Calcutta



Gazette

Extraordinary

Published by Authority

AGRAHAYAN 21 1

THURSDAY, DECEMBER 12, 1991

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GOVERNMENT OF WEST BENGAL LABOUR DEPARTMENT LW BRANCH

2, Brabourne Road (7th floor) Calcutta-1.

No. 1183-LW/1R-1/91

Dated: the 27th November, '91,

NOTIFICATION

In exercise of the power conferred by Section 112 of the Factories Act, (Act 63 of 1948) as amended (hereinafter referred to as the said Act), the Governor is hereby pleased to make after previous publication of the amendments, as required by Section 115 of the said Act, and after due consideration of the suggestions and objections received in respect of the said amendments, the following amendments in the West Bengal Factories Rules, 1958, as subsequently amended [hereinafter referred to as the said rules], namely :--

Amendments

In the said Rules:-

- in rule 2.
 - (a) renumber the clause "(e)", "(g)", "(h)", "(i)", "(k" and "(1)" as "(d)", "(e)", "(f)", "(g)", "(i)" and "(j)" respectively:
 - (b) after clause (g) so renumbered, insert the following clause:-
 - "(h)" "Inspector" means an Officer appointed under sub-Section (1) of Section 8 of the Act

and includes the Joint Chief Inspector of Factories, Deputy Chief Inspector of Factories and Junior Inspector of Factories.

After rule 2, insert the following rule:

to this rule.

"2A. (1) Competent Person.—The Chief Inspector may, on an application made as nearly as prescribed possible in Form No. 29, recognise any person as a "competent person" as stipulated in the Act and the rules made thereunder, for such 2(Ca)and period as may be specified for the purposes of carrying out tests, examinations, inspections and certification for buildings, dangerous machinery, hoists and lifts, lifting machines and lifting tackles, pressure vessels and plants, confined space, ventilation system and such other process or plant and equipment located in a factory, if such a person possesses the qualifications, experience and other requirements as set out in the Schedule-AA annexed

> Provided that the Chief Inspector may subject to such condition as he may direct in writing, relax the qualifications prescribed in the said Schedule—AA in respect of a "competent person" but not the requirements in respect of the facilities at his command.

Provided further that the "competent person" recognised under this rule shall not be above the age of 65 years and shall be physically fit for the purposes of carrying out the tests. examination and inspections.

section

Rule

under

section

112.

(2) The Chief Inspector may, on an application made as nearly as possible in Form No. 29A, recognise an institution of repute, having persons possessing qualifications and experience as set our in the Schedule annexed to this rule as a "competent person" as stipulated in the Act and the rules made thereunder, for such period as may be specified

for the purposes of carrying out tests, examitions, inspections and certification buildings, dangerous machinery, hoists lifts, lifting machines and lifting tack pressure vessels and plant, confined spectralization system and such other process plant and equipment in a factory.

SCHEDULE -AA (See rule-2A)

	(See rule—ZA)								
S1. No.	Section or Rules under which competency is recognised	Qualification required	Experience for the purpose	Facilities at hi command					
(1)	(2)	(3)	(4)	(5)					
S (Rules made under Degree in Civil or sections 6 and 112 Structural Engineering or equivalent. Certificate of stability for buildings.		 i) A minimum of 10 years' experience in the design of construction or testing or repairs of structures; ii) knowledge of non-destructive testing, various codes of practices that are current and the effect of the vibrations and natural forces on the stability of the building; and iii) ability to arrive at a reliable 	To be decided by Chief Inspector of Factories from to time.					
			conclusion with required to the safety of the structure or the building.						

- Rules made under section 21 (2) of the Act—
 "Dangerous
 Machines".
- Degree in Electrical or Mechanical or Textile Engineering or equivalent.
- i) A minimum of 7 years' experience in
 - a) design or operation or maintenance; or
 - b) testing, examination and inspection of relevant machinery, their guards, safety devices and appliances.

Gauges for meas ment; instrum for measurement speed and any of equipment or dev to determine the safety in the use the dangerous machines. (1) (2) (3) (4) (5)

- ii) He shall-
 - a) be conversant with safety devices and their proper functioning;
 - b) be able to identify defects and any other cause leading to failure; and
 - c) have ability to arrive at a reliable conclusion with regard to the proper functioning of safety device and appliance and machine guard.

 Section 28 of the Act—Lifts and Hoists A degree in Electrical and/or Mechanical Engineering or its equivalent.

- i) A minimum experience of 7 years in
 - a) design or erection or maintenance; or
 - b) inspection and test procedures of lifts and hoists.
- ii) He shall be-
 - a) conversant with relevant codes of practices and test procedures that are current;
 - b) conversant with other statutory requirements covering the safety of the Hoists and Lifts;
 - able to identify defects and arrive at a reliable conclusion with regard to the safety of Hoists and Lifts.

Facilities for load testing, tensile testing, guages, equipment/gadgets for measurement and any other equipment required for determining the safe working conditions of Hoists and Lifts.

4. Section 29 of the Act
Lifting Machinery and
Lifting Tackles.

Degree in Mechanical or Electrical or Metallurgical Engineering or its equivalent.

- (i) A minimum experience of 7 years in—
 - (a) design or erection or maintenance, or
 - (b) testing, examination and inspection of lifting machinery, chains, ropes and lifting tackles.

Facilities for load testing, tensile, testing, heat treatment equipment/ gadget for measurement, gauges and such other equipment to determine the safe working conditions of the lifting machinery, lifting tackles.

4

(1) (2) (3) (4)

- (ii) He shall be-
 - (a) conversant with the relevant codes of practices and test procedures that are current,
 - (b) conversant with fracture mechanics and Metallurgy of the material of construction;
 - (c) conversant with heat treatment/stress relieving techniques as applicable to stress bearing components and parts of lifting machinery and lifting tackles;
 - (d) capable of identifying defects and arriving at a reliable conclusion with regard to the safety of lifting tackles.

5. Section 31 of the Act—
"Pressure Plant".

Degree in Chemical or Electrical or Metallurgical or Mechanical Engineering or its equivalent.

- (i) A minimum experience of 10 years in—
 - (a) design or erection or maintenance, or
 - (b) testing, examination and inspection of pressure plants.
- (ii) He shall be-
 - (a) conversant with the relevant codes of practices and test procedures relating to pressure vessels;
 - (b) conversant with statutory requirements concerning the safety of unfired pressure vessels and equipment operating under pressure;
 - (c) conversant with nondestructive testing techniques as are applicable to pressure vessels;

Facilities for carrying out hydraulic test, nondestructive test, gauges equipment, gadgets for measurement and any other equipment or gauges to determine the safety in the use of pressure vessels.

Meters, instruments and

devices duly calibrated and certified for carrying

certification of safety in

working in confined

out the tests and

spaces.

(4) (3)(5) (1)(2)

> (d) able to indentify defects and arrive at a reliable conclusion with regard to the safety of pressure plants.

6. Section 36 of the Act— Precautions against dangerous fumes.

Master's degree in Chemistry, or a degree in Chemical Engineering.

- (i) A minimum experience of 7 years in collection and analysis of environmental samples and calibration of monitoring equipment,
- (ii) He shall be-
 - (a) conversant with the hazardous properties of chemicals and their permissible limit values;
 - (b) conversant with the current techniques of sampling and analysis of the environmental contaminants;
 - (c) able to arrive at reliable conclusion as regards the safety in respect of entering and carrying out hot work.
- 7. Ventilation system as required under various Electrical Engineering schedules framed under or equivalent. section 87 of the Act such as Schedules on-

Degree in Mechanical or

- (i) Grinding or glazing of metals and processes incidental thereto;
- (ii) Cleaning or smoothing, roughening etc. of articles, by a jet or sand, metal shot, or grit, or other abrasive propelled by a blast of compressed air or steam.
- (iii) Handling and processing of asbestos;
- (iv) Manufacture of Rayon by viscose process;
- (v) Foundry operations.

- A minimum experience of (i) 7 years in the design, fabrication, installation, testing of ventilation system and systems used for extraction and collection of dusts, fumes and vapours and other ancillary equipment.
- (ii) He shall be conversant with relevant codes of practice and tests procedures that are current in respect of ventilation and a traction system for fumes, and shall be able to arrive at a reliable conclusion with regard to effectiveness of the system.

Facilities for testing the ventilation system, instruments and gauges for testing the effectiveness of the extraction systems for dusts, vapours and fumes, and any other equipment needed for determining the efficiency and adequacy of these systems. He shall have the assistance of a suitable qualified technical person who can come to a reasonable conclusion as to the adequacy of the system.

- (3) The Chief Inspector, on receipt of an application in the prescribed form from a person or an institution intending to be recognised as a "competent person" for the purposes of the Act and the rules made thereunder, shall, within a period of sixty days of the date of receipt of application, either after having satisfied himself as regards competence and facilities available at the disposal of the applicant recognise the applicant as a "competent person" and issue a certificate of competency in Form No. 29B for such purpose as many be specified therein or reject the application specifying the reasons therefor,
- (4) The Chief Inspector may, after giving an opportunity to the competent person of being heard, revoke the certificate of competency issued under sub-rule (3)
- (i) if he has reason to believe that a competent person—
 - (a) has violated any condition stipulated in the certificate of competency; or
 - (b) has carried out a test, examination and inspection or has acted in a

- manner inconsistant with the intent or the purpose of the Act and the rules made thereunder, or has omitted to act as required under the Act and the rules made thereunder; or
- (ii) for any other reason to be recorded in writing.
 - Explanation: For the purpose of this rule, an institution includes an organisation.
- (5) The Chief Inspector may, for reasons to be recorded in writing, require recertification of any building, dangerous machinery, hoist and lift, lifting machine, lifting tackle, pressure vessel and plant, confined space or ventilation system, as the case may be, which has been certified by a competent person.
- (6) All previous recognitions and the certificates of competency issued to persons or institutions for the purposes of the Act and the rules made thereunder, shall stand revoked with the commencement of this rule."
- 3. In rule 4, for the existing Schedules A, B and C substitute the following Schedules—

"SCHEDULE-A"

Scale of Fees Payable for Licence and Annual Renewal of Licence for Factories defined under section 2 (m) (i) of the Factories Act, 1948 other than Electricity Generating Stations.

Note: 1. H. P. = 0.7457 K.W.

Total amount of installed power in K.W. (H.P.) Maximum number of of workers to be employed on any day during the year.															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Over	Not Over	10	21	51	101	251	501	751	1001	1501	2001	3001	5001	7501	10001
		to	to	to	to	to	to	to	to	to	to	to	to	to	over
		20	50	100	250	500	750	1000	1500	2000	3000	5000	7500	10000	
- 457 (10)		Rs.	Rs.	Rs.	Rs,	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs	Rs.
7.457 (10) or under		50	100	175	380	750	. 1320	1890	2460	3630	4380	5130	6500	8100	9700
7.457 (10)	37.285 (50)	90	140	215	440	810	1380	1950	2520	3750	4500	5250	6650	8250	9850
37 . 285 (50)	74.57 (100)	140	190	265	510	880	1450	2020	2590	3900	4650	5400	6900	8500	10100
) ···· 74.57 (100)	186,425 (250)	190	240	320	590	960	1530	2100	2670	4050	4800	5550	7200	8850	10500
E 186.425 (250)	372.85 (500)	240	300	380	670	1040	1610	2250	2820	4200	4950	5700	7500	9300	11100
7 ··· 372,85 (500)	745.7 (1000)	290	360	440	750	1130	1700	2400	2970	4350	5100	5850	7800	9750	11700
G 745.7 (1000)	1491.4 (2000)	350	420	500	850	1220	1790	2550	3120	4500	5250	6000	8100	10200	12300
H ··· 1491.4 (2000)	3728.5 (5000)	410	480	560	940	1320	1890	2700	3300	4800	5550	6600	8700	10800	12900
3728.5 (5000)	7457 (10000)	490	570	650	1030	1420	1990	3000	3600	5400	6150	7200	9300	11500	13800
7457 (10000)	and over	580	660	740	1120	1520	2100	3300	3900	6000	6750	7800	10000	12300	14800

SCHEDULE-B

Scale of Fees payable for Licence and Annual Renewal of Licence for Electricity Generating Stations only.

	Total installed capacity of the generating plant in K.W.	Number of workers to be employed	Fees payable	
(1)	(2)	(3)	(4)	
A	50 K.W. or less	10 or above	65	
В	Over 50 K.W.—not over 100 K.W.	-do-	130	
C	Over 100 K.W.—not over 150 K.W.	-do-	210	
D	Over 150 K.W.—not over 300 K.W.	-do-	300	
E	Over 300 K.W.—not over 750 K.W.	-do-	450	
F	Over 750 K.W.—not over 1000 K.W.	-do-	700	
G	Over 1000 K.W.—not over 5000 K.W.	-do-	1300	
н	Over 5000 K.W.—not over 10000 K.W.	-do-	2250	
I	Over 10000 K.W.—not over 50000 K.W	-do-	3750	
J	All over 50,000 K.W.			
	(a) upto 60,000 K.W.	-do-	4500	
	(b) upto 80,000 K.W.	-do-	5250	
	(c) upto 100,000 K.W.	-do-	6000	
	(d) upto 150,000 K.W.	-do-	7500	
	(e) upto 200,000 K.W.	-do-	9000	
	(f) upto 3000,000 K.W.	-do-	10500	
K	All over 300,000 K.W. (without limit)	-do-	12000	

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) (ii) of the Factories Act, 1948.

worl	ximum number of kers to be emploiny day during year.	Fees payable Rs.						
A	20 to 30			50				
В	31 to 50		-	75				
\mathbf{C}	51 to 100	-		130				
D	101 to 200	_	-	190				
\mathbf{E}	201 to 300	_		250				
F	301 to 500			440				
G	501 to 750			630				
\mathbf{H}	751 to 1000	_	_	825				
I	I All over 1000 without any							
	upward limit.			1100				

 Fees payable for granting licence and annual renewal of licence by factories declared under section 85 of the Act—

Note: These Schedules of fees shall come into force with effect from the first of January of 1992.

- 4. in sub-rule (4) of rule 7, for the words "rupees five" in the two places where they occur, *substitute* the words "rupees ten";
- 5. (a) in rule 8, for the word "person", wherever it occurs, substitute the word "occupier";
 - (b) in sub-rule (3), for the words "five rupees', substitute the words "rupees ten";

for the proviso to sub-rule (1) of rule 9, substitute

the following proviso:—

"Provided that if application for grant, renewal, amendment or transfer of licence with all particulars in Form No. 2 has been submitted along with treasury receipt showing that correct fee has been deposited, the premises shall be deemed to be duly licenced until such date as the Chief Inspector may allow or renew, amend or transfer the licence or refuse in writing to do so, as the case may be".

- 7. in rule 10, for the words and figure "amendment of the licence under rule 7", substitute the words and figure "transfer of the licence under rule 8";
- 8. in rule 11, for the words "rupees five", substitute the words "rupees ten";
- 9. for rule 13A, substitute the following rule:—

"13A. Notice of change of manager.—The occupier of a factory shall submit a notice, as nearly as possible in Form No. 3A, to the Inspector whenever there is a change of manager in the factory".

- after rule 13A, insert the following rule:—
 "13B. Guide lines, instructions and records.
 - (1) Without prejudice to the general responsibility of the occupier to comply with the provisions of section 7A of the Act, the Chief Inspector may, from time to time, issue guidelines and instructions regarding the general duties of the occupier relating to health, safety and welfare of all workers while they are at work in the factory.
 - (2) The occupier shall maintain such records in Form No. 30 in respect of monitoring of work environment in the factory.
 - (3) The occupier of a factory shall furnish any information that the Chief Inspector may require regarding the provisions and maintenance of the arrangements with respect to the health, safety and welfare of the workers while they are at work in the factory.
- 11. for rule 19, substitute the following rule:—
 - "19. Disposal of trade wastes and effluents.—
 The arrangements made in every factory for the treatment of wastes and effluents due to the manufacturing processes carried on therein shall be in accordance with those approved by the State Board for the prevention and Control of Water Pollution constituted under the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974), the State Board for the Prevention and Control of Air Pollution constituted under the Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981) and the Public Health Engineering Directorate of the State Government"

- 12. after rule 19, insert the following rules:—
 - 19A. Ventilation and Temperature.
 - (1) In any factory the maximum wet-bulb temperature of air in a workroom at a height of 1.5 meters above the floor level shall not exceed 30 degrees centigrade and adequate air movement with a velocity of at least 30 meters per minute shall be provided and, in relation to dry-bulb temperature, the wet-bulb temperature in the workroom at the said height shall not exceed what is shown in the schedule below:—

	Dry-bulb temperature	Wet-bulb temperature
	30°C to 34°C	29°C
above	34•C upto 39•C	28.5°C
above	39°C upto 44°C	28°C
above	44°C upto 47°C	27.5°C

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

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

Provided also that the requirement as aforesaid shall not apply in respect of factories covered by section 15 of the Act and in respect of factories where the nature of work carried on involves production of excessively high temperature referred to in clause (ii) of sub-section (1) of section 13 of the Act to which workers are exposed for short periods of time not exceeding one hour followed by an interval of sufficient duration in thermal environments not exceeding those otherwise laid down in these rules:

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

- (2) If it appears to the Inspector that in any factory, the temperature of air in a workroom is sufficiently high and is likely to exceed the limits prescribed in sub-rule (1), he may, subject to the control of the Chief Inspector, serve on the manager of the factory an order requiring him to provide sufficient number of whirling hygrometers or any other type of hygrometers and direct that the dry-bulb and wet-bulb reading in each such workroom shall be recorded, at such locations as may be approved by the Inspector, twice during each working shift by a person especially nominated for the purpose by the manager and approved by the Inspector.
- (3) If the Inspector has reasons to believe that a substantial amount of heat is added inside the environment of a workroom by radiation from walls, roof or other solid surroundings, he may, subject to the control of the Chief Inspector, serve on the manager of the factory an order requiring him to provide one or more globe thermometer(s) referred to in the first proviso to sub-rule (1), to place them at places as specified in the order and to keep a record of the temperature in a suitable register which shall be kept available for examination by an Inspector at all times during working of the factory.
- (4) In every factory the amount of ventilation openings in a work-room below the caves shall, except where mechanical means, if ventilation as required by sub-rule (3) are provided, be of an aggregate area of not less than 15% of the floor area and shall be so located as to afford a continued supply of fresh air:

Provided that the Chief Inspector may relax the requirement as aforesaid if he is

satisfied that having regard to the location of the factory, orientation of the workroom, prevailing wind, roof height and the nature of manufacturing process carried on, sufficient supply of fresh air into the workroom is afforded during most part of the working time:

Provided further that such requirement shall not apply in respect of workrooms of factories—

- (i) covered by section 15 of the Act; or
- (ii) in which temperature and humidity are controlled by refrigeration.
- (5) Where in any factory owing to special circumstances such as situation with respect to adjacent buildings and height of the buildings with respect to floor space, the requirement of ventilation openings under sub-rule (4) cannot be complied with or, in the opinion of the Inspector, the temperature of air in a workroom is sufficiently high and is likely to exceed the limits pre cribed in sub-rule (1), he may, subject to the control of the Chief Inspector, serve on the manager of the factory an order requiring him to provide additional ventilation either by means of roof ventilators or by mechanical means.
- (6) The amount of fresh air supplied by mechanical means of ventilation in an hour shall be equivalent to at least six times the cubic capacity of the workroon and shall be distributed evenly throughout the workroom without dead airpockets or undue draughts caused by high velocities of inlet air.
- (7) In regions, where in summer (from the 15th March to the 15th July) dry-bulb temperature of outside air in the workroom of a factory during most part of the day exceeds 35 degree centigrade and simultaneous wet-bulb temperature is 25 degree centigrade or below and, in the opinion of the Inspector, the manufacturing process carried on therein permits thermal environment with relative humidity of 50% or more, the Inspector may, subject to the control of the Chief Inspector, serve on the manager of the Factory an order requiring him to have sufficient supply of outside air as needed for ventilation cooled by passing it through water sprays either by means of unit type of evaporative air cooler (desert cooler) or, where supply of outside air is provided by mechanical means through ducts in

- a plenum system, by means of control air washing plants.
- 19B. For permissible levels of certain substances in work environment without prejudice to the requirements of any other provisions of the Act or these rules, the requirements specified in the Schedule below shall apply to all factories so far as it relates to compliance with section 14 of the Act.

