas or gases (including air) or any liquid or solid resulting from the compression of gas;
 - (c) explosion, fire, bursting out, leakage or escape of any molten metal, or hot liquor, or gas;
 - (d) collapse or serious accident of any plant, machinery, hoist, lift, lifting Machine, lifting tackle, and the over turning of a crane; and
 - (e) collapse or subsidence of any floor, gallery, roof, bridge, tunnel, chimney wall, building or any other structure.
 - (2) When there happens in any factory any dangerous occurrence referred to in sub-rule (1), such occurrence shall be reported by the manager of the factory within five hours of its occurrence to the authorities mentioned in clauses (1) and (2) of rule 95. Such report shall be as nearly as possible in Form No. 19.";
- 32. after sub-rule (2) of rule 103, add the following sub-rule:---
 - "(2A) Quarterly return.—Not later than 15 days after the end of quarter to which the return relates, in duplicate as nearly as possible in Form 23A for a quarter of a year.
 - Explanation.—'Quarter' means a period of three consecutive months beginning on 1st of January, April, July and October.'';

| 33. | For form No. 2, substitute the following form: |
|-----|--|
| | *Registration/For the year |

Registration No.-

| FORM | No. | 2 |
|--------|------------|----------|
| T OTMT | 110 | - |

(See rules 4, 7 and 13)

Application for Registration and Grant or Renewal of Licence and Notice of Occupation specified in sections 6 and 7 of the Factories Act, 1948

(To be submitted in duplicate)

| 1. | (a) Full name of the factory | ••••••••••••• |
|-----|------------------------------|---------------|
| (b) | Previous name of the factory | |
| 2. | Situation of factory— | |
| - | Address | |
| | Post Office | |
| 4 | Telegraph Office | Sub-division |
| | Police Station | District |

3. Name and address of the owner of the premises occupied as a factory.....

4. Nature of the manufacturing process/processes carried on or proposed to be carried on in the factory—

5. Name and residential address of the Manager for the purpose of the Factory Act-

Name..... Address.....

6. Names and residential address of Directors/Partners/Proprietor of the concern-

| | Name | $\operatorname{Address}$ | | | | | |
|-------------|-------|---|--|--|--|--|--|
| 1. . | ••••• | | | | | | |
| 2. | ••••• | • | | | | | |
| 3. | ••••• | ••••• | | | | | |

(Separate list may be attached)

7. Name and address of the person nominated as the occupier undersection 100 of the Act (A Director in case of a public Company or a Partner in case of a firm can be nominated)—

 Name
 Address

*Strike out not applicable.

8. (a) Nature and total amount of power installed or proposed to be installed (Total rated H.P. in all cases except electricity generating station)-

(b) Total generating capacity in K.W. (in case of generating station)-

9. Maximum number of workers likely to be employed in the factory on any day during the next twelve months (including contract labour)-

| (i) Men | (ii) Women |
|--|-------------------|
| (iii) Adolescents (over 15 but under 1 | 18 years of age)— |
| (a) Idale | (b) Female |
| (iv) Children (over 14 but under 15 | years of age)— |

(a) Male(b) Female

Total:

10. Maximum number of workers employed on any day during the calendar year immediately preceding to which the application relates (including contract labour):

(a) Number (b) Date

11. Reference number and date of approval of plans by the Chief Inspector of Factories in case of application for registration (vide rule 3).

> Number Date

| 12. Amount of fee/Renewal fees-Rs | |
|---|---------------|
| paid in | |
| treasury/bank) on(vide | Chalan No |
| enclosed) for the year/years ending 31st December, 19 | |
| Date19 | * * * * * * * |

Signature of Occupier

Name

Note,-(1) This form should be completed in ink, block letter or typed and duly signed by Occupier and returned to the Chief Inspector of Factories, accompanied by the licence and treasury chalan.

(2) Information not included above may be submitted in separate sheets, if necessary.";

| | • | |
|---|---------------------------------------|--|
| 34. For form No. 3 substitute the following form : | | |
| FORM No. 3 | | |
| [See rules $5(1)$, $6(4)$, $7(1)$ and $8(2)$] | | |
| GOVERNMENT OF WEST BENGAL | | |
| Symbol | | |
| DIRECTORATE OF FACTORIES | | |
| Licence for running a factory | | |
| Licence No Reg. No | | |
| Licence is hereby granted to the Occupier of the factory known as | | |
| situated at for running the factory within the limits stated hereinafter, subject to provisions of the Factories Act, 1948, and the rules made thereunder. | he Factories Act, | |
| The19 . Issuing Authority | Ň | |
| Valid for | | |
| Calendar Maximum No. of Maximum rated Fee in Date of Excess fee for late Date of Sig year workers on any one Horse Power to be rupees payment payment in rupees payment Iss day used or power generated in K.W. | Signature of the Issuing Authority | |
| | | |
| Granted under rule 5 | | |
| | | |
| Renewed under rule 6 | | |
| | | |