SCHEDULE

- 1. Definitions—For the purpose of this Schedule—
 - (a) "mg/m3" means milligrams of a substance per cubic meter of air;
 - (b) "mppcm" means million particles of a substance per cubic meter of air;
 - (c) "ppm" means parts of vapour or gas per million parts of air by volume at 25°C and 760 mm of mercury pressure;
 - (d) "time weighted average concentration" means the average concentration of a substance in the air at any work location in a factory computed from evaluation of adequate number of air samples taken at that location, spread over the entire shift on any day, after giving weightage to the duration for which each sample is collected and the concentration prevailing at the time of taking the sample.

FORMULA

Time Weighted $C_1T_2+C_2T_2 \cdots C_nT_n$ Average = $T_1 + T_2 + \cdots + T_n$

Where C_1 represents the concentration of the substance for duration T_1 (in hours);

 C_2 represents the concentration of the substances for duration T_2 (in hours); and C_n represents the concentration of the substance for duration T_n (in hours);

- (e) "work location" means a location in a factory at which a worker works or may be required to work at any time during any shift on any day.
- 2, Limits of concentrations of substances at work location.—
 - (a) In case the air at any work location contains a combination of substances indicated in the Second Schedule to sub-section (1) of Section 41F of the Factories (Amendment) Act, 1987 which have similar toxic properties, the time weighted concentration of each of these substances during the shift should be such that

when this time weighted concentration divided by the respective prescribed permissible time weighted average concentration specified in the said Second Schedule, and the fractions obtained are added together, the total shall not exceed unity, that is to say,—

$$\frac{C_1}{L_1} + \frac{C_2}{L_2} - \dots + \frac{C_n}{L_n}$$

should not exceed unity,

- (b) In case the air at any work location contains a combination of substances, mentioned in the said Second Schedule, and these substances do not have similar toxic properties, then the time weighted concentration of each of these substances shall not exceed the prescribed permissible time weighted average concentration, specified for that particular substance.
- 3. Sampling and evaluation procedures.
 - (a) Notwithstanding the provisions in any other paragraphs of the Schedule under this rule, the sampling and evaluation procedures to be adopted for checking compliance with the provisions shall be as per standard procedures in vogue for the time being.
 - (b) Notwithstanding the provisions of paragraph 5, the conditions regarding the sampling and evaluation procedures relevant to checking compliance with the provisions of this rule shall be as specified below:—
 - (i) for determination of the number of particles per cubic meter, samples shall be collected by standard or midget impinger and the counts made by light-field techniques;
 - (ii) the percentage of quartz in the three formulae as specified in the Second Schedule to sub-section (1) of section 41F of the Act, shall be determined from airborne samples;
 - (iii) both for determination of concentration and of percentage of quartz for use of the

formulae as specified in the Second Schedule to sub-section (1) of Section 41F of the Act, the fraction passing through a size selector with the following characteristics shall be only considered:—

Aerodynamic diameter	percentage allowed by
(unit density sphere)	size-selector
2.0	90
2.5	75
3.5	50
5.0	25
10.0	0

- 4. (a) An Inspector may serve on the occupier or the manager of a factory an order requiring him, before any specified date, to assess the time weighted average concentration at any work location of any of the substances mentioned in the Second Schedule to sub-section (1) of Section 41F of the Act as being used in the factory.
 - (b) The results of such assessment as well as the method followed for such sampling and the analysis for such assessment shall be sent to the Inspector within 3 days from the date of completion of such assessment or from the date specified in the order under sub-paragraph (a) whichever is earlier, and a record of all particulars of every such assessment shall be maintained and kept readily available for inspection by an Inspector for examination at all times during working of the factory.
- 5. Exemption—If, in respect of any factory or a part of a factory, the Chief Inspector, after being satisfied that by virtue of the pattern of working time of the workers at different work locations or on account of other circumstances, no worker is exposed in the air at the work locations to any of the substances specified in the Second Schedule to sub-section (1) of section 41F of the Act to such an extent as is likely to be injurious to his health, may by an order in writing exempt the factory or a part of the factory from the requirements of paragraph 2, subject to such conditions, if any, as may be specified in the order."
- 13. in rule 20,—
 - (a) in clause (a). for the figures and word "29.4 degrees", substitute the figures and words "29.5 degree centigrade";
 - (b) in clause (b), for the Schedule, substitute the following Schedule:

SCHEDULE

Readings in degrees centigrade						
Dry-bulb	Wet-bulb	Dry-bulb	Wet-bulb	Dry-bulb	Wet-bulb	
15.5	14.5	25.0	24.0	34.5	30.0	
16.0	15.0	25.0	24.0	35.0	30.5	
16.5	15.5	26.0	25.0	35.5	31.0	
17.0	16.0	26 0	25.5	36.0	31.0	
17.5	16.0	27.0	26.0	36.5	31.5	
18.0	16.5	17.5	26.0	37.0	31.5	
18- 5	17.0	28.0	26.5	37.5	31.5	
19.0	18.0	28.0	27.0	38.0	32.0	
19.5	18.5	29.0	27.0	38.5	32.0	
20.0	19.0	29.5	28.0	39.0	32.0	
20.5	19.5	30.0	28.0	39.5	32.5	
21.0	20.0	30.5	28.5	40.0	32.5	
21.5	20.5	31.0	28.5	40.5	33.0	
22.0	21.0	31.5	29.0	41.0	33.0	
22.5	21.0	32.0	29.0	41.5	33.0	
23.0	21.5	32.5	29.0	42.0	33.0	
24.0	23.0	33.5	29,5	43.0	33.5	
24.5	23.5	34.0	30.0	43.5	33.5	

- (c) in the proviso to clause (b), for the figures "1.9", substitute the figure "2";
- 14. in clause (b) of rule 21 for the figures "8495" and "5663" substitute the figures "8500" and "5670" respectively;
- 15. in rule 24, for the words "The Register shall always be available for inspection by the Inspector". substitute the following:—
 - "The register shall be maintained with up-to-date entries and kept avilable to the Inspector for examination at all hours during working of the factory.";
- 16. in sub-rule (6) of rule 25, after the words and figures "between 10 and 50 degrees.", insert the words "in the centigrade scale.";
- 17. for sub-rule (1) of rule 28, substitute the following sub-rule:—
 - "(1) No hydrometer shall be fixed to a wall, pillar or other surface unless protected therefrom by wood or other heat non-conducting material of at least 13 mm. thickness placed at a distance of at least 25 mm. from the bulb of each thermometer".:
- 18. in rule 30, -
 - (a) in clause (a), for the figures and letters "5.08 cm." and "2.54 cm." substitute the figures and letters "50 mm." and "25 mm." respectively.

- (b) in clause (e), for the figures and word "4.9 kilogram", substitute the figure and word "5 Kilograms";
- (c) for clause (f), substitute the following clause:—
 "(f) The steam pipe line used for the introduction of steam into the air in a department shall be effectively covered with heat insulating material, as may be approved by the Inspector in order to minimise the amount of heat radiation from the steam pipe into the department.";
- 19. in rule 31,—
 - (a) in sub-rule (1), for the figures and word "32" and "0.91 meter" substitute the figures and word "65" and "90 centimeters" respectively:
 - (b) in the proviso to sub-rule (1) for the figures and word "7.62 metre "10" and "32" substitute the figures and word "7.6 meters", "22" and "65" respectively.
- 20. in sub-rule (1) of rule 32, for the figures and word "4.88", "5 centimetres" and "30.48", substitute the figures and word" "4.9", and "1.55 candles per square centimeter" and "30" respectively;
- 21. in sub-rule (1) of rule 34, for the word and figures "litres 4.5", substitute the figure "5";

22. in rule 35,—

- (a) in clause (b), for the words "these Rule", substitute the words "this rule";
- (b) in clause (c).—
 - "for the word "and" "substitute the punctuation"
 "," and after the words "adequately drained"
 add the words "and maintained in a clean and
 orderly condition".
- (c) in clause (k), for the second proviso, substitute the following proviso:— "Provided further that the distance between the place of work of any worker shall not be more than 50 meters from the nearest water centre or any distance as may be approved by the Inspector in writing.";
- (d) after clause (d), insert the following clause:—

 "(e) the means of supply of cooled drinking water shall be either directly through taps connected to water-coolers or any other system for cooling of water, or by means of vessels, receptacles or tanks fitted with taps and having dust proof covers and placed on raised stands or platforms in shade, and having suitable arrangement of drainage to carry away the split water. Such vessels, receptacles or tanks shall be kept clean and the water renewed at least once every day.";
- 23. after sub-rule (6) of rule 37, insert the following sub-rule:—
 "(7) If piped water supply is not available, sufficient quantity of water shall be kept stored in suitable receptacles near the latrines.";
- 24. in the second paragraph of sub-rule (1) of rule 38, for the figures and words "0.057 centimetre to 0.085 centimetre" and "0.17 centimetre", substitute the figures and words "57 to 85 cubic centimeter", and "170 cubic centimeter" respectively.
- 25. in rule 40, for the figure and word "61 Centimetre", substitute the figure and word "60 centimeters";
- 26. in rule 42, delete the proviso.
- 27. in rule 46, for the words and figures "The spittoons mentioned in rule 45", substitute the words, letter, brackets and figures "The spittoons mentioned in clause (a) of rule 45";
- 28. in rule 47,—
 - (A) in schedule I,
 - (a) after clause (ii) of sub-paragraph (c) of paragraph 2 insert the following clause:—
 - "(iii) Work for clearing a jam or attention otherwise shall not be undertaken unless the

- supply of power to the machine is cut-off and the machine is completely brought to rest by braking or otherwise.";
- (b) renumber the existing "clause (iii)" of subparagraph (c) of paragraph 2, as "clause (iiiA)".
- (c) after sub-paragraph (f) of paragraph 3, insert the following sub-paragraph:—
 "g) Work for clearing a jam or attention otherwise shall not be undertaken unless the supply of power to the machine is cut-off and the machine is completely brought to rest by braking or otherwise."
- (d) renumber the existing sub-paragraph (g) of paragraph 3 as "sub-paragraph (h)".
 - (B) for Schedule II. substitute the following Schedule:—

SCHEDULE II

Textile Machinery—Except Machinery used in Jute Textiles.

- 1. Application.—The requirements of this Schedule shall apply to machinery in factories engaged in the manufacture or processing of textile other than jute textiles. The Schedule shall not apply to machinery in factories engaged exclusively in the manufacture of synthetic fibres.
- 2. Definitions.—For the purposes of this Schedules,
 - (a) "Calender" means a set of heavy rollers mounted on vertical side frames and arranged to pass cloth between them. Calenders may have two to ten rollers, or bowls, some of which can be heated;
 - (b) "Embossing calender" means a calender with two or more rolls, one of which is engraved for producing figure effects of various kinds on a fabric;
 - (c) "Card" means a machine consisting of cylinders of various sizes, and in certain cases flats covered with card clothing and set in relation to εach other so that fibres in staple form may be separated into individual relationship. The speed of the cylinders and their direction of rotation vary. The finished product is delivered as a sliver. Cards of different types are: the revolving flat card, the roller and clearer card etc.;
 - d) "Card clothing" means the materials with which the surface of the cylinder, doffer, flats etc. of a card is covered and consists of a thick foundation material made of either textile fabrics through which are pressed many fine closely spaced, specially bent wires, or mounted saw toothed wire;

- (e) "Comber" means a machine for combing fibres of cotton, wool etc. The essential parts are device for feeding forward a fringe of fibres at regular intervals and an arrangement of combs or pins, which, at the right time, pass through the fringe. All tangled fibres, short fibres, and nips are removed and the long fibres are laid parallel;
- (f) "Combing machinary" means a general classification of machinery including combers, sliver lap machines, ribbon tap machines and gill boxes, but excluding cards;
- (g) "Rotary staple cutter" means a machine consising of one or more rotary blade (s) used for the purpose of cutting textile fibres into staple lengths;
- (h) "Rarnett machine" means any of a number of types of machines for opening hard twisted waste of wool, cotton, silk, etc. Essentially, such machines consist of lickerin; one or more cylinders, each having a complement worker and stripper rolls and a fancy roll and doffer. The action of such machines is somewhat like that of a wool card, but it is much more severe in that the various rolls are covered with garnett wire instead of card clothing;
- (i) "Gill box" means a machine used in the worsted system of manufacturing yarns. Its function is to arrange fibres in parallel order. Essentially, it consists of a pair of feed rolls and a series of followers where the followers move at a faster surface speed and perform a combing action;
- (j) "In-running rolls" means any pair of rolls or drums between which there is a "nip":
- (k) "Interlocking arrangement" means a device that prevents the setting in motion of a dangerous part of machine or the machine itself while the guard, cover or door provided to safeguard against danger is open or unlocked, and which will also hold the guard, cover or door closed and locked while the machine or the dangerous part is in motion;
- (1) "Kier" means a large metal vat, usually a pressure type, in which fabricks may be boiled out, bleached etc.;
- m) "Ribbon lapper" means a machine or a part of a machine used to prepare laps for feeding a cotton comb; its purpose is to provide a uniform lap in which the fibres having been straightened as much as possible;
- (n) "Sliver Lapper" means a machine or a part of a machine in which a number of parallel card

- slivers are drafted slightly, laid side by side in a compact sheet, and wound into a cylindrical package;
- (o) "Loom" means a machine for effecting the interlocking of two series of yarns crossing one another at right angles. The warp yarns are wound on a warp beam and pass through headles and reeds. The filling is shot across in a shuttle and settled in place by reeds and slays, and the fabric is wound on a cloth beam;
- (p) "Starch mangle" means a mangle that is used specially for starching cotton goods. It commonly consists of two large rolls and a shallow open vat with several immersion rolls. The vat contains the starch solution;
- (q) "Water mangle" means a calender having two or more rolls used for squeezing water from fabrics before drying. Water mangles also may be used in other ways during the finishing of various fabrics;
- (r) "Mule" means a type of spinning frame having a head stock and a carriage as its two main sections. The head stock is stationary. The carriage is movable and it carries the spindles which draft and spin the roving into yarn. The carriage extends over the whole width of the machine and moves slowly towards and away from the head stock during the spinning operation;
- (s) "Nip" is the danger zone between two rolls or drums which by virtue of their positioning and movement create a nipping hazard;
- (t) "Openers and pickers" mean a general classification of machinery which includes breaker pickers, intermediate pickers, finisher pickers, single process pickers, multiple process pickers, willow machines, card and picker waste cleaners, thread extractors, shredding machines, roving waste openers, shoddy pickers, bale breakers, feeders, vertical openers, lattice cleaners, horizontal cleaners, screen section, calender section, rolls, or beaters used for the preparation of stock for further processing;
- (u) "Paddler" means a trough for a solution and two or more squeeze rolls between which cloth passes after being passed through a mordant or dye bath:
- (v) "Plating machine" means a machine used to lay cloth into folds of regular length for convenience of subsequent process or use;

- (w) "Roller printing machine" means a machine consisting of a large central cylinder, or pressure bowl, around the lower part of the perimeter of which is placed a series of engraved colour rollers, (each having a colour trough), a furnisher roller, doctor blades etc. The machine is used for printing fabrics;
- (x) "Continuous bleaching range" means a machine for bleaching of cloth in rope or openwidth form with the following arrangement. The cloth, after wetting out, passes through a squeeze roll into a saturator containing a solution of caustic soda and then to an enclosed J-Box. A V-shaped arrangement is attached to the front part of the J-box for uniform and rapid saturation of the cloth, with steam before it is packed down in the J-box. The cloth in a single strand rope form, passes over a guide roll down the first arm of the "V" and up the second. Steam is injected into the • V" at the upper end of the second arm so that the cloth is rapidly saturated with steam at this point. The J-box capacity is such that cloth will remain hot for a sufficient time to complete the scouring action. It then passes a series of washers with a squeeze roll in between. The cloth then passes through a second set of saturator, J-box, and washer, where it is treated with the peroxide solution. By slight modification of the form of the unit, the same process can be applied to open-width cloth;
- (y) "Mercerizing range" means a 3-bowl mangle, a tenter frame, and a number of boxes for washing and scouring. The whole set up is in a straight line and all parts operate continuously. The combination is used to saturate the cloth with sodium hydroxide, stretch it while saturated and washing out most of the caustic before releasing tensic n.
- (z) "Sanforizing machine" means a machine consisting of a large steam-heated cylinder and endless, thick, woollen felt blanket which is in close contact with the cylinder for most of its perimeter and an electrically heated shoe which presses the cloth against the blanket while the latter is in a stretched condition as it curves around feed-in-roll;
- (aa) "Shearing machine" means a machine used for shearing cloth. Cutting action is provided by a number of steel blades spirally mounted on a roller. The roller rotates in close contact with

- a fixed ledger blade. There may be from one to six such rollers on a machine.
- (bb) "Singeing machine" means a machine which comprises of a heated roller, plate or an open gas flame. The cloth or yarn is rapidly passed over the roller or the plate or through the open gas flame to remove fuzz or hairiness by burning;
- (cc) "Slasher" means a machine used for applying a size mixture to warp yarns. Essentially, it consists of stand for holding section beams, a a size box, one or more cylindrical dryers or an enclosed hot air dryer and a beaming end for winding the yarn on the loom beams;
- (dd) "Tenter frame" means a machine for drying cloth under tension. It essentially consists of a pair of endless travelling chains fitted with clips of fine pins and carried on tracks. The cloth is firmly held at the selvages by the two chains which diverge as they move forward so that the cloth is brought to the desired width;
- (ee) "Warper" means a machine for preparing and arranging the yarns intended for the warp of a fabric, specifically, a beam warper.

3. General safety requirements.—

- (a) Every textile machine shall be provided with individual mechanical or electrical means for starting and stopping such machines. Belt shifter on machines driven by belts and shafting should be provided with a belt shifter lock or an equivalent positive locking device.
- (b) Stopping and starting handles or other controls shall be of such design and so positioned as to prevent the operator's hand or fingers from striking against any moving part or any other part of the machine.
- (c) All belts, pulleys, gears, chains, sprocket wheels and other dangerous moving parts of machinery which either form part of the machinery or are used in association with it, shall be securely guarded.

4. Openers and pickers.

(a) In all opening or picker machinery, beaters and other dangerous parts shall be securely fenced by suitable guards so as to prevent contact with them. Such guards and doors or covers or opening giving access to any dangerous part of the machinery shall be provided with interlocking arrangement.

Provided that in the case of doors or covers of openings giving access to any dangerous

part, other than beater covers, instead of the interlocking arrangement, such opening may be so fenced by guards which shall prevent access to any such dangerous part and be either kept positively locked in position or fixed in such a manner that it cannot be removed without the use of hand tools.

- (b) The feed rolls on all opening and picking machinery shall be covered with a guard designed to prevent the operator from reaching the nip while the machinery is in operation.
- (c) The lap forming rollers shall be fitted with a guard or cover which shall prevent access to the nip at the intake of the lap roller and fluted roller as long as the weighted rack is done. The guard or cover shall be provided with interlocking arrangement;

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

Provided further that any such machine equipped with an automatic lap forming device shall not be used unless the automatic lap forming device is in efficient working order.

5. Cards.

(a) All cylinder doors shall be secured by an interlocking arrangement which shall prevent the door being opened until the cylinder has ceased to revolve and shall render it impossible to restart the machine until the door has been closed;

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

Provided further that stripping or grinding operations shall be carried out only by specially trained adult male workers, wearing tight fitting clothing, whose names have been recorded in the register, as nearly as possible in Form No. 7.

- (b) The licker-in shall be guarded so as to prevent access to the dangerous parts.
- (c) Every card shall be equipped with an arrangement that would enable the card cylinder to be driven by power during stripping or grinding operations without having either to shift the main belt to the fast pulleys of the machine or to dismantle the interlocking mechanism. Such an arrangement shall be used only for stripping or grinding operations.

6. Garnett machines.

- (a) Garnett licker-ins shall be enclosed.
- (b) Garnett fancy rolls shall be enclosed by guards. These shall be installed in a way that keeps worker rolls reasonably accessible for removal or adjustment.
- (c) The underside of the garnett shall be guarded by a screen mesh or other form of enclosure to prevent access.

7. Gill Boxes.

- (a) The feed end shall be guarded so as to prevent fingers being caught in the pins of the intersecting fallers.
- (b) All nips of in-running rolls shall be guarded by suitable nip guards conforming to the following specifications:

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

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

8. Silver and ribbon lappers.—

The calender drums and the lap spool shall be provided with a guard to prevent access to the nip between the in-running rolls.

9, Speed frames.—

Jack box wheels at the head stock shall be guarded and the guard shall have interlocking arrangement.

10. Spinning mules.—

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

11. Wrapers -

Swivelved double-bar gates shall be installed on all wrappers operating in excess of 410 meters/min. These gates shall have interlocking arrangement, except for the purpose of inching or jogging; Provided that the top and bottom bars of the gate shall be at least 105 and 53 cm. high respectively

from the floor or working platform and the gate shall be located 38 mm. from the vertical tangent to the beam head.

12. Slashers.—

(a) Cylinder dryers-

- (i) All open nips of in-running rolls shall be guarded by nip guards conforming to the requirements enjoined in Sub-paragraph (b) of paragraph 7;
- (ii) when slashers are operated by control levers, such levers shall be connected to a horizontal bar or treadle located not more than 170 cm. above the floor to control the operation from any point;
- (iii) slashers operated by push button control shall have stop and start buttons located at each end of the machine, and additional buttons located on both sides of the machine at the size box and the delivery end. If calender rolls are used, additional buttons shall be provided at both sides of the machine at points near the nips, except when slashers are equipped with an enclosed dryer as in sub-paragraph (b).

(b) Enclosed hot air dryer—

- (i) All open nips of the top squeezing rollers shall be guarded by nip guards conforming to the requirements enjoined in sub-paragraph (b) of paragraph 7;
- (ii) when slashers are operated by control levers, such levers shall be connected to a horizontal bar or treadle located not more than 170 cm. above the floor to control the operation from any point;
- (iii) slashers operated by push-buttons control shall have stop and start buttons located at each end of the machine and additional stop and start buttons located on both sides of the machine at intervals spaced not more than 183 cm. or centres.

13. Looms-

- (a) Each loom shall be equipped with suitable guards designed to minimise the danger from flying shuttles.
- (b) Beam weights for tensions in beam shall be of such construction as to prevent it from falling during its adjustment.

14. Valves of kiers, tanks and other containers.—

(a) Each valve controlling the flow of steam, injurious gases or liquid into a kier or any other tank or container into which a person is likely to enter

- in connection with a process, operation, maintenance or for any other purpose, shall be provided with a suitable locking arrangement to enable the said person to look the valve securely in the closed position and retain the key with him before entering the kier, tank or container.
- (b) Whereever boiling tanks, caustic tanks and any other containers from which liquids which are hot, corrosive or toxic may overflow or splash, are so located that the operator cannot see the contents from the floor or working area emergency shut off valves which can be controlled from a point not subject to danger of overflow or splash shall be provided to prevent danger.

15. Shearing machines.-

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

16. Continuous bleaching range (cotton and rayon)—
The nip of all in-running rolls on open-width bleaching machine rolls shall be protected with a guard to prevent the worker from being caught at the nip. The guard shall extend across the entire length of the nip.

17. Mercerising range (Piece goods).—

- (a) A stopping device shall be provided at each end at the machine.
- (b) A guard shall be provided at each end of the frame between the in-running chain and the clip opener.
 - (c) A nip guard shall be provided for the inrunning rolls of the mangle and washers and the guard shall conform to the requirements enjoined in sub-paragraph (b) of paragraph 7.

18. Tenter frames.

- (a) A stopping device shall be provided at each end of the machine.
- (b) A guard shall be provided at each end of the machine frame at the in-running chain and clip opener.

19. Paddlers.

Suitable nip guards conforming to the requirement enjoined in sub-paragraph (b) of paragraph 7 shall be provided to all dangerous in-running rolls.

20. Centrifugal extractors.

(a) Each extractor shall be provided with a guard for the basket and the guard shall have interlocking arrangement.

- (b) Each extractor shall be equipped with a mechanically or electrically operated brake to quickly stop the basket when the power driving the basket is shut off.
- 21. Squeezer or wringer extractor, water mangle, starch mangle, back washer (worsted yarn) crabbing machines, and decating machines. All in-running rolls shall be guarded with nip guards conforming to the requirements enjoined in sub-paragraph (b) of paragraph 7.
- 22. Sanforising and palmer machine.
 - (a) Nip guards shall be provided on all accessible in-running rolls and these shall conform to the requirements enjoined in sub-paragraph (b) of paragraph 7.
 - (b) Access from the sides to the nips of in-running rolls shall be securely fenced by suitable side guards.
 - (c) A safety trip rod, cable or wire centre cord shall be provided across the front and back of all palmer cylinders extending the length of the face of the cylinder. It shall operate readily whether pushed or pulled. The safety trip shall not be more than 170 cm. above the level at which the operator stands and shall be readily accessible.

23. Rope washers.

- (a) Splash guards shall be installed in all rope washers unless the machine is so designed as to prevent the water or liquid from splashing the operator, the floor and the working surface.
- (b) A safety trip rod, cable or wire centre cord shall be provided across the front and back of all rope washers extending the length of the face of the washer. It shall operate readily whether pushed or pulled. This safety trip shall be not more than 170 cm. above the level on which the operator stands and shall be readily accessible.

24. Laundry washer tumble or shaker.

(a) Each drying tumble, each double cylinder shaker or clothes tumbler, and each washing machine shall be equipped with an inter-locking arrangement which shall prevent the power operation of the inside cylinder when the outer door on the case or shell is open, and which shall also prevent the outer door on the case or shell from being opened without shutting off the power and the cylinder coming to a stop. This may not prevent the movement of the

- inner cylinder by means of a hand operated mechanism or an inching machine.
- (b) Each closed barrel shall also be equipped with adequate means for holding open the doors or covers of the inner and outer cylinders or shells while it is being loaded or unloaded.

25. Printing machine (roller type).

- (a) All in-running rolls shall be guarded by nip guards conforming to the requirement enjoined in sub-paragraph (b) of paragraph 7.
- (b) The engraved roller gears and the large crown wheel shall be securely guarded.

26. Calenders.

The nip at the in-running side of the rolls shall be provided with a guard extending across the entire length of the nip and arranged to prevent the fingers of the workers from being pulled in between the rolls or between the guard and the rolls, and so constructed that the cloth can be fed into the rolls safely.

27. Rotary staple cutters.

The cutter shall be protected by a guard to prevent hands reaching the cutting zone.

28. Plaiting machines.

Access to the trap between the knife and card bar shall be prevented by a guard.

29. Hand bailing machine.

An angle iron handle-stop guard shall be installed at right angle to the frame of the machine. The stop guard shall be so designed and so located as to prevent the handle from travelling beyond the vertical position should the handle slip from the operator's hand when the pawl has been released from the teeth of the take-up gear.

30. Flat-work ironer-

Each flat-work or collar ironer shall be equipped with safety bar or other guard across the entire front of the feed or first pressure rolls, so arranged that the striking of the bar or guard by the hand of the operator or other person shall stop the machine. The guard shall be such that the operator or other person cannot reach into the rolls without removing the guard. This may be either a vertical guard on all sides or a complete cover. If a vertical guard is used, the distance from the floor or working platform to the top of guard shall be not less than 183 cm."

(c) in Schedule III, after sub-clause (ii) of clause (a) of paragraph 5 insert the following sub-

clause:—" (iii) For a saw of a diameter of less than 60 cm. the knife shall extend upwards from the bench table to within 25 mm. of the top of the saw, and for a saw of a diameter 60 cm. or over shall extend upwards from the bench table to a height of at least 23 cm. of the top of the saw."

- (d) in Schedule V, after clause (d) of paragraph 3, insert the following clause:—
 - "(e) Notwithstanding anything contained in clauses (a) and (b) an automatic or an interlocked guard may be used in place of a fixed guard but where such guards are used they shall be maintained in an efficient working condition and if any guard develops a defect, the power press shall not be operated unless the defect of the guard is removed.";
- (e) after Schedule V. *insert* the following Schedules:—

SCHEDULE VI

Shears, Slitters and Guillotine Machines.

- 1. Definitions—For the purpose of this schedule—
 - (a) "guillotine" means a machine ordinarily equipped with straight, bevel edged blade operating vertically against a stationary resisting edge and used for cutting metallic or non-metallic substances;
 - (b) "shears" or "shearing machine" means a machine ordinarily equipped with straight, bevel-edged blade operating vertically against resisting edges, or with rotary, overlapping cutting wheels and used for shearing metals or non-metallic substances;
 - (c) "slitters" or "slitting machine" means a machine ordinarily equipped with circular disctype knives and used for trimming or cutting into metal or non-metallic substances or for slitting them into narrow strips and includes bread or other food slicers equipped with rotary knives or cutting discs.
- 2. Guillotine and shears.
 - (a) Where practicable, a barrier metal guard of adequate strength shall be provided at the front of knife, fastened to the machine frame and shall be so fixed as to prevent any part of the operator's body to reach the descending blades from above, below or through the barrier guard or from the sides:

Provided that in case of a machine used in the paper printing and allied industries, where a

- fixed barrier metal guard is not suitable on account of the height and volume of the material being fed, there shall be provided suitable starting devices which require simultaneous action of both the hands of the operator or an automatic device which will remove both the hands of the operator from the danger zone at every cutting stroke of the blade.
- (b) At the back end of such machines, an inclined guard shall be provided over which the slit pieces would slide and be collected at a safe distance in a manner as to prevent a person at the back of the machine from reaching the descending blade.
- (c) Power-driven guillotine cutters, except continuous feed trimers, shall be equipped with;
 - (i) starting devices which require the simultaneous action of both hands to start the cutting stroke and of at least one hand on a control during the complete cutting cycle of the knife; or
 - (ii) an automatic guard which will remove the hands of the operator from the danger zone at every cutting stroke of the blade, used in conjunction with one hand starting devices which require two distance movements of the device to start the cutting stroke and so designed as to return positively to the non-starting position after each complete cycle of the knife.
- (d) Where two or more workers are employed at the same time on the same power-driven guillotine cutter equipped with two-hand control the device shall be so arranged that each worker shall be required to use both hands simultaneously on the safety trip to start the cutting stroke, and at least one hand on a control to complete the cycle of the knife.
- (e) Power-driven guillotine cutters, other than continuous trimmer, shall be provided, in addition to the brake or other stopping mechanism, with an emergency device so as to prevent the machine from operating in the event of failure of the brake when the starting mechanism is in the non-starting position.

3. Slitting Machines.

(a) Circular disc-type knives on machines for cutting metal and leather, paper, rubber, textiles or other non-metallic substances shall, if within reach of operators during operation, be provided with guards enclosing the knife edges at all times, as near as practicable to the surface of the material and which may either—

- (i) automatically adjust themselves to the thickness of the material; or
- (ii) be fixed or manually adjusted so that the space between the bottom of the guard and the material shall not exceed 6 mm at any time.
- (b) Portions of blades underneath the tables or benches of slitting machines shall be covered by guards.
- 4. Index cutters and vertical paper slitters.

Index cutter and other machines for cutting strips from the ends of books and for similar operations shall be provided with fixed guards, so arranged that the fingers of the operators may not come between the blades and the tables.

5. Corner cutters.

Corner cutters, used in the manufacture of paper boxes, shall be equipped with—

- (a) suitable guard, fastened to the machines in front of the knives and provided with slots or perforations to afford visibility of the operations; or
- (b) other guards equally efficient for the protection of the fingers of the workers.

6. Band knives.

Band wheels on band knives, and all portions of the blades except the working side between guide and the table on vertical machines, or between the wheel guards on horizontal machines, shall be completely enclosed with hinged guards of sheet metal not less than 6 mm. in thickness or of other material of equal strength.

7. Exceptions.

If in the case of a machine or operation it is not possible to comply with the provisions of this Schedule alternative means of protection as approved by the Inspector shall be provided.

SCHEDULE VII

1. Definition.

"Centrifugal machines" include centrifugal extractors separators and drivers.

- 2. Every part of centrifugal machine shall be.
 - (i) of good design and construction and of adequate strength;
 - (ii) properly maintained; and

- (iii) examined thoroughly by a competent person at regular intervals.
- 3. Interlocking guard for drum or basket.
 - (a) The case, housing the rotating drum or basket of every centrifugal machine shall be provided with a strong lid. The design and construction of the cage as well as the lid shall be such that no access is possible to the drum or basket when the lid is closed.
 - (b) Every centrifugal machine shall be provided with an efficient interlocking device so as to effectively prevent the lid referred to in sub-paragraph (a) from being opened while the drum or basket is in motion and prevent the drum or basket being set in motion while the lid is the open position.

4. Braking arrangement.

Every centrifugal machine shall be provided with an effective braking arrangement capable of bringing the drum or basket to rest within a short a period of time as reasonably practicable, after the power is cut off.

5. Operating speed.

No centrifugal machine shall be operated at a speed in excess of the manufacturer's rating which shall be legibly stamped at easily visible places both on the inside of the basket and on the outside of the machine caging.

6. Exceptions.

Sub-paragraph (b) of paragraph 3, paragraph 4 and paragraph 5 shall not apply in case of top lung machines or similar machines used in the sugar manufacturing industry.":

- 29. in rule 48, in the marginal note, for the figures "52 substitute the figures "52B";
- 30. in sub-rule (1) of rule 49, for the word "or" occur ing in between the words "locomotive" and "fort-lift truck" substitute the punctuation", and "insert the words and commas" dumper, dozer, lorry, tractor, etc. "after the words "fort-lift truck" occuring in the same line.
- 31. after rule 49A, insert the following rules:—
 "49B. Ovens and driers.

(1) Application

This rule shall apply to ovens and driers, except those used in laboratories or kitchens of any establishment and those which have a capacity below 325 litres.

(2) Definition.

For the purpose of this rule, oven drier means any enclosed structure, receptacle, compartment

or box which is used for baking, drying or otherwise processing of any article or substance at a temperature higher than the ambient temperature or the air in the room or space in which the oven or drier is situated, and in which a flammable or explosive mixture of air and a flammable substance is likely to be evolved within the enclosed structure, receptacle, compartment or box or part thereof on account of the article or substance which is baked, dried or otherwise processed within it.

- (3) Separate electrical connection.

 Electrical power supplied to every oven or drier shall be by means of a separate circuit provided with an isolation switch.
- (4) Design, construction, examination and testing.
 - (a) Every oven or drier shall be properly designed on sound engineering practice and be of good construction, sound materials and adequate strength, free from any patent defects and safe if properly used.
 - (b) No oven or drier shall be taken into use in a factory for the first time unless a competent person has thoroughly examined all its part and carried out the tests as are required to establish that the necessary safe systems and controls provided for safety in operation for the processes for which it is to be used and a certificate of such examination and tests signed by that competent person has been obtained and is kept available for examination by an Inspector at all times during working of the factory.
 - (c) All parts of an oven or drier which has undergone any alteration or repair which has the effect of modifying any of the design characteristics, shall not be used unless a thorough examination and test as have been mentioned in clause (b) has been carried out by a competent person and a certificate of such examination and test signed by that competent person has been obtained and is kept available for examination by an Inspector at all times during working of the factory.

5. Safety ventilation.

(a) Every oven or drier shall be provided with positive and effective safety ventilation system using one or more motor-driven centrifugal fans so as to dilute any mixture of air and any flammable substance that may be formed within the oven or drier and maintain the concentration

- of the flammable substance in the air a safe level of dilution.
- (b) The safe level of dilution referred to in clause (a) shall be such as to achieve a concentration of the concerned flammable substance in air of not more than 25 percent of its lower explosive limit; Provided that a level of concentration in air upto 50 percent of the lower explosive limit of the concerned flammable substance may be permitted to exist subject to installation and maintainance of an automatic device which.
 - (i) shows continuously the concentration of the flammable substance in the air present in the oven or drier at any instance.
 - (ii) sounds an alarm when the concentration of the flammable substance in air in any part of the oven or drier reaches a level of 50 percent of its lower explosive limit; and
- (iii) shuts down the heating system of the oven or drier automatically when the concentration in air of flammable substance in any part of the oven or drier reaches a level of 60 percent of its lower explosive limit and is provided to the oven or drier and maintained in efficient working condition.
- (c) No oven or drier shall be operated without its safety ventilation system working in an efficient manner.
- (d) No oven or drier shall be operated with a level of dilution more than what is referred to in clause (b).
- (e) Exhaust ducts of safety ventilation system shall be so designed and placed as to discharge the mixture of air and flammable substance away from the workroom and not near windows or doors other openings from where the mixture may re-enter the workroom or create a pollution hazard in the neighbouring atmosphere.
- (f) The fresh air admitted into the oven or drier by means of the safety ventilation system shall be circulated adequately by means of circulating fan or fans through all parts of the oven or drier so as to ensure that there are no locations where the flammable substance can accumulate in the air or become pocketted to any dangerous degree.
- (g) Throttling dampers in any safety ventilation system shall be so designed by cutting away a portion of the damper or otherwise, that the system may handle at least the minimum ventilation rate required for safety when they are set in their maximum throttling position.

- 6. Explosion panels.
 - (a) Every oven or drier having an internal total space of not less than half cubic meter shall be provided with suitably designed explosion panels so as to allow release of the pressure of any possible explosion within the oven or drier through explosion vents. The area of openings to be provided by means of such vents together with the area of openings of any access doors which are provided with suitable arrangements for their release in case of an explosion, shall be not less than 2200 square centimeter for every one cubic meter of volume of the oven or The design of such explosion panels and doors shall be such as to secure their complete release under an internal pressure of 0.25 kg. per square centimeter.
 - (b) The explosion releasing panels, shall, as far as practicable, be situated at the roof of the oven or drier or at those portions of the walls where persons do not remain in connection with operations of the oven or drier.
 - (7) Interlocking arrangements. In each oven or drier, efficient interlocking arrangements shall be provided and maintained to ensure that
 - (i) all ventilating fans and circulating fans whose failure may adversely effect the ventilation rate or flow pattern, are in operation before any mechanical conveyor that may be provided for feeding the article or substances to be processed in the oven or drier is put into operation;
 - (ii) failure of any of the ventilating or circulating fans may automatically stop any conveyor as referred to in clause (i) as may be provided, as well as stop the fuel supply by closing the shut-off valve and shut off the ignition in the case of gas or oil fired ovens, and in the case of electrically heated ovens switch off the electrical supply to the heaters;
 - (iii) the above said mechanical conveyor is set in operation before the above said shut-off valve can be energized; and
 - (iv) the failure of the above said conveyor may automatically close the above said shut-off valve in the case of ovens and driers heated by gas, oil or steam and deactivate the ignition system or cut off the electrical heaters in the case of electrically heated ovens or driers.
 - 8) Automatic preventilation.

 Every oven or drier heated by oil, gas, steam or electrically shall be provided with an efficient

arrangement for automatic preventilation consisting of at least three volume changes with fresh air by operation of the safety ventilation fans and the circulating fans and the circulating fans (if used) so as to effect purging of the oven or drier of any mixture of air and a flammable substance before the heating system can be activated and before the conveyor can be placed in position.

(9) Temperature Control.

Every oven or drier shall be provided with an automatic arrangement to ensure that the temperature within may not exceed a safe upper limit to be decided in respect of the particular processing being carried on.

(10) Multistage processes.

Wherever materials are to be processed in ovens or driers in successive operations, suitable arragement shall be provided to ensure that the operating temperatures necessary for safe operation at each state are maintained within the design limits.

(11) Combustible substance not to drip on electrical heater or burner flames.

Effective arrangements shall be provided in every oven or drier to prevent dripping of combustible substances on electric heater or burner flame used for heating.

- (12) Periodical examination, testing and maintenance.
 - (a) All parts of every oven and drier shall be properly maintained and thoroughly examined and the various controls as mentioned in this rule and the working of the oven or drier tested at frequent intervals to ensure its safe operation by a responsible person designated by the occupier or manager, who by his experience and knowledge of necessary precautions against risks of explosion, is fit to undertake such work.
 - (b) A register shall be maintained in which the details of the various tests carried out from time to time under clause (a) shall be entered and every entry made shall be signed by the person making the tests. The register shall be kept available for examination by an Inspector at all times during working of the factory.
 - (13) Training of operators.No person shall be assigned any task connec-

ted with operation of any oven or drier unless he has completed 18 years of age and he is properly trained.

- (14) Polymerising machines.
 - (a) Printed fabrics shall be thoroughly dried by passing them over drying cans or

through hot flue or other equally effective means, before the same is allowed to pass through polymerising machines.

(b) Infrared ray heaters of polymerising machines shall be cut off while running the prints.

(15) Exemption.

Where the Chief Inspector is satisfied that owing to the special conditions or special methods, all or any of the provision of this rule are not necessary for safe operation of all or any class or any oven or drier, he may by an order, in writing, exempt any factory from all or any of the provisions of this rule subject to such condition as may be specified therein. Such order at any time may also be revoked by Chief Inspector at his discretion.

49C. Reaction vessels and kettles.

- (1) This rule applies to reaction vessels and kettles, hereinafter referred to as reaction vessels, which normally work at a pressure not above the atmospheric pressure but in which there is likelihood of pressure being created above the atmospheric pressure due to reaction getting out of control or any other circumstances.
- (2) In the event of the vessel being heated by electrical means, a suitable theremostatic control device shall be provided to prevent the temperature exceeding the safe limit.
- (3) Where steam is used for heating purposes in a reaction vessel, it shall be supplied through a suitable pressure reducing valve or any other suitable automatic device to prevent the maximum permissible steam pressure being exceeded, unless the pressure of the steam in the supply line itself cannot exceed the said maximum permissible pressure.
- (4) A suitable safety valve or rupture disc of adequate size and capacity shall be provided to effectively prevent the pressure being built up in the reaction vessel beyond the safe limit. Effective arrangements shall also be made to ensure that the released gas, fumes, vapours, liquids or dusts, as the case may be are led away and disposed of through suitable pipes without causing any hazard. Where flammable gas or vapours are likely to be vented out from the vessel, the discharge end shall be provided with a flame arrester.

- (5) Every reaction vessel shall be provided with a pressure gauge having the appropriate range.
- (6) In addition to the devices as mentioned in the foregoing provisions, means shall be for automatically stopping the feed into the vessel as soon as process conditions deviate from the normal limits to an extent which may be considered as dangerous.
- (7) Wherever necessary, an effective system for cooling, flooding or blanketing shall be provided for the purpose of controlling the reaction and process condition within the safe limits of temperature and pressure.
- (8) An automatic auditory and visual warning device shall be provided for clear warning whenever process conditions exceed the present limits. This device, wherever possible, shall be integrated with automatic process correction system.
- (9) A notice pointing out the possible circumstances in which pressure above atmospheric pressure may be built up in the reaction vessel, the dangers involved and the precautions to be taken by the operators shall be displayed at a conspicuous place near the vessel.
- 32. after rule 51, insert the following rule: "51A. Fragile roofs.—

ever, on a sloping roof unless:

Rule
Prescribed
under
Sections
41 and
112.

- (1) In any factory no person shall be required or allowed to stand, walk or do any work or go for any purpose whatsoever, on a roof or ceiling covered with or constructed of sheets of whatever nature made of any material or materials in respect of which there may be danger of the sheet-breaking due to the weight of a man or otherwise, and no person shall be required or
 - (a) suitable and sufficient safety devices like ladders, duck ladders, access boards, crawling boards, safety belts, safety nets etc. securely supported and fixed are provided and used;

allowed to work or go for any purpose whatso-

- (b) suitable and sufficient parapet wall or railing or any other equally effective device to prevent the person from falling from the sloping roof is provided;
- (c) a notice in bold letters, in a language understood by the majority of the workers

warning that the roof is of fragile materials and is dangerous and that no person should go or work on the roof unless full protective measures have been taken, is displayed at such a prominent place or places, and in such a manner as to attract immediate attention; and

- (d) a permit to work on the roof has been issued by a responsible person duly authorised for this purpose by the manager.
- (2) All preparatory work like cutting, trimming, piercing etc. of the sheets or of any other material or article to be used on a roof shall be carried out only on the ground and not on the roof.";
- 33. after rule 52 insert the following rule:
 - "52A. Protective equipment-
 - (1) The Inspector may, having regard to the nature of hazards involved in work and process being carried out, order the occupier or the manager, in writing, to supply to the workers exposed to particular hazards any personnel protective equipment as may be considered necessary and specified in the order.
 - (2) All personnel protective equipments to be provided to workers as required under any of the provisions of the Act or the rules made thereunder shall have certification by Indian Standard Institution and be maintained in good repair and usable condition;
- 34. for sub-rule (1) of rule 53, substitute the following sub-rule:
 - (1) one or more adult workers shall be appointed for the purpose of sub-section (1) of section 22 of the Act for such examination or operation as referred to in the proviso to sub-section (1) of section 21 of the Act and the name and other particulars of every such worker shall be entered in a register as nearly as possible in Form No. 7 which shall be kept up-to-date and readily available, to the Inspector for examination during working hours of the factory.";
- 35. for rule 54, substitute the following rule:
 - "(54). Employment of young persons on dangerous machines.—

The machines specified in sections 28 and 30 of the Act and the following machines shall be deemed to be of such dangerous character

that young persons shall not work at them unless the provisions of sub-section (1) of section 23 of the Act are complied with:

- (a) Power presses other than hydraulic presses;
- (b) Milling machines used in metal trades;
- (c) Shears, Slitters and Guillotine machines;
- (d) Wood working machines;
- (e) Platen Printing machines;
- (f) Centrifugal machines.";
- 36. After rule 54, insert the following rule:-

"54A. Hoists and Lifts,

Rule 54A (1) A report of result of every examination, prescribed carried out in respect of every hoist and under lift shall be completed in the prescribed Section 28 Form No. 8A within seven days of completion of the work and shall be signed by the competent person making the examinanation and shall be kept available for persual by the Inspector at all hours when the factory or any part thereof is working.

(2) For the class or description of hoist or lift specified in the first column of the following Schedule, the requirements of section 28 of the Act specified in the second column of the said Schedule and set opposite to that class or description of hoist or lift shall not apply:

SCHEDULE

Class or description of hoist or lift

Requirements which shall not apply

Sub-section (1)(b) in so far

Hoist or lifty mainly used for raising materials for charging blast furnaces or lime kilns.

as it requires a gate at the bottom landing; subsection (1) (d); and subsection (1) (e).

Sub-section (1)(b) in so far

Hoists not connected with mechanical power and which are not used for carrying persons. Sub-section (1)(b) in so far as it requires the hoisting or the lifting enclosure to be so constructed as to prevent any person or thing from being trapped between any part of the hoist or lift and any fixed structure or moving part; and sub-section (1) (e).";

- 37. in rule 55 after sub-rule (10), insert the following sub-rule:—
 - "(11) To provide access to rail tracks of overhead travelling cranes suitable passage-ways of at

least 50 cm. width with toe-boards and double hand-rails 90 cm. high shall be provided along-side and clear off, the rail tracks so that no moving part of the crane can strike persons on the ways and the passage way shall be at a lower level than the crane track itself. Safe access ladders shall be fixed at suitable intervals to afford access to such passage-ways and from passage-ways to the rail tracks:

Provided that this provision shall apply to all factories in respect of such overhead travelling cranes as are taken into use after this sub-rule comes into force;

Provided further that the Chief Inspector may exempt any factory in respect of any overhead travelling crane from the operation of the provision of this sub-rule subject to such conditions as may be specified in the order in writing."

38. in rule 56,

- (a) insert the following marginal note:—"Rules 56 and 56A prescribed under sub-sections(2) and (3) of section 31.",
- (b) in clause (i) of sub-rule (2):
 - (i) delete the words "oil separator," occurring between the words "steam de-super-headers", and "air, receivers for fire sprinkler installations"
 - (ii) for the figures "84.95", substitute the figures "85";
- 39. after rule 56, insert the following rule:—
 "56A. Water-sealed gasholder.
 - (1) The expression "gasholder" means a water-sealed gasholder which has a capacity of not less than 141.5 cubic meters.
 - (2) Every gasholder shall be of good construction, sound material, adequate strength, free from patent defect and properly maintained.
 - (3) Where there is more than one gasholder in a factory, every gasholder shall be marked conspicuously with a distinguishing number or letter.
 - (4) Every gasholder shall be thoroughly examined externally by a competent person at least once in a period of every twelve months.
 - (5) In the case of gasholder in use for than 10 years, the internal condition of the sheeting shall, within year of the coming into force of this rule and thereafter at least once in a every period of four years, be examined by a competent person by means of electronic or other accurate devices:

Provided that if the Chief Inspector is satisfied that such electronic or other accurate devices are not available he may permit the cutting of samples from the crown and the sides of the holder at places to be indicated by the competent person.:

Provided further that if the above examination raises a doubt, an internal visual examination shall be made,

- 6. All possible steps shall be taken to prevent or minimise ingress of impurities in the gasholder during its operation or maintenance,
- 7. No gasholder shall be repaired or demolished except under the direct supervision of a person who. by his training, experince and knowledge of the necessary precautions against risks of explosion, and/or persons being overcome by gas, is competent to supervise such work.
- 8. (a) All sample discs cut under sub-rule (5) shall be kept readily available for inspection, on demand by an Inspector.
 - (b) A permanent register in Form 9A duly signed by the occupier or manager shall be maintained, kept up-to-date and readily available to the Inspector at all times during working of the factory.
 - (c) The results of examinations by the competent person carried out as required under sub-rules (4) and (5) shall be recorded in Form 9B, which shall be kept readily available in the factory for examination by an Inspector at all times during working of the factory.";
- 40. For the marginal notes to rules 61 and 62 substitute the following:
 - "Rules 61 and 62 prescribed under sub-section (3) of section 38 and section 41".
- 41. in rule 61,
 - (a) in sub-rule (1)
 - (i) in clause (a), after the words "all processes", insert the words "storages, equipments, plants etc."
 - (ii) in clause (d), for the words "appliances; and", substitute the following words:— "appliances, or fire resisting dampers electrically interlocked with heat sensitive/smoke detectors and the air conditioning plant system; and"
 - (iii) in clause (e), after the figures and words "90 cm wide." insert the following words, figure and letter:
 - "For storage piles, the clearance between

- the ceiling and the top of the pile shall not be less than 2m."
- (b) renumber the provisions of sub-rule (2) as clause
 (a) of that sub-rule, and after clause (a) so renumbered, insert the following clause:—
 - "(b) Doors and window openings shall be located in suitable positions on all external walls of the buildings to provide easy access to the entire area within every building for fire fighting."
- (c) in sub-rule (3),
 - (i) delete the word "and" at the end of clause c);
 - (ii) for the punctuation "-" at the end of clause (d), substitute the punctuation and word "; and"
 - (iii) after clause (d), insert the following clause:

 "(e) sub-station buildings and outdoor transformers and switch yards.";
- (d) delete sub-rule (4);
- (e) renumber the provisions of sub-rule (6) as clause (a) of that sub-rule and after clause (a) so renumbered, insert the following clauses:—

 "(b Material susceptible to spontaneous ignition shall be stored in dry condition and in heaps of such capacity and separated by such passage so as to prevent spontaneous ignition; and
- (c) material Susceptible to spontaneous ignition when stored in the open shall be at a distance not less than 10 metres away from process or storage buildings.";
- (f) in sub-rule (10),
 - (i) for clause (c), substitute the following clause:
 (c) an exit may be a doorway, corridor, passage way to an external stairway segregated from the rest of building by fire resisting walls which shall provide continuous and protected means of egrees to the exterior of a building or to an exterior open space. An exit may also include a horizontal exit leading to an adjoining building at the same level."
 - (ii) for clause (e), substitute the following clause:

 "(e) The exists shall be clearly visible and sufficiently illuminated with suitable arrangement by such artificial lighting, as is needed to be adopted for this purpose, to maintain the required illumination in case of failure of the normal source of electric supply.";

- (iii) in clause (o), insert the following proviso:—
 "Iron rung ladders or spiral staircases shall not be acceptable for use as exit staircases.";
- (iv) in clause (r), for the words "or egress.", substitute the words "of egress.";
- (v) for clause (u), substitute the following clause: "(u) An exit door shall not open immediately upon a flight of stairs. A landing, at least 1,5m×1.5m in size shall be provided in the stairway at each doorway. The level of landing shall be the same as that of the floor which it serves.";

(vii) for clause (oo), substitute the following

- (vi) delete clauses "y" and "z";
- clause:—
 "(oo) If the Chief Inspector is satisfied in respect of any factory or any part of a factory that owing to the exceptional circumstances or for any other reason, to be recorded in writing, all or any of the requirements of this rule are/is impracticable or not necessary for the protection of workers, he may, by order in writing, (which he may, at his discreation, revoke), exempt such factory or part of that factory from all

or any of the provisions of the sub-rules

subject to conditions as may be specified in

42. in rule 62-

the order.";

- (a) in sub-rule (1), for clause (c), substitute the following clause:—
 - "(c) The number and types of first-aid fire fighting equipment to be provided for" "light hazard" occupancy shall be as per Schedule-I appended to this rule. For "Ordinary hazard" or "Extra hazard" occupancies equipment as prescribed in sub-rule (2) shall be provided in addition to those as specified in Schedule-I."
- (b) In sub-rule (2) in clause (b) after the word "Schedule" insert the figures "II";
- (c) in sub-rule (3), in clause (c), for the figure 3, substitute the figure "2";
- (d) renumber the existing Schedule as Schedule II and before Schedule II so renumbered, insert the following Schedule:

SCHEDULE-I

First aid fire fighting Equipments

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

	Class of Fire	Suitable type of appliances		
A.	Fires in ordinary combustibles (wood, vegetable fibres, paper and the like).	Chemical extinguishers of soda-acid, gas/expelled water and anti-freeze types, and water buckets.		
В.	Fires in flammable liquids, paints, grease, solvent and the like.	Chemical extinguishers of foam, carbon-di-oxide and dry powder types and sand buckets.		
C.	Fires in gaseous substances under pressure	Chemical extinguishers of carbon-di-oxide and dry powder types.		
D.	Fires in reactive chemica's, active metals and the like.	Special type of dry powder extinguishers and sand buckets.		
E.	Fires in electrical equipments.	Chemical extinguishers of carbon-di-oxide and dry powder type and sand buckets.		

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

	Bucket	Water type extinguishers	
Acceptable replacements	For one For three bucket buckets		For each 9 litres. (or 2 gallons) extinguishers
Dry sand	1 bucket	3 buckets	
Carbon	3 kg.	9 kg.	9 kg.
Dioxide	(or 7 lbs)	(or 20 lbs)	(or 20 lbs)
Extinguishe	rs	(In not less than 2 extinguishers)	
Dry	2 kg.	5 kg.	5 kg.
powder	(or 5 lbs)	(or 11 lbs) (in one or more extinguishers)	(or II lbs)
Foam	9 litres	9 litres	9 litres
Extingui- shers	(or 2 gallons)	(or 2 gallons)	(or 2 gallons)

⁽⁴⁾ The following provisions shall be complied with where Class E fires are anticipated:—

- (a) For rooms containing electrical transformers, switchgears, motors and/or other electrical apparatus only, not less than two 2 kg. dry powder or Carbon-Di-oxide type extinguisher shall be provided within 15m. of the apparatus.
- (b) Where motors and/or other electrical equipments are installed in rooms other than those containing such equipment only, one 5 kg. dry powder or Carbon Dioxide extinguisher shall be installed within 15m. of such equipment in addition to the requirements as mentioned at items (3) and (4) (a) above. For this purpose the same extinguisher may be deemed to afford protection to all apparatus within 15m.
- (c) Where electrical motors are installed on platforms, one 2 Kg. dry powder or Carbon Dioxide type extinguisher shall be provided on or below each platform. In case of a long platform with a number of motors, one extinguisher shall be acceptable as adequate for every 3 motors on the common platform. The above requirements shall be in addition to the requirements mentioned at Items (3) and (4) (a) and (b) above.
- (5) The first aid fire fighting equipments shall be so distributed over the entire floor area that a person has to travel not more than 15m. to reach the nearest equipment.
- (6) Selection of sites for the installation of first aid fire fighting equipments.
 - (a) While selecting sites for first aid fire fighting equipments, due consideration shall be given to the nature of the risk to be covered. The equipments shall be placed in conspicuous positions and shall be readily accessible for immediate use in all parts of the occupancy. It shall always be borne in mind while selecting sites that first aid fire fighting equipmens are intended only for use on incipient fires and their value may be negligible if the fire is not extinguished or brought under control in the early stages.
- (b) Buckets and extinguishers shall be placed at convenient and easily accessible locations either on hangers or on stands in such a way that their bottom is 750mm, above the floor level.
- (7) The operating instructions of the extinguishers shall not be defaced or obliterated. In case the operating instructions are obliterated or have become illegible due to passage of time, fresh transfers of the same shall be obtained from the

manufacturers of the equipments and affixed to the extinguishers.";

43. after rule 63, insert the following Chapter and the rules made thereunder:

CHAPTER IVA

Provisions relating to hazardous processes

63A. Site Appraisal Committee:

Rule (1) Constitution: The following provisions prescribed shall govern the functioning of the Site under Appraisal Committee, hereinafter referred to in these rules as the 'Committee':—

(2) The State Government, may constitute.

- 41 A(1) and 112
- (a) The State Government may constitute a Site Appraisal Committee and reconstitute the committee as and when necessary.
- (b) The State Government may appoint a senior official of the Factories Directorate, preferably with qualification in Chemical Engineering to be the Secretary of the Committee and the following as members of the Committee:
 - (i) A representative of the Directorate of Fire Services, West Bengal;
 - (ii) a representative of the Directorate of Industries, West Bengal and
 - (iii) a representative of the Director General of Factory Advice Service and Labour Institutes, Bombay.
- (2) No member of the Committee, unless required to do so by a Court of Law, shall disclose otherwise than in connection with the purpose of the Act, at any time any information relating to manufacturing or commercial business or any working process which may come to his knowledge during his tenure as a member of the Committee.
- (3) Application for appraisal of sites:
 - (a) Applications for appraisal of sites in respect of the factories covered under section 2 (cb) of the Act shall be submitted to the Chairman of the Committee.
 - (b) The application for site appraisal alongwith 15 copies thereof shall be submitted in Form No. 31 annexed to this rule. The Committee may dispense with furnishing information on any particular item in the application Form if it considers the same to be not relevant to the application under consideration.

- (4) Function of the Committee:
 - (a) The Secretary shall arrange to register the applications received for appraisal of site in a separate register and acknowledge the same within a period of 7 days from the date of receipt.
 - (b) The Secretary shall fix-up meeting in such a manner that all the applications received and registered are referred to the Committee within a period of one month from the last date of their receipt.
 - (c) The Committee may adopt a procedure for its working keeping in view, the need for expeditious disposal of applications.
 - (d) The Committee shall examine the application for appraisal of a site with reference to the prohibitions and restrictions on the location of industry and carrying on of processes and operations in different areas as per the provisions of rule 5 of the Environment (protection) Rules, 1936 framed under the Environment Protection Act, 1936.
 - (e) The Committee may call for documents, examine experts, inspect the site if necessary and take other steps for formulating its views in regard to the suitability of the site.
 - (f) wherever the proposed site requires clearance by the Ministry of Industry and/or the Ministry of Environment and Forests, the application for Site Appraisal will be considered by the Site Appraisal Committee only after such clearance has been received.
- 63B. Health and Safety Policy.

Rule prescribed under section 7A(3), 41B(2) and 112.

- (1) The occupier of every factory, otherwise than specified in sub-rule (2), shall prepare a written statement of his policy in respect of health and safety of workers at work.
- (2) The requirement of sub-rule (1) shall not apply to factories—
 - (a) covered under section 85 of the Act;
 - (b) covered under section 2(m)(i) of the Act wherein less than 50 workers are employed; and
 - (c) covered under section 2(m)(ii) of the Act wherein less than 100 workers are employed:

Provided that they are not carrying on any process activity or operation declared to be dangerous under section 87 of the Act or

- specified in the First Schedule to Section 2(cb) of the Act.
- (3) Notwithstanding anything contained in sub-rule (2) the Chief Inspector having regard to the nature of the work carried on in a factory may, by an order in writing, extend the provisions of sub-rule (1) to any factory or class or description of factories, if, in his opinion, it is expedient to do so.
- (4) The Health and Safety Policy shall contain, inter alia, the following:-
 - (a) The intention and commitment of the top management to secure health, safety and environment and to comply with all the relevant statutory requirements;
 - (b) the organisational set up in the factory to carry out the declared policy clearly stating the responsibility assigned at each stage of the organisation; and
 - (c) the arrangements provided for making the policy effective.
- (5) In particular, the policy shall specify the following:-
 - (a) arrangements to involve the workers;
 - (b) health and safety performance of individuals in their career advancement;
 - (c) responsibility of the contractors, subcontractors, suppliers, transporters and other agencies within the factory;
 - (d) inclusion of health and safety performance of the factory in its Annual Report;
 - (e) periodical assessment of the status on health, safety and environment by appropriate methods and techniques, such as safety audits, risk assessment etc. and remedial measures;
 - (f) intentions to integrate health and safety, in all decisions including purchase of plant equipment, machinery, and material as well as selection and placement of personnel; and
 - (g) arrangements for informing, educating and training including retraining the employees at all levels and informing the public, wherever required.
- (6) The health and safety policy so declared and signed by the occupier shall be submitted to the Chief Inspector and a copy thereof shall be kept readily available for perusal by the Inspector.

- (7) The policy shall be made widely known to all workers including contract workers, apprentices, trainees, transport workers, suppliers etc. by—
- (a) making copies available to them;
- (b) displaying copies of the policy at conspicuous places, and
- (c) any other means of communication in a language understood by the majority of workers.
- (8) The occupier shall revise the safety policy as often as may be appropriate or as may be required by the Chief Inspector, but it shall necessarily be revised under the following circumstances:-
- (a) Whenever any expansion or modification having implications on health and safety of persons at work is made, or
- (b) Whenever new substances or articles are introduced in the manufacturing process having implications on health and safety of persons exposed to such substances.
- 63C. Safety Committee.

Rule prescribed under section

41 and 41(G)

- (1) In every factory
 - (a) wherein 250 or more workers are ordinarily employed; or
 - (b) which carries on any process or operation declared to be dangerous under section 87 of the act; or
 - (c) which carries on hazardous process as defined under section 2(cb) of the Act; There shall be a safety committee.
- (2) The representatives of the management on Safety Committee shall include—
- (a) a senior executive, who by his technical qualification and position in the organisation can contribute effectively to the functioning of the Committee, shall be the Chairman;
- (b) a Safety Officer and a Factory Medical Officer wherever available and in such a case the Safety Officer shall be the Secretary of the Committee;
- (c) one representative each from the production maintenance, purchase and personnel departments.
- (3) The Workers' representatives in the Safety Committee shall be such as to represent majority of the shop floors.

- (4) The tenure of the Committee shall be two years.
- (5) Safety Committee shall meet as often as necessary but not less than once in a quarter. The minutes of the meeting shall be recorded and be readily available to the Inspector on demand.
- (6) Safety Committee shall have the right to obtain from the Manager any information relating to—
- (a) potential safety and health hazards to which the workers may be exposed while they are at work;
- (b) accidents as well as date resulting from surveillance of the working environment and of the health of workers exposed to hazardous substances so far as the factory is concerned;
- (c) health records or the medical records of the workers maintained under section 41C of the Act:

Provided that the Committee undertakes to use the data, on a confidential basis, solely to provide guidance and advice on measures to improve the working environment and the health and safety of the workers.

- (7) Function and duties of the Safety Committee shall include—
 - (a) assisting and co-operating with the management in achieving the aims and objectives outlines in the 'Health and Safety Policy' of the occupier;
 - (b) dealing with all matters concerning health, safety and environment and to arrive at practicable solutions to the problems encountered;
 - (c) creating safety awareness amongst all workers;
 - (d) undertaking educational, training and promotional activities towards health and safety;
 - (e) discussing reports on safety, environmental and occupational health surveys, safety audits and risk assessment for implementation of the recommendations made in the reports;
 - (f) discussing on-site emergency plan and disaster control measures for effective implementation;
 - (g) carrying out health and safety surveys and identifying causes of accidents;

- (h) looking into any complaint made out of apprehension on the likelihood of an imminent danger to the safety and health of the workers, suggesting corrective measures and reviewing the implemention of the remedial measures taken to eliminate the imminent danger; and
- (i) reviewing and analysing the work and operational procedures for identification of hazards and their elimination.
- (8) Where owing to the nature and size of the factory, or any other reason, functions referred to in sub-rule 7 cannot be effectively carried out by Sifety Committee, it shall establish sub-committee as may be required to assist it.

Rule prescribed under sections
41B and 112.

63D. Collection, development and dissemination of information:—

- (1) The occupier of every factory involving a 'hazardous process' shall arrange to obtain or develop information in the form of Material Safety Data Sheet (MSDS) in respect of every hazardous substance or material used, manufactured, stored, handled or transported in the factory. It shall be accessible upon request to a worker for reference and shall be kept readily available to the Inspector.
- (a) Every such Material Safety Data Sheet shall be maintained as nearly as possible in Form No. 32 and shall include the following information:
 - (i) the identify used on the lebel;
 - (ii) the chemical name with molecular formula and its synonyms, if any;
- (iii) hazardous ingredients of the substance;
- (iv) physical and chemical characteristics of the hazardous substance;
- (v) the physical hazards of the substance, including the potential for fire, explosion and reactivity;
- (vi) the health hazards of the substance, including signs and symptoms of exposure and any medical condition which are generally recognised as being aggravated by exposure to the substance;
- (vii) the primary routes of entry;
- (viii) the permissible limits of exposure prescribed in the Second Schedule under Section 41F of the Act and in the case of a chemical not covered by the said Schedule, the limits of exposure recommended by the American Conference of Governmental Industrial Hygienists (ACGIH).

- (ix) The ceiling value, i. e., the concentration that should not be exceeded even instantaneously;
- (x) the precautions required for safe handling and use of the hazardous substance including appropriate hygienic practices, protective measures during repairs and maintenance of contaminated equipment;
- (xi) any generally applicable control measures, such as engineering controls, work practices or use of personal protective equipment;
- (xii) emergency and first-aid procedures;
- (xiii) the procedures for clean-up of spills and leaks;
- (xiv) the procedures for disposal of wastes and empty containers;
- (xv) any other information relevant to health and safety;
- (xvi) the name, address and telephone number of the manufacturer, importer, occupier or other responsible person who has prepared or furnished the Material Safety Data Sheet and who provides additional information on the hazardous substance and appropriate emergency procedures, if necessary; and
- (xvii) the date of preparation of the Material Safety Data Sheet, or the last change to it.
- (b) The occupier while obtaining or developing a Material Safety Data Sheet in respect of a hazardous substance shall ensure that the information is recorded accurately and reflects the scientific evidence used in making the hazard determination.
- (c) The Material Safety Data Sheet in respect of a hazardous substance shall be updated as and when necessary due to any new significant information regarding the hazards of the substance or the ways to protect against the hazards.
- (2) Every container of a hazardous substance shall be clearly labelled or marked to identify:—

- (a) the contents of the contained;
- (b) the name and address of the manufacturer/importer of the hazardous substance;
- (c) the physical and health hazards;
- (d) compatability of the substance; and
- (e) the recommended personal protective equipment.

6E.3 Disclosure of information to workers:--

- (1) The occupier of a factory carrying on a Rule 'hazardous process' shall supply to all prescribed workers the following information in relation to use and handling of hazardous Section materials or substance in the manufacture, 41B and 112.
 - (a) requirements of sections 41B, 41C and 41H of the Act;
 - (b) a list of 'hazardous processes' carried on in the factory;
 - (c) location and availability of all Material Safety Data sheets as per rule 63D;
 - (d) physical and health hazards arising from the exposure to or handling of substance;
 - (e) measures taken by the occupier to ensure safety and to control health hazards;
 - (f) measure to be taken by the workers to ensure safe use, handling, storage and transportation of hazardous substance;
 - (g) personal protective equipment required to be used by workers employed in hazardous processes or dangerous operations;
 - (h) meaning of various labels and markings used on the containers of hazardous substance as provided under the rule 63D;
 - (i) signs and symptoms likely to be manifested on exposure to hazardous substances;
 - (j) measures to be taken by the workers in case of any spillage or leakage of a hazardous substance;
 - (k) role of workers vis-a-vis the emergency plan of the factory, in particular the evacuation and control procedures; and
 - (1) any other information necessary to ensure safety and health of workers.
 - (2) The information required by subrule (1) shall be compiled with the made known to workers individually

- through supply of booklets or leaflets and display of cautionary notices at the work places.
- (3) The booklets, leaflets and the cautionary notices displayed in the factory shall be in the language understood by the majority of the workers, and the contents shall be explained to them.
- (4) Copies of all such booklets, leaflets shall be kept available to the Inspector for his perusal.
- (5) The Chief Inspector may direct the occupier to supply further information, if in his opinion, it is expedient to do so.
- 63F. Disclosure of information to the Chief Inspector. prescribed (1) The Occupier of every factory carrying on under 'hazardous process' shall furnish, in writing, sections the following information to the Chief Inspector and to the local Inspector:—
 - (a) a copy of all the information furnished to the workers, and
 - (b) a copy of compilation of Material Safety
 Data sheets in respect of hazardous
 substances used, produced or stored in
 the factory.
 - (2) The Occupier shall also furnish any other information as may be asked for by the Chief Inspector for the purpose of this Act and the rules made thereunder.

63G. Information on industrial wastes:—

- (1) The information furnished under rules 63E
 Rule and 63F shall include the quantity of the
 prescribed solid and liquid wastes generated per day,
 under their characteristics and the methods of
 sections treatment such as incineration of solid wastes,
 41B add 112. chemical and biological treatment of liquid
 wastes and the arrangements for their final
 disposal.
 - (2) It shall also include information on the quality and quantity of gaseous waste discharged through the stacks or other openings, and arrangements such as provision of scrubbers, cyclone separators, electrostatic precipitators or other such arrangements made for controlling pollution of the environment.

(1) The occupier shall also furnish the information prescribed in the sub-rules (1) and (2) to the State Pollution Control Board.

Rule 63H. Review of the information furnished to workers etc:—

- under (1) The occupier shall review at least once in every calender year and modify, if and necessary, the information furnished under rules 63E and 63F to the workers and Chief Inspector.
 - (2) In the event of any change in the process or operations or methods of work or when any new substance is introduced in the process or in the event of a serious accident taking place, the information so furnished shall be reviewed and modified to the extent necessary.

Rule 63 I. Confidentiality of information: prescribed (1) The occupier of a factory carrying on under 'hazardous process' shall disclose all section information needed for protecting safety 112. and health of the workers to (a) his workers; and (b) Chief Inspector as required under rules 63E and 63F. If the occupier is of the opinion that the disclosure of details regarding the process and formulations will adversely affect his business interests, he may make a representation to the Chief Inspector stating the reasons for which such details should be withheld. The Chief Inspector shall give an opportunity to the occupier of being heard and pass an order

on the representation.

(2) An occupier aggrieved by an order of the Chief Inspector may, within thirty days of the order so passed, prefer an appeal against it to the State Government. The State Government shall give the opportunity to the occupier of being heard and pass an order. The order of the State Government shall be final.

63J. Medical Examination:

Rule (1) Every worker employed in a 'hazardous prescribed process' shall be medically examined by a under qualified medical practitioner hereinafter sections referred to as Factory Medical Officer, in the 41B, 41C following manner:—

and 112. (a) once before employment, to ascertain his

- physical fitness to do the job;
- (b) once in a period every six months, to ascertain his health status in respect of the occupational health hazards to which he is exposed or at a shorter interval, if in the opinion of the Medical Inspector or of Factories it is necessary to do so;
- (c) the details of pre-employment and periodical medical examinations carried out as aforesaid shall be recorded in the Health Register in Form 17.
- (2) No person shall be employed for the first time in the factory unless a Certificate of Fitness in Form 25 is granted for such employment by the Factory Medical Officer. A person declared unfit by the Factory Medical Officer for employment in any process covered under sub-rule (1), shall have the right to appeal to the Inspector who shall refer the matter to the Medical Inspector of Factories/Certifying Surgeon whose opinion shall be final in this regard.
- (3) If any abnormality or unsuitability in respect of a worker employed in the process covered under sub-rule (1) is revealed during any medical examination under the said sub-rule, the Factory Medical Officer shall immediately refer the matter to the Certifying Surgeon/ Medical Inspector of Factories who, in turn, shall examine the concerned worker and communicate his findings to the occupier within 30 days. If the Certifying Surgeon is of the opinion that the worker so examined is unsuitable for employment in the said process, he shall make a record of his findings in the certificate and the Health Register maintained under this rule and direct the occupier accordingly prohibiting employment of the said worker in the same process.
- (4) The worker so suspended from the process shall be provided with alternate placement facilities unless he is, in the opinion of the Certifying Surgeon, fully incapacitated in which case the worker affected shall be suitably rehabilitated.
- (5) A Certifying Surgeon on his own or on a reference from an Inspector may conduct medical examination of a worker to ascertain

- the suitability of his employment in a hazardous process or for ascertaining his health status. The opinion of the Certifying Surgeon in such a case shall be final.
- (6) A worker who has been found unfit to work under sub-rule (3) shall not be employed again in the same process unless the Certifying Surgeon, after further examination, again certifies him fit for employment in the said process which shall be duly entered in the aforesaid health Register.
- (7) No worker shall refuse to undergo medical examination under these rules or under any medical survey conducted by or on behalf of the Central or the State Government.

63K. Occupational Health Centres—

Rule pres- (1) The occupier of a factory carrying on a cribed under 'hazardous process' shall provide and sections 41B maintain in good order an Occupational 41C and 112. Health Centre with the services and facilities as per scale laid down hereunder:

- (a) For factories employing upto 50 workers.
 - (i) the services of a Factory Medical Officer shall be available to carry out the pre-employment and post employment periodical medical examination as stipulated under rule 63 J and to render medical assistance as and when required;
 - (ii) there shall be a minimum of 5 persons trained in first-aid procedures of whom at least one person shall always be available during the working hours; and
 - (iii) there shall be fully equipped first-aid box for the use of the workers.
- (b) For factories employing 51 to 250 workers:—
 - (i) there shall be an Occupational Health Centre having a room with a minimum floor area of 15 sq. m. with floors and walls upto a height of 1.5 metres made a smooth and impervious surface. The Occupational Health: Centre shall be provided with adequate illumination and ventilation as well as equipment as per the Schedule annexed to this rule;

- (ii) there shall be a Factory Medical Officer in overall charge of the centre who shall attend the centre at least thrice in a week and whose services shall be readily available during emergencies;
- (iii) there shall be one qualified and trained dresser-cum-compounder on duty in each shift;
- (iv) adequate number of fully equipped first-aid boxes shall be provided in the factory.
- (c) For factories employing above 250 workers:-
 - (i) there shall be one full time Factory Medical Officer for factories employing upto 1000 workers and one more Factory Medical Officer for every additional 500 workers or part thereof;
 - (ii) there shall be an Occupational Health Centre having at least two rooms each with a minimum floor area of 15 sq. metres with floors and walls upto a height of 1.5 metres made of smooth and impervious surface;
 - (iii) the centre shall be provided with adequate ventilation and illumination as well as equipment as per the schedule annexed to this rule;
 - (iv) there shall be one qualified nurse, one qualified and trained dressercum-compounder and one sweepercum-ward boy in each shift; and
 - (v) the centre shall be suitably equiped to manage medical emergencies.
- (2) The factory Medical Officer required to be appointed under sub-rule (1) shall have qualifications included in Schedules to the Indian Medical Degrees Act of 1916 or in the Schedules to the Indian Medical Council Act, 1956 and possess a certificate of training in Industrial Health of minimum three months duration recognised by the State Government;

Provided that-

(i) a person possessing a diploma in Industrial Health or equivalent shall not be required to possess the certificate of train-

- ing as aforesaid;
- (ii) the Chief Inspector may, subject to such conditions as he may specify, grant exemption from the requirement of this sub-rule, if in his opinion a suitable person possessing the necessary qualification is not available for appointment;
- (iii) in case of a person who has been working as a Factory Medical Officer for a period of not less than 3 years on the date of commencement of this rule, the Chief Inspector may, subject to such condition as he may specify, relax the requirement of sub-rule (2).
- (3) Within one month of the appointment of a Factory Medical Officer, the occupier of the factory shall furnish to the Chief Inspector the following particulars:
 - (a) name and address of the Factory Medical Officer;
 - (b) qualifications;
 - (c) experience, if any, and
 - d) the sub-rule under which appointed.

SCHEDULE

Equipment for Occupational Health Centre in Factories.

- A glazed sink with hot and cold water always available.
- A table with a smooth top at least 180 cm \times 105 cm.
- Means for sterilizing instruments.
- A couch.
- Two buckets or containers with close fitting lids.
- A kettle and spirit stove or other suitable means of boiling water.
- One bottle of spirits ammeniac aromatcus (120 ml).
- Two medium size sponges.
- 9. Two 'Kidney' trays.
- Four cakes of toilet, preferably antiseptic soap.
- 11. Two glass tumblers and two wine glasses.
- Two clinical thermometers. 12.
- Two tea spoons. 13.
- 14. Two graduated (120 ml) measuring glasses.

- 15. One wash bottle (1000 cc) for washing eyes.
- 16. One bottle (one litre) carbolic lotion in 20.
- 17. Three chairs.
- 18. One screen.
- 19. One torch light.
- 20. An adequate supply of tetanus toxoid.
- 21. Coramine liquid (60 ml).
- 22. Tablets anthistaminic and antispasmodic (25 each).
- 23. Syringes with needles preferably disposal type—2 cc., 5 c.c. and 10 c.c.
- 24. Two needle holders—big and small.
- 25. Suturing needles and materials.
- 26. One dissecting forceps.
- 27. One dressing forceps.
- 28. One scalpel.
- 29. One stethoscope.
- 30. Rubber bandage-pressure bandage.
- 31. Oxygen cylinder with necessary attachments.
- 32. One blood pressure apparatus.
- 33. One patellar hammer.
- 34. One peak flow meter for lung function measurement.
- 35. One stomach wash set.
- 86. Any other equipment recommended by the Factory Medical Officer according to specific need relating to manufacturing process.
- 37. In addition—
 - (1) For factories employing 51 to 250 workers—
 - 1. Four plain wooden splints—900 mm × 100 mm × 6 mm.
 - 2. Four plain wooden splints—350 mm × 65 mm × 6 mm.
 - 3. Two plain wooden splints—250 mm \times 50 mm \times 12 mm.
 - 4. One pair artery forceps.
 - 5. Injection—morphia, pethidine, atropine, adrenaline, coramine. novocan (2 each).
 - 6. One surgical scissors.
 - (2) For the Factories employing more than 250 workers—
 - 1. Eight plain wooden splints—900 mm \times 100 mm \times 6 mm.
 - 2. Eight plain wooden splints—350 mm \times 75 mm \times 6 mm.

- 3. Four plain wooden splints—250 mm \times 50 mm \times 12 mm.
- 4. Two pairs artery forceps.
- 5. Injections—morphia, pethedine atropine, adrenaline, coramine, novocan (4 each).
- 6. Two surgical scissors.

63L. Ambulance Van.—

Rule (1) prescribed under sections 4IC & II2.

(1) In any Factory carrying on a 'hazardous process' there shall be provided and maintained in good condition, a suitably constructed ambulance van equipped with items as per sub-rule (2) and manned by a full time driver-cum-mechanic and a helper trained in first-aid, for the purposes of transporation of serious cases of accidents or sickness. The ambulance van shall not be used for any purpose stipulated herein and will normally be stationed at or near the Occupational Health Centre.

Provided that a factory employing less than 250 workers, may make arrangements for procuring such facility at short notice from a nearby hospital or other places, to meet any emergency.

- (2) The Ambulance should have the following equipments:—
- (a) General.
- (i) wheeled stretcher with folding and adjusting devices; with the head of the stretcher capable of being tilted upward.
- (ii) Fixed suction unit with equipment.
- (iii) Fixed oxygen supply with equipment.
- (iv) Pillow with case, sheets, blankets, towels.
- (v) Emesis bag, bed pan, urine pot, glass.
- (b) Safety Equipment.
- (i) Flares with life of 30 minutes, flood lights.
- (ii) Flash lights, fire extinguisher-dry powder type.
- (iii) insulated gauntlets.
 - (c) Emergency care Equipment.
 - I. Resuscitation.
- (i) Portable suction unit; portable oxygen unit.

- (ii) Bag-valve-mask, hand-operated artificial ventillation unit.
- (iii) Airways, mouth gag, trachestemy adaptors.
- (iv) Short spine board I.V. Fluids with administration unit.
- (v) B. P. Manometer, cups, stethoscope.
- II. Immobilization,
- (i) Gauze pads—10 cm. × 10 cm—universal dressing 25 cm. × 90 cm.
- (ii) Roll or aluminium foils, soft roller bandages 15 cm. × 5 cm.
- (iii) Adhesive tape in 75 mm. rolls, safety pins.
- III. Poisoning.
 - (i) Syrup of Ipecac, activated charcoal prepacketed in dozes.
- (ii) Snake bit kit, drinking water.
- IV. Emergency Medicines.

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

63M. Decontamination Facilities-

Rule prescribed In every factory carrying out a 'hazardous under sections', the following shall be provided and maintained to meet any emergency:-

(a) Readily accessible means of water for washing by workers as well as for drenching the clothing of workers who have been contaminated with hazardous and corrosive substance and such means shall be as per the scale shown in the table below:—

TABLE

No. of persons employed No. of drenching showers at any time

(i) Upto 50 workers(ii) Between 51 to 200 workers

2+1 for every additional 50 or part thereof.

2

(iii) Between 201 to 500 workers

5+1 for every additional 100 or part thereof.

(iv) 501 workers and above

8+1 for every additional 200 or part thereof.

(b) A sufficient number of eye wash bottles filled with distilled water or suitable liquid, kept in boxes or cup boards conveniently situated and clearly indicated by a distinctive sign which shall be visible at all times.

- 63N. Accessibility to Health Records: -
- Rule (1) The occupier of every factory carrying on a prescribed thazardous process' shall make accessible the health records including the record of worker's exposure to hazardous process or, 410 5 112, as the case may be, the medical records of any worker for his perusal as laid down hereunder.
 - (a) once in every period of six months or immediately after the medical examination, whichever is earlier:
 - (b) If the Factory Medical Officer or the Certifying Surgeon, as the case may be, is of the opinion that the worker has manifested signs and symptoms of any numbable disease as specified in the third schedule of the Act;
 - (c) if the worker leaves the employment;
 - (d if any one of the following authorities so direct—
 - (i) the Inspector of Factories:
 - (ii) the Health Authority of the Central or State Government.
 - (iii) Commissioner for Workmen's Compensation:
 - (iv) the Director-General, Employees' State Insurance Corporation:
 - (Medical Benefit) Scheme and
 - (vi) the Director-General, Factory Advice Service and Labour Institutes.
 - (2) A copy of the up-to-date health records including the period of worker's exposure to hazardous process or, as the case may be, the medical records shall be supplied to the worker on receipt of an application from him. X-Ray places and other medical diagnostic reports may also be made available for reference to his medical practitioner.
- 630. Qualifications etc. of Supervisors:—

Rule 11. All persons who are appointed or required to prescribed supervise the works involving manufacture, under use, storage and handling of hazardous sections substances shall possess the following qualitatic & 112. fications and experience:—

- (a) (i) a degree in Chemistry or Diploma in Chemical Engineering or Technology with 5 years' experience; or
 - ii a Master's degree in Chemistry or a degree in Chemical Engineering of Technology with 2 years' experince.

Explanation:—The experience stipulated above shall be in process, operation or maintainance in chemical industry.

(b) The Chief Inspector may require the Supervisor to undergo training in health and safety.

(2) The syllabus and duration of the above training and the Organisations conducting the training shall be approved by the Director-General, Factory Advice Service and Labour Institute (DGFASLI), Govt. of India or the State Government.

63P. Issue of Guidelines-

Rule prescribed under section 112.

For the purpose of compliance with the requirements of sub-sections (1), (4) and (7) of section 41B or section

41C of the Act the Chief Inspector may issue guidelines from time to time to the occupier of a factory carrying on a 'hazardous process' if, in his opinion, it is deemed necessary. Such guidelines may be bassed on National Standards, Codes of Practice, or recommendations of International Bodies such as International Labour Organisation, World Health Organisation etc.".

- 44. for rule 65, substitute the following rule:
 - "65. First-aid appliances. The first-aid boxes or cupboards shall be distinctively marked with a red cross on white background and shall contain the following equipments:
 - (a) For factories in which the number of persons employed does not exceed ten, or in the case of factories in which mechanical power is not used, does not exceed fifty persons, each first-aid box or cupboard shall contain the following equipments:
 - (i) Six small size sterilised dressings.
 - (ii) Three medium size sterilised dressings.
 - iii) Three large size sterilised dressings.
 - (iv) Three large size sterilised burn dressings.
 - (v) One (60 ml) bottle of centrimide solution (1%) or a suitable antiseptic solution.
 - (vi) One (60 ml) bottle of mercurochrome solution (2%) in water.
 - (vii) One (30 ml) bottle containing sal-volatile having the dose and mode of administration indicated on the label.
 - (viii) One pair of scissors.
 - (ix) One roll of adhesive plaster $(2 \text{ cm} \times 1 \text{ m})$.
 - (x) Six pieces of sterilised eye pads in separate sealed packets.
 - (xi) A bottle containing 100 tablets (each of 325 mg) of aspirin or any other analgesic.
 - (xii) Polythene wash bottle (1/2 litre, i.e. 500 cc) for washing eyes.

- (xiii) A snake-bite lancet.
- (xiv) One (30 ml.) bottle containing potassium permanganate crystals.
- (xv) One copy of first-aid leaflet issued by the Direcctorate General of Factory Advice Service and Labour Institutes, Government of India, Bombay.
 - (b) For factories in which mechanical power is used and in which the number of persons employed exceed ten but does not exceed fifty, each first-aid box or cupboard shall contain the following equipments:
 - (i) Twelve small size sterilised dressings.
 - (ii) Six medium size sterilised dressings.
 - (iii) Six large size sterilised dressings.
 - (iv) Six large size sterilised burn dressings.
 - (v) Six (15 gm) packets of sterilised cotton wool.
 - (vi) One (120 ml) bottle of centrimide solution (1%) or a suitable antiseptic solution.
- (vii) One (120 ml) bottle containing, salvolatile having the dose and mode of administration indicated on the label.
- (viii) One (120 ml) bottle of mercurochrome ($2\frac{\circ}{0}$) solution in water.
- (ix) One pair of scissors.
- (x) Two rolls of adhesive plaster ($2 \text{ cm} \times \text{lm}$.).
- (xi) Eight pieces of sterilised eye pads in separate sealed packets.
- (xii) One tourniquet.
- (xiii) One dozen safety pins.
- (xiv) A bottle containing 100 tablets (each of 325 mg) of aspirin or any other analgesic.
- (xv) One polythene wash bottle ($\frac{1}{2}$ litre i.e. 500 cc) for washing eyes.
- (xvi) A snake-bite lancet.
- (xvii) One (30 ml) bottle containing potassium permanganate crystals.
- (xviii) One copy of the first-aid leaflet issued by the Directorate General of Facortory Advice Service and Labour Institute, Govt. of India, Bombay.
- (c) For factories employing more than fifty persons, each first-aid box or cupboard shall contain the following equipments:—
 - (i) Twenty-four small sterilised dressings.
 - (ii) Twelve medium size sterilised dressings.
 - iii) Twelve large size sterilised dressings.

- (iv) Twelve large size sterilised burn dressings.
- (v) Twelve (15 gm) packets of sterilised cotton wool.
- (vi) One (200 ml) bottle of centrimide solution(1% or a suitable antiseptic solution.)
- (vii) One (200 ml) bottle of mercurochrome (2%) solution in water.
- (viii) One (120 ml) bottle of salvolatile having the dose and mode of administration indicated on the label.
- (ix) One pair of scissors.
- (x) One roll of adhesive plaster ($6 \text{ cm} \times 1 \text{ m}$).
- (xi) Two rolls of adhesive plaster ($2 \text{ cm} \times 1 \text{ m}$).
- (xii Twelve pieces of sterilised eye pads in separate sealed packets.
- (xiii) A bottle containing 100 tablets (each of 325 mg) of aspirin or any other analgesic.
- (xiv) One polythene wash bottle (500 cc) for washing eyes.
- (xv) Twelve roller bandages 10 cm wide.
- (xvi) Twelve roller bandages 5 cm wide.
- (xvii) Six triangular bandages.
- (xviii) One tourniquet.
- (xix) A supply of suitable splints.
- (xx) Two packets of safety pins.
- (xxi) Kidney tray.
- (xxii) A snake-bite lancet.
- (xxiii) One (30 ml) bottle containing potassium permanganate crystals.
- (xxiv) One copy of first-aid leaflet issued by the Directorate General of Factory Advice Service and Labour Institute, Govt. of India, Bombay.

Provided that items (xiv) to (xxi) inclusive, need not be included in the standard first-aid box or cupboard (a) where there is a properly equipped ambulance room, or (b) if at least one box containing such items is placed and maintained in accordance with the requirements of Section 45 of the Act, or is separately provided.

- (d) In lieu of the dressings required items (i) and (ii), there may be substituted adhesive wound dressings approved by the Chief Inspector and other equipment or medicines that may be considered essential and recommended by the Chief Inspector from time to time.";
- 45. in sub-rule (2) of rule 66:—
 - (a) in the third paragraph for the figures "23.23", substitute the figures "24".

- (b) in the fourth paragraph,—
- (i) in item (ii), for the figures and letters "1.83m×1.57m (6'×3'-6'') substitute the figures and letters "180 m×105 cm.";
- (ii) in item (ix) for the figures and letters "91 cm × 10 cm × 0.64 cm" substitute the figures and letters "900 mm × 130 mm × 6mm.";
- (iii) in item (x), for the figures $l''14'' \times 3'' \times \frac{1}{4}''$ "substitute the figures and letters "350 mm × 75 mm × 6 mm.";
- (iv) in item (xi), for the figures and letters "25 cm. × 5 cm. × 1.27 cm.", substitute the figures and letters "250mm. × 50mm. × 12mm.";
- (v) in item (xiii), for the words "One Pair" substitute the words "Three pairs";
- (vi) in item (xiv), for the word "brandy", substitute the words, figures and brackets 'spiritus ammoniac aromaticus (120 ml.)";
- (vii) in item (xviii), for the words "carbolic soap.", substitute the words "of toilet, preferably antiseptic soap.";
- (viii) in item (xxii), for the words "One eye bath.", substitute the words, figures, letters and brackets "One wash bottle (1000 cc) for washing eyes.";
- (ix) for items (xxiii) to (xxviii) substitute the following item:—
- "(xxiii) Two graduated (120 ml) measuring glasses.
- (xxiv) Two minimum measuring glasses.
- (xxv) Three chairs.
- (xxvi) One Screen.
- (xxvii) One electric hand torch.
- (xxviii) Four first aid boxes or cupboards stocked to the standard prescribed under item (c) of rule 65.
- (xxix) An adequate supply of anti-tetanus, toxoid.
- (xxx) Injections—morphia, pethidine, atropine, adranaline, coramine, novacan (six each).
- (xxxi) Coramine liquid (60 ml).
- (xxxii) Tablets—Antihistamanic and antispasmodic (25 each).
- (xxxiii) Syringes with needles—2cc, 5cc, 10cc, and 50cc.
- (xxxiv) Three surgical scissors.
- (xxxv) Two needle holders, big and small.
- (xxxvi) Sutering needles and materials.
- (xxxvii) Three disecting forceps.
- (xxxviii) Three dressing forceps.
- (xxxix) Three scapels.
 - (xl) One Stethoscope.
 - (xli) Rubber bandage—Pressure bandage.
 - (xlii) Oxygen cylinder, with necessary attachments.";

Rule 46. after rule 66, insert the following rule: prescribed 46A. Notice regarding first aid appliance.

under
section 112
read with
sub-sections
(3) and (4)
of section
45.

- (1) A notice containing the names of the persons working within the factory and who are trained in first aid treatment and are in charge of the first aid boxes or cupboards and the names of their work places shall be displayed conspicuously near each such box or cupboard.
- (1) In case of an ambulance room, the notice under sub-rule (1) shall further indicate the name, address and telephone number of the medical practitioner in charge and it shall be displayed conspicuously at or near the main entrance to the ambulance room.";
- 47. in rule 67.
 - (a) delete sub-rule (2);
 - (b) in sub-rule (3) for the figures '15.24', substitute the figures '15';
 - (c) in sub-rule (5) for the figures and words '3.65 metres' and '1.22 metres', substitute the figures and letters '360 cm' and '120 cm', respectively;
- 48. in rule 70,
 - (a) for the punctuation '.' at the end of the provisions of sub-rule (1), substitute the punctuation ': ';
 - (b) Add the following provisio to sub-rule (1)
 'Provided that where a canteen is managed by workers' Co-operative Society, the prices to be charged may include a margin of profit upto a maximum of five percent of its working capital subject to its approval by Canteen Managing Committee.';
- 49, in rule 71.-
 - (a) for the punctuation '.' at the end of the proviso to sub-rule (2), substitute the punctuation ':';
 - (b) in sub-rule (2), after the first proviso, insert the following proviso:—
 'Provided further that where the canteen is managed by a co-operative society registered under the Co-operative Societies Act, the accounts pertaining to such canteen shall be audited in accordance with the provisions of the said Act.':
- 59. in rule 73,
 - (a) renumber rule 73 as sub-rule (1) of that rule and in sub-rule (1) so re-numbered, omit the words beginning with 'and the manager' and ending with 'or adopted';

- (b) in sub-rule (1) after the clause (e), insert the following clause:
 - '(f) Suitable provisions shall be made in every room for supply of drinking water and facilities for washing.';
- (c) after sub-rule (1), insert the following sub-rule:

 (2) The lunch rooms shall—
 - (a) conform to the requirements laid down in clauses (a) to (f) of sub-rule (1) and
 - (b) be provided with adequate number of tables with impervious tops for the use of the workers for taking food.;
- 51. in rule 74, in the marginal note, after the word and figures 'section 48', *insert* the words and figures 'and section 112';
- 52. re-number rule 75 as sub-rule (1) of that rule and after sub-rule (1) so re-numbered, insert the following sub-rule;—
 - '(2) Adjoining the wash rooms referred to in subrule (1), a latrine, shall be provided for the sole use of the children accommodated in the creche. The design of the latrine and the scale of accommodation to be provided shall be approved by the Public Health Engineering Directorate, West Bengal.';
- 53. In chapter V, after rule 77, insert the following rule:

Rule '77A. Exemption from the provisions of prescribed creche.

under
section 50
read with
section 48.

(1) 'In a factory where the number of married women or widows employed does not exceed 15, or where the factory works for less than 180 days in a calender year,

or where number of children kept in the creche was less than 5 in the preceding year, the Chief Inspector may exempt such a factory from the provisions of section 48 of the Act and the rules 74 to 77 made thereunder if he is satisfied that alternate arrangements as stipulated under sub-rule (2) are provided by the factory.

- (2) The alternate arrangements as stipulated in subrule (1) shall include a creche building which shall have a minimum accommodation at the rate of .186 square metres per child and be provided with
 - (a) suitable wash-room for washing of the children and their clothing;
 - (b) adequate supply of soap and clean towels and clothes; and

- (c) adequate number of female attendants who are provided with suitable clean clothes for use while on duty to look after the children of the creche.
- (3) The exemption granted under sub-rule (1) may be revoked by the Chief Inspector after causing an enquiry, in case of breach of this rule committed by the factory.";
- 54. in rule 88, in the marginal note, for the figures "93", substitute the figures and letter "93A";
- 55. in rule 91, after the words "possible period of the closure.", insert the following:

 "Information as to the particulars and quantity of stored chemicals and action taken or proposed to be taken to ensure safety from those chemicals while in storage during such closure shall also be furnished alongwith the report of intended closure.";
- 56. In rule 93:-
 - (a) renumber the existing provisions of rule 93 as the provisions of sub-rule (1) of rule 93;
 - (b) in sub-rule (1) of rule 93 so renumbered, for the words "legal heir", substitute the word "nominee", and after the words "of the worker.", insert the following,—
 - "For this purpose each worker shall submit a nomination in Form 16A duly signed by himself and attested by two witnesses. The nomination shall remain in force until it is cancelled or revised by another nomination.";
- 57. after sub-rule (1) of rule 93 so renumbered, insert the following sub-rules:—
 - (2) Where an exemption is granted under Section 84 of the Act, a copy of the order shall be fixed with the Registers and other records as are required to be maintained under the rules or as permitted by the order to show the position of relevant particulars of each worker as regards leave due, leave taken and wages granted etc. which are more favourable and permitted by the order.
 - (3) A notice giving full details of the system established in the factory for leave with wages or as permitted by the order shall be displayed conspicuously at or near the main entrance to the factory and a copy thereof submitted to the Inspector.
 - (4) No alteration shall be made in the scheme, permitted by the order under section 84 of the Act, without previous sanction of the State Government."

- 58. in rule 94,---
 - (A) in sub-rule (I), after clause (y) insert the following clauses:
 - (z) Manipulation of stones or any material containing free silica.
 - (aa) Manufacture, handling or manipulation of corrosive substances.
 - (bb) Manufacturing process or operations in carbon disulphine plants.
 - (cc) Operations involving high noise level.
 - (dd) Manufacture, handling, manipulation, storage of and operations using highly flammable liquids and flammable compressed gases.
 - (ee) Operation in foundries.";
 - (B) after sub-rule (2), insert the following sub-rule:
 - (3) "First employment" means employment for the first time in a hazardous process or operation so notified under Section 87 of the Act, or reemployment therein after ceasation of employment in such process or operation for a period exceeding three calendar months.";
 - (C) for Schedule II, substitute the following Schedule:

"SCHEDULE-II

Electrolytic plating or oxidation of metal articles by use of an electrolyte containing, bases or salts of metals such as chromium, nickel, cadmium, zinc, copper, silver, gold etc.

- 1. Definitions. For the purposes of this Schedule
 - (a) "electrolytic process" means the electrolytic plating or oxidation of metal articles by the use of an electrolyte containing acids, abses or salts of metals such as chromium, nickel, cadmium, zinc, copper, silver, gold etc;
 - (b) "bath" means any vessel used for an electrolytic process or for any subsequent process; and
 - (c) "employed" means employed in any process involving contact with liquid from a bath.
- 2. Exhaust draught:—An efficient exhaust draught shall be applied to every vessel in which an electrolytic process is carried on. Such draught shall be provided by mechanical means and shall operate on the vapour or spray given off in the process as near as may be at the point of origin. The exhaust draught appliance shall be so constructed, arranged and maintained as to prevent the vapour or spray entering into any room or place in which work is carried on.

- 3. Prohibition relating to women and young persons; No women, adolescent or child shall be employed or permitted to work at a bath.
- 4. Floor of workrooms; The floor of every workroom containing a bath shall be impervious to water. The floor shall be maintained in good and level condition and shall be washed down at least once a day.
- 5. Protective devices. (1) The occupier shall provide and maintain in good and clean condition the following articles of protective devices for the use of all workers employed on any process at which they are liable to come in contact with liquid from a bath and such devices shall be worn by the workers concerned—
 - (a) waterproof aprons and bibs; and
 - (b) for workers actually working at a bath, loose fitting rubber gloves and rubber boots or other waterproof footwear, and chemical goggles.
 - (2) The occupier shall provide and maintain for the use of all workers employed suitable accommodation for the storage and drying of the protective devices.
- 6. Washing facilities. (1) There shall be provided and maintained in good repairs for the use of all workers employed in electrolytic process and processes incidental to it—
 - (a) a wash place under cover, with either-
 - (i) a tough with a smooth impervious surface fitted with a waste pipe, and of sufficient length to allow at least 60 cms. for every five workers employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 cms, or
 - (ii) at least one wash basin for every five such workers employed at any one time, fitted with a waste pipe and having a constant supply of water laid on; and
 - (b) a sufficient supply of clean towels renewed daily, and soap or other suitable cleaning material.
- (2) In addition to the facility stipulated in subparagraph (1), an approved type of emergency shower with eye fountain shall be provided and maintained in good working order. Whenever necessary, in order to ensure continuous water supply, storage tank of 1500 litres capacity shall be provided as a source of clean water for emergency use.
- 7. Cautionary placard.—A cautionary placard in the

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

CAUTIONARY NOTICE

Electrolytic Plating

- (1) Chemicals handled in this plant are corrossive and poisonous.
- (2) Smoking, chewing tobacco, eating food or drinking, in this area is prohibited. No food stuff or drink shall be brought in this area.
- (3) Some of these chemicals may be absorbed through the skin and may cause poisoning.
- (4) A good wash shall be taken before meals.
- (5) Protective devices supplied shall be used while working in this area.
- (6) Spillage of the chemicals on any part of the body or on the floor shall be immediately washed away with water.
- (7) All workers shall report for the prescribed medical tests regularly to protect their own health.
- 8. Medical facilities and records of examinations and tests:—
 - (a) The occupier of every factory in which electrolytic processes are carried on shall—
 - (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector;
 - (b) provide to said medical practitioner all the necessary facilities for the purpose referred to in clause (a); and
 - (c) maintain a sufficient supply of suitable barrier cream, ointment and impermeable water proof plaster in a separate box readily accessible to the workers and used solely for the purpose of keeping these substances. In case cyanides are used in the bath, the box shall also contain an emergency cyanide kit.
- (2) The medical practitioner shall examine all workers before they are employed in electrolytic processes. Such examination in case of chrome plating shall include inspection of hands, forearms and nose and shall be carried out once at least in every fortnight.
- (3) The record of the examinations referred to in subparagraph (2) shall be maintained in a separate register approved by the Chief Inspector, which shall

be kept readily available for inspection by the Inspector at all times during working of the factory.

- 9. Medical examination by the Certifying Surgeon:
- (1) Every worker employed in the electrolytic processes shall be produced for examination by a Certifying Surgeon within 15 days of his first employment. Such examination shall include X-ray of the chest and—
 - (a) in case of chromium plating include examination for nasal septum perforation and test for chromium in urine;
 - b) in case of nickel plating, test for nickel in urine; and
 - (c) in case of cadmium plating, test for cadmium in urine and B₂ microglobulin in urine.
- (2) No worker shall be employed or permitted to work in any electrolytic process unless certified fit for such employment by the Certifying Surgeon within 15 days of his first employment.
- (3) Every worker employed in the electrolytic process shall be produced for re-examination by a Certifying Surgeon at least once in every year, except in case of the workers employed in cadmium, chromium and nickel plating processes for whom this examination shall be once in every six months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified under sub-paragraph (1).
- (4) 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 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.
- (5) The Certificate of fitness and the health register shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- (6) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the electrolytic processes on the ground that continuance therein may involve danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents shall also include the period for which he considers that the said worker is unfit for work in the said processes. The worker declared unfit in

- such circumstances shall be provided with alternate placement facility unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the worker affected shall be suitably rehabilitated.
- (7) No worker who has been found unfit to work as mentioned in sub-paragraph (6) shall be reemployed or permitted to work in the said processes unless the Certifying Sargeon, after further examination, again certifies him fit for employment in those processes.";
 - (D) in Schedule III,
 - (i) in paragraph 2, delete clause (c);
 - (ii) for paragraph 15, mistitute the following paragraphs:
- Medical facilities and records of examinations and tests.
 - (a) The occupier of every factory to which this Schedule applies, shall—
 - (i) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector; and
 - (ii) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clauses (i)
 - (b) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector and it shall be kept readily available for inspection by the Inspector at all time during working of the factory.
- 15A. Medical Examination by Certifying Surgeon.
 - (a) Every worker employed in lead processes shall be produced for examination by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for lead in urine and blood. ALA in urine and haemoglobin content and basophilic stippling of cells. No worker shall be required or allowed to work after 15 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 produced periodically for re-examination by a Certifying Surgeon at least once in every three calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests specified in sub-paragraph (a).

- (c) The Certifying Surgeon after examining a worker shall issue a Certificate of fitness in Form 25. The record of examination and reexaminations 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 (a) and (b) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17, maintained in the Factory.
- (d) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector at all hours during working of the factory.
- (e) 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 may 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 shall also include the period for which he considers that the said person is unfit for work in the said processes. The worker so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the worker affected shall be suitably rehabilitated.
- (f) No person who has been found unfit to work as mentioned in sub-paragraph (c) shall be required or allowed to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.";
- (E) in Schedule IV,
 - (i) In paragraph 2, omit clause (c);
 - (ii) after paragraph 5, insert the following paragraph:
 - "5A. Use of hydrofluoric acid.—The following provisions shall apply to rooms in which glass is treated with hydrofluoric acid;
 - a) there shall be inlets of adequate size so as to secure and maintain efficient ventilation in all parts of the room;
 - (b) the floor shall be covered with guittaparcha which shall be kept light and shall slope gently down to a covered drain;
 - (c) The work places shall be so enclosed in projec-

- ting hoods that openings, required for bringing in the objects to be treated shall be as small as practicable; and
- (d) the efficient exhaust draught shall be so contributed that the gas is exhausted downwards."
 - (iii) after paragraph 7, insert the following paragraph;—

 "7A. Blow pipes.—Every glass blower shall be provided with a separate blow pipe bearing the distinguishing mark of the person to whom it is issued and suitable facilities shall be kept readily available to every glass blower for sterilising his blow pipe.";
- (iv) for paragraph 10, substitute the following paragraphs;
 - "10. Medical facilities and record of examinations and tests.—
- (a) The occupier of every factory to which this Schedule applies, shall—
 - (1) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector; and
 - (ii) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (i).
- (b) The records of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector and shall be kept readily available for inspection by the Inspector at all hours during working of the factory.
- 11. Medical examinations by Certifying Surgeon
 - (a) Every worker employed in processes specified in paragraph 2 shall be produced for examination by a Certifying Surgeon within 15 days of his first employment. Such examinations shall include pulmonary function tests, tests for lead in urine and such other tests as may be directed by the Certifying Surgeon. No worker shall be required or allowed to work after 15 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 produced periodically for reexamination by a Certifying Surgeon at least once in every twelve calendar months. Such

- re-examinations shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (a).
- (c) The Certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 25. The record of examination and re-examination carried out shall be entered in the certificate and the certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (a) and (b) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17, maintained in the factory.
- (d) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector at all hours during working of the factory.
- (e) 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 may involve special danger to the health of worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents shall also include the period for which he considers that the said worker is unfit for work in the said processes. The worker so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the worker affected shall be suitably rehabiliated.
- (f) No person who has been found unfit to work as mentioned in sub-paragraph (e) shall be allowed or required to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes."
- (F) in Schedule V for paragraph 7, substitute the following paragraphs:
 - "7. Medical facilities and record of examinations and tests.—
 - (a) The occupier of every factory to which this Schedule applies, shall—
 - (i) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector; and
 - (ii) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (i);

- (b) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector, which shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- 8. Medical examination by Certifying Surgeon.
 - (a) Every worker employed in grinding or glazing of metal and processes incidental thereto shall be produced for examination by a Certifying Surgeon within 15 days of his first employment. Such examinations shall include pulmonary function tests and in suspected cases chest X-rays and such other tests as may be directed by the Certifying Surgeon. 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.
 - (b) Every worker employed in the said processes shall be produced periodically for re-examination by a Certifying Surgeon at least once in every 12 calendar months. Such re-examinations shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (a).
 - (c) The Certifying Surgeon after examination of 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 which shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (a) and (b) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
 - (d) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector at all times during working of the factory.
 - (e) 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 may 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 shall also include the period for which he considers that the said worker is unfit for work in the said

worker is unfit for work in the said processes. The worker so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the worker affected rehabilitated.

- (f) No person who has been found unfit to work as mentioned in sub-paragraph (e) shall be allowed or required to work in the said processes unless the Certifying Surgeon, after further examination again certifies him fit for employment in those processes.";
- (G) in Schedule VI, for paragraphs 7 and 8 substitute the following paragraphs respectively;—
 - "7. Medical facilities and records of examinations and tests.—
 - (a) The occupier of every factory to which this Schedule applies, shall—
 - (i) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector; and
 - (ii) Provide to the said medical practioner all the necessary facilities for the purpose referred to in clause (i).
 - (b) The record of medical examination and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector, which shall be kept readily available for Inspection by the Inspector at all times during working of the factory.
- 8. Medical examination by Certifying Surgeon.—
 - (a) Every worker employed in the process referred to in paragraph 2 shall be produced for examination by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for lead in blood and urine, ALA in urine, haemoglobin content, stippling of cells and steadiness test. No worker shall be allowed or required to work after 15 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 produced periodically for re-examination by a Certifying Surgeon at least once in every three calendar months. Such re-examination shall, wherever the Certifying Surgeon

- considers appropriate, include tests specified in sub-paragraph (a).
- (c) The Certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 25. The records of examinations and re-examinations carried out shall be entered in the certificates which shall be kept in the custody of the manager of the factory. The record of each examinations carried out under sub-paragraph (a) and (b), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
- (d) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- (e) 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 may 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 shall also include the period for which he considers that the said worker is unfit for work in the said processes. The worker so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon. in which case the worker affected shall be suitably rehabilitated.
- (f) No person who has been found unfit to work as mentioned in sub-paragraph (e) above shall be required or allowed to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.";
- (H) in Schedule VII, delete the word "dangerous" wherever it occurs;
- (I) for Schedule VIII, substitute the following Schedule:

SCHEDULE VIII

Cleaning or smoothing, roughening etc. of articles, by a jet of sand, metal shot or grit or other abrasive propelled by a blast of compressed air or steam.

- 1. Definition.—For the purposes of this Schedule—
 - (i) "blasting" means cleaning, smoothing, roughening, or removing of any part of the surface of any article by the use of a jet of

- sand, metal shot, or grit or other material as an abrasive, propelled by a blast of compressed air or steam;
- (ii) "blasting enclosure" means a chamber, barrel, cabinet or any other enclosure designed for the performance of blasting therein;
- (iii) "blasting chamber" means a blasting enclosure in which any person may enter at any time in connection with any work or otherwise; and
- (iv) "cleaning of casting" where done as an incidental or supplemental process in connection with the making of metal castings, means the freeing of the casting from adherent sand or other substance and includes the removal of cores and the general smoothening of a casting, but does not include the free treatment.
- 2. Prohibition of sand blasting.—Sand or any other substance containing free silica shall not be introduced as an abrasive into any blasting apparatus and shall not be used for blasting:

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

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

- 3. Precautions in connection with blasting operations.
 - (a) Blasting shall not be done except in a blasting enclosure and no work other than blasting and any work immediately incidental thereto and cleaning and repairing of the enclosure including the plant and appliances situated therein, shall be performed in a blasting enclosure. Every door, aperture and joint of blasting enclosure, shall be kept closed and air tight while blasting is being done therein.
 - (b) Blasting enclosure shall always be maintained in a good condition and effective measures shall be taken to prevent dust escaping from such enclosure and from apparatus connected therewith, into the air of any room.
 - (c) There shall be provided and maintained for, and in connection with, every blasting enclosure, efficient apparatus for separating, so far as practicable, abrasive which has been used for blasting and which is to be used again as an abrasive, from dust or particles of other materials arising from blasting, and no such abrasive shall be introduced into any blasting appratus and used for blasting until it has been so separated:

- Provided that this clause shall not apply, except in the case of blasting chambers, to blasting enclosures constructed or installed before the coming into force of this Schedule, if the Chief Inspector is of opinion that it is not reasonably practicable to provide such separating apparatus.
- (d) There shall be provided and maintained in connection with every blasting enclosure efficient ventilating plant to extract, by exhaust draught effected by mechanical means, dust produced in the enclosure. The dust extracted and removed shall be disposed of by such method and in such manner that it shall not escape into the air of any room, and every other filtering or settling device situated in a room in which persons are employed, other than persons attending to such bag or other filtering or settling device, shall be completely separated from the general air of that room in an enclosure ventilated to the open air.
- (e) The ventilating plant provided for the purpose of sub-paragraph (d) shall be kept in continuous operation whenever the blasting enclosure is in use whether or not blasting is actually taking place therein and in the case of a blasting inside the chamber for the purpose of cleaning.
- 4. Inspection and examination.
 - (a) Every blasting enclosure shall be specially inspected by a competent person at least once in every week in which it is used for blasting. Every blasting enclosure, the apparatus connected therewith and the ventilating plant shall be thoroughly examined and in the case of ventilating plant, tested by a competent person at least once in every month.
 - (b) Particulars of the result of every such inspection, examination or test be entered forthwith in a register which shall be kept in a form approved by the Chief Inspector and shall be available for inspection by any workman employed in or in connection with blasting in the factory. Any defect found on any such inspection, examination or test shall be immediately reported by the person carrying out the inspection, examinatiod or test to the occupier, Manager or other appropriate person and, without prejudice to the foregoing requirements of this Schedule, shall be removed without avoidable delay.

- 5. Provision of protective helmets, gauntlets and overalls.
 - (a) There shall be provided and maintained for the use of all persons who are employed in blasting chamber, whether in blasting or in any work connected therewith or in cleaning such a chamber, protective helmets of a type approved by a certificate of the Chief Inspector; and every such person shall wear the helmet provided for this use whilst he is in the chamber and shall not remove it until he is outside the chamber.
 - (b) Each protective helmet shall carry a distinguishing mark indicating the person by whom it is intended to be used and no person shall be or allowed required to wear a helmet not carrying his mark or a helmet which has been worn by another person and has not since been thoroughly disinfected.
 - (c) Each protective helmet when in use shall be supplied with clean and not unreasonably cold air at a rate of not less than 170 litres per minute.
 - (d) Suitable gauntlets and overalls shall be provided for the use of all persons while performing blasting or assisting at blasting and every such person shall while so engaged, wear the gauntlet and overall provided.
- 6. Precautions in connection with cleaning and other work.
 - (a) Where a person is engaged upon cleaning of any blasting apparatus or blasting enclosure or of any apparatus or ventilating plant connected therewith or the surroundings thereof or upon any other work in connection with any blasting apparatus or blasting enclosure or with any apparatus of ventilating plant connected therewith so that he is exposed to the risk of inhaling dust which has arisen from blasting, all practicable measures shall be taken to prevent such inhalation.
 - (b) In connection with any cleaning operation referred to in paragraph 5, and with the removal of dust from filtering or settling devices all practicable measures shall be taken to dispose of the dust in such a manner that it does not enter the air of any room. Vacuum cleaners shall be provided and used wherever practicable for such cleaning operations.
- 7. Storage accommodation for protective wear:

- Adequate suitable storage accommodation for the helmets, gauntlets and overalls required to be provided by paragraph 5 shall be provided outside and conveniently near every blasting enclosure and such accommodation shall be kept clean. Helmets, gaunlets and overalls when not in actual use shall be kept in this accommodation.
- 8. Maintenance and cleaning of protective wear.—
 All helmets, gauntlets, overalls and other protective devices or clothings provided and worn for the purposes of this Schedule, shall be kept in good condition and, so far as is reasonably practicable, shall be cleaned on every weekday in which they are used. Where dust arising from the cleaning of such protective clothing or devices is likely to be inhaled, all practicable measures shall, wherever practicable, be used for removing dust from such clothing and compressed air shall not be used for removing dust from any clothing.
- 9. Maintenance of Vacuum cleaning plant:—Vacuum cleaning plant used for the purpose of this Schedule shall be properly mainteined.
- 10. Medical facilities and records of examinations and tests.
 - (a) The occupier of every factory to which this Schedule applies shall:
 - (i) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector; and
 - (ii) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (i).
 - (b) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate reigster approved by the Chief Inspector, which shall be kept readily available for inspection by the Inspector at all hours during working of the factory.
- 11. Medical examination by Certifying Surgeon.
 - (a) Every worker employed in any of the processes to which this Schedule applies shall be produced for examination by a Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function test and chest X-ray. No worker shall be allowed or required to work after 15 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 produced for re-examination by a Certifying Surgeon at least once in every 12 calendar months and such re-examination shall, wherever the Certifying Surgeon considers appropriate, include pulmonary function test and chest X-ray once in every three years.
- (c) The Certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 25. The record of examination and re-examination carried out shall be entered in the certificate which shall be kept in the custody of the Manager of the factory. The record of each examination carried under sub-paragraphs (a) and (b) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
 - (d) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector at all times during working of the factory.
 - (e) 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 may involve special danger to the health of the worker, he shall make record of his findings in the said Certificate and the health register. The entry of his findings in those documents shall also include the period for which he considers that the said worker is unfit for work in the said processes. The worker so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which the worker affected shall be suitably rehabilitated.
 - (f) No person who has been found unfit to work in the said processes as said in sub-paragraph (e) above shall be required or allowed to work unless the Certifying Surgeon after further examination, again certifies him fit for employment in those processes.

12. Restrictions in employment of young persons—

(a) No person under 18 years of age shall be employed in blasting or assisting at blasting or in any blasting chamber or in the cleaning of any blasting apparatus or any blasting enclosure or any apparatus or ventilating plant connected therewith or be employed on maintenance or repair work at such apparatus, enclosure or plant.

(b) No person under 18 years of age shall be employed to work regularly within twenty feet of any blasting enclosure unless the enclosure is in a room and he is outside that room where he is effectively separated from any dust coming from the enclosure.

13. Power to exempt or relax:—

- (a) If the Chief Inspector is satisfied that in any factory or any class of factory, the use of sand or other substance containing free silica as an abrasive in blasting is necessary for particular manufacture or process (other than the process incidental or supplemental to making of metal castings) and that the manufacture or process cannot be carried on without the use of such abrasive or that owing to the special conditions or special method of work or otherwise any requirement of this Schedule can be suspended either temporarily or permanently or can be relaxed without endangering the health of the persons employed or that application of any of such requirements is for any reason impracticable or inappropriate, he may, by an order, in writing (which he may in his discretion revoke at any time), exempt the said factory or class of factory from such provisions of this Schedule, to such an extent and subject to such conditions and for such period as may be specified in the said order.
- (b) Where an exemption has been granted under sub-paragraph (a) a copy of the order shall be displayed at a notice board at a prominent place at the main entrance or entrances to the factory and also at the place where the blasting is carried on.";

(J) in Schedule IX:

- (i) in paragraph 2 (A) after clause (a), insert the following clause:
- "(aa) gloves and boots for persons employed in lime yard; and";
- (B) in clause (b), for the word, letter and brackets "clause (a)", substitute the words, letters and brackets "clauses (a) and (aa)";
- (C) for the existing proviso, substitute the following provisions:

"Provided that the gloves, approns, leg coverings or boots may be of rubber or leather but the gloves and boots to be provided under clauses (a) and (b) shall be of rubber:

Provided further that the gloves may not be provided to persons fleshing by hand or employed

- in processes in which there is no risk of contact with lime, sodium sulphide or other caustic liquer.";
- (ii) for paragraph 5, substitute the following paragraph—"5. Medical facilities and records of examinations and tests.
- (a) The occupier of every factory to which this Schedule applies, shall—
- (i) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector;
- (ii) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (i);
- (iii) arrange for inspection of the hands of all the persons who are keeping in contact which chromium substances, twice a week;
- (iv) provide, maintain and supply suitable ointment and plaster in a box readily accessible to the workers and solely used for the purpose of keeping the ointment and the plaster.
- (b) the record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector, which shall be kept readily available for inspection by the Inspector at all times during working of the factory."
- (iii) after paragraph 5 substituted, insert the following paragraph—
- "6. Medical examination by Certifying Surgeon:-
 - (a) Every worker employed in any of the processes to which this Schedule applies shall be produced for examination by a Certifying Surgeon within 15 days of his first employment. Such examination shall include skin test for dermatoses and detection of anthrax bacillus from local lesion by gran stain. No worker shall be required or allowed to work after 15 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 produced for re-examination by a Certifying Surgeon at least once in every twelve calendar month. Such re-examinat os hall, wherever the Certifying Surgeon considers appropriate, include tests as specified in subparagraph (a).

- (c) 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 which shall be kept in the custody of the manager of the factory. The record of each examination carried out under subparagraphs (a) and (b) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
- (d) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- (e) 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 may involve special danger to the health of the worker, he shall make a record of his finding in the said certificate and the health register. The entry of his findings in those documents shall also include the period for which he considers that the said person is unfit for worker so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the worker affected shall be suitably rehabilitated.
- (f) No person who has been found unfit to work as mentioned in sub-paragraph (e) above shall be required or allowed to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.";
- (K) in Schedule XIII:-
 - (i) in paragraph 1, delete clause (c);
 - (ii) for paragraph 7, substitute the following paragraphs; —
- "7. Medical facilities and records of examination and tests. The occupier of every factory to which this Schedule applies shall—
 - (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein at least thrice in a week, whose employment shall be subject to the approval by the Chief Inspector;
 - (b) in addition, employ a person trained in First Aid treatment for daily medical surveillance of the workers employed therein;

- (c) Provide to the said medical practitioner and the person all the necessary facilities for the purpose referred to in sub-paragraphs (a) and (b); and
- (d) Provide and maintain a sufficient supply of protective cream such as glycerine, vaseline etc. for application to hands feet and nostrils and impermeable waterproof plaster dressing in a separate box, readily accessible to the workers and used solely for the purpose of keeping the cream and plaster dressing.
- (e) The record of medical examinations and appropriate tests, carried out by the medical practitioner and the person under sub-paragraphs (a) and (b), shall be maintained in a separate register, approved by the Chief Inspector and it shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- 7A. Medical examination by Certifying Surgeons.
 - (a) Every worker employed in chrome processes shall be produced for examination by a Certifying Surgeon within 15 days of his first employment. Such examination shall include all such tests as may be deemed necessary. No worker shall be required or allowed to work after 15 days of his first employment by the Certifying Surgeon.
 - (b) Every worker employed in the chrome processes shall be produced periodically for re-examinations by a Certifying Surgeon at least once in every three calendar months. Such re-examination includes appropriate tests specified in sub-paragraph (a).
 - (c) The Certifying Surgeon after examining a worker shall issue a certificate of fitness in Form 25. The record of examination and reexaminations carried out shall be entered in the certificate which shall be kept in the custody of the manager of the factory. The record of each examination, carried out under sub-paragraphs (a) and (b) including the nature and the results of the tests shall also be entered by the Certifying Surgeon in a health register in Form 17, maintained in the factory.
 - (d) The certificates of fitness and the health register shall be kept readily available for inspection by the Inspector at all times during working of the factory.
 - (e) If, at any time, the Certifying Surgeon is of the opinion that a worker is no longer fit for

- employment in the chrome processes on the ground that continuance therein may involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in these documents shall also include the period for which he considers that the said person is unfit for work in the said processes. The worker so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the worker affected shall be suitably rehabilitated.
- (f) No person who has been found unfit to work as mentioned in sub-paragraph (e) above shall be required or allowed to work in the chrome processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in the said processes.
- (iii) in clause (a) of sub-paragraph (1) of paragraph 8, insert the words "overall suits and" between the words "suitable" and "respirators";
- (iv) for paragraph 10, substitute the following paragraph:
- "10. Cloak-room and storage of protective equipment—
 There shall be provided and maintained for the use of all persons employed in chrome processes, a suitable cloak-room for clothing put-off during working hours and a suitable place separate from the cloak-room, for the storage of all the working clothes and protective equipments and no such clothes and equipments shall be stored in any place other than the room or place so provided. The accommodation so provided shall be placed in charge of a responsible person and shall be kept clean."
- (L) in Schedule XIV-
 - (i) in paragraph 2, insert the brackets and figures
 "(i)" "(ii)" and "(iii)" against "lead material",
 "lead process" and "efficient exhaust draught"
 respectively.
 - (ii) in paragraph 3, in clause (b),—
 - (A) delet the punctuation "." at the end of the words "controlled melting pots";
 - (B) after the words "controlled melting pots", insert the words "which shall be so contrived as to operate on the dust, fume, gas or vapour given off as closely as possible to the point of origin."; and

- (C) delet the words beginning with "Such exhaust draught and ending with "point of origin.";
- (iii) for paragraph 10, substitute the following paragraphs:—
 "10. Medical facilities and records of examinations and tests.
- (a) The occupier of every factory to which this Schedule applies, shall—
- (i) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector; and
- (ii) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (i).
- (b) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in separate register approved by the Chief Inspector, which shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- 10A. Medical examination by Certifying Surgeon :-
 - (a) Every worker employed in a lead process shall be produced for examination by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for lead in urine and blood, ALA in urine, haemoglobin, stippling of cells and steadiness test. No worker shall be required or allowed to work after 15 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 produced for re-examination by a Certifying Surgeon at least once in every six calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include tests as specified in subparagraph (a).
 - (c) The Certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 25. The record of examination and reexaminations carried out shall be entered in the certificate which shall be kept in the custody of the manager of the factory. The records of each examination carried out under sub-paragraphs (a) and (b) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

- (d) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- (e) If at any time, the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said process on the ground that continuance therein may 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 shall include the period for which he considers that the said worker is unfit for work in the said processes. The worker so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which cases the worker affected shall be suitably rehabilitated.
- (f) No person who has been found unfit to work as mentioned in sub-paragraph (e) above shall be required or allowed to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.";
- (M) in Schedule XVI, for paragraphs 9 and 10, substitute the following paragraphs:—
 - "9. Medical facilities and records of examination and tests.
 - (a) The occupier of every factory to which this Schedule applies, shall—
 - (i) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector; and
 - (ii) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (i).
 - (b) The record of medical examination and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector, which shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- 10. Medical examinations by Certifying Surgeon:
 - (a) Every worker employed in any process mentioned under paragraph 2, shall be produced for examination by a Certifying

Surgeon within 15 days of his first employment. Such examination shall include tests for lead in urine and blood, ALA in urine, haemoglobin content, stippling of cells and pulmonary function tests and chest X-ray for worker engaged in processes mentioned in clauses (i) and (xiv) of paragraph 2 and pulmonary function tests and chest X-ray for others. No worker shall be required or allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

- (b) All person employed in any of the processes included under clauses (i) and (xiv) of paragraph 2 shall be produced for re-examination by a Certifying Surgeon once in every 3 calendar months. Those employed in any other processes mentioned in the remaining clauses of paragraph 2 shall be produced for re-examination by a Certifying surgeon once in every 12 months. Such examinations in respect of all the workers shall include all the tests as specified in sub-paragraph (a) except chest X-ray which shall be once in 3 years.
- (c) The Certifying Surgeon after examining a worker, shall issue certificate of fitness in Form 25. The record of examination and reexamination carried out shall be entered in the Certificate which shall be kept in the custody of the manager of the factory. The record of each examination carried out under subparagraphs (a) and (b) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
- (d) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- (e) 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 may involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and health register. The entry of his findings in those documents shall also include the period for which he considers that the said worker is unfit for work in the said processes. The worker so suspended from the process shall be provided with alternate placement facilities

- unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the worker affected shall be suitably rehabilitated.
- (f) No person who has been found unfit to work as mentioned in sub-paragraph (e) above shall be required or allowed to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.";
- (N) for Schedule XVII, substitute the following Schedule:—

SCHEDULE XVII

Manufacture of Rayon by Viscose Process

- 1. Definitions. For the purpose of this Schedule-
 - (a) "approved" means approved for the time being, in writting, by the Chief Inspector;
 - (b) "breathing apparatus" means a helmet or face piece with necessary connections by means of which the person using it in a poisonous, asphyxiating or irritant atmosphere breathes unpolluted air; or any other approved apparatus;
 - (c) "churn" means the vessel in which alkali cellulose pulp is treated with carbon disulphide;
 - (d) "dumping" means transfer of cellulose xanthate from a dry churn to a dissolver;
 - (e) "efficient exhaust draught" means localised ventilation by mechanical means for the removal of any gas fume or vapour, so as to prevent it from escaping into the air of any place in which work is carried on. No