THE CALCUTTA GAZETTE, EXTRAORDINARY, APRIL 9, 1986

PARE II

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| | | | A | mendment | • • | | | | |
|-------------|--------------------------------|---------------|------------------|-----------------------------------|---------------------|-------------|---------------------------------------|--|--|
| | | | (un | der rule 7) | | | | | |
| Year | • | Amended | Amendment fee in | Date of | Excess fee for late | Date of | Standard of th | | |
| 1 ear | Workers Powers rated HP/ KW | | rupees | Payment | payment in rupees | Payment | Signature of the Issuing Authority | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | I | | | | |
| | | | | Transfer | | | | | |
| | | | (τ | inder rule 8 |). | | | | |
| To who | m transferre | d Year of tra | nsfer Date of pa | yment of ti | ransfer fee Signat | ture of the | Issuing Authority | | |
|) - | | | | | | | | | |
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THE CALCUTTA GAZETTE, EXTRAORDINARY, APRIL 9, 1986

604(48)

(PART I

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| | "FORM | No. 9 |
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| | (See rule | 56) |
| | Report of examination | on of pressure vessel or plant |
| 1. | Name of factory | ····· |
| 2. | Situation and address of factory | • • • • • • • • • • • • • • • • • • • |
| 3. | Name, description and distinctive number of pressure vessel or plant | |
| 4. | Name and address of manufacturer and reference to their test certificate or certificate of competent person | |
| 5. | Nature of process in which it is used | |
| 6. | Particulars of pressure vessel or plant | |
| | (a) Date of construction | · · · · · · · · · · · · · · · · · · · |
| | (b) Thickness of walls | |
| | (c) Date on which the pressure vessel or plant was first taken into use | · · · · · · · · · · · · · · · · · · · |
| | (d) Maximum permissible working pressure recommended by the manufacturer | |
| | (e) Design pressure, if known | ····· |
| (T ! | ne history should be briefly given, and the examiner should state whether he has seen the last previous report) | |
| 7. | Date of last hydrostatic test (if any and pressure applied |) [,] |
| 8. | Is the pressure vessel or plant in open, or otherwise exposed to weather or to damp ? | · · · · · · · · · · · · · · · · · · · |
| 9. | What parts (if any) were inacces sible ? | J |
| 0. | What examination and tests were made ? (Specify pressure if hydro- static or pneumatic test was carried out) | |
| .1. | Condition of pressure vessel or plant. (State any defects materially affecting the maximum permissible working pressure or the safe working of the pressure vessel or plant.) | |

12. Are the required fittings and appliances provided in accordance with the Rules? 13. Are all fittings and appliances properly maintained and in good conditions? Have the pressure settings been checked and 14. Repairs (if any) required, and period within which they should be executed and any other condition which the person making the examination thinks it necessary to

15. Maximum permissible working pressure, calculated from dimensions and from the thickness and other data ascertained by the present examination, due allowance being made for conditions of working if unusual or exceptionally severe. (State minimum thickness of walls measured during the examination.)

specify for securing safe working

- 16. Where repairs affecting the maximum working pressure are required, state the working pressure ----
 - (a) Before the expiration of the period specified in (14)
 - (b) After the expiration of such period if the required repairs have not been completed
 - (c) After the completion of the required repairs
- 17. Other observations

corrected?

I certify that on (date) vessel or plant described above was thoroughly cleaned and (so far as its construction permits) made accessible for thorough examination and for such tests as were necessary for thorough examination and that on the said date, I thoroughly examined this pressure vessel or plant, including its fittings, and that the above is a true report of my examination.

Signature

Qualification.....

Address.....

Date

If employed by a Company or Association, give name and address,

| | | 1 1 | | | | | | | |
|-------------------------------|--|-----|--|---|--------------------------|--------------------|----|---|--|
| | Age (on last birth day) | OL | | | remarks | | 11 | , | |
| | S _{θX} | 4 | | | Signature of Opthal- | notogist | 10 | | |
| FORM No. 17A (See rule 49) | Record of Eye Examination Name of workers | e | | 2 | Examination of Eye sight | Result | 6 | | |
| · · | - | | | | Exami | Date | 8 | | |
| | Department/Works | 2 | | | Oceupation | Date of employment | L | | |
| | Serial No. | 1 | | | Oceu | Nature | 6 | | |

PART II THE CALCUTTA GAZETTE, EXTRAORDINARY, APRIL 9, 1986

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604(51)

38. in clause (F) of the Instructions appearing at the end of form No. 22 substitute the figure '50' by the figure '30'.

39. after form No. 23 add the following form :---

OCCURRENCE' in the title.

FORM No. 23A

(See rule 103)

Quarterly Return

Period beginning first of January/April /July/October, 19...

1. Name of Factory

2. Postal address

3. Nature of Industry

4. Name of Occupier

5. Name of Manager

6. Particulars of toxic/hazardous chemicals stored, used and handled and chemiclals produced and stored

Name of chemicals

Quantity

Quantity

(i) (ii) (iii) (i▼) (∇) etc.

7. New chemical added to the list shown against item 6 above, during the quarter

Name of chemicals

(i) (ii) (iii) etc.

8. Short details of preventive measures provided and maintained in the plant/ workplace for safety of workers and for preventing pollution of environment.

Dated......198.

Signature of Manager.

· · · · · · · ·

By order of the Governor,

H. GHOSH,

Seey. to the Govt. of West Bengal.

Printed and published by the Superintendent. Government Printing, West Bengal, at the West Bengal Govt. Press Allpore

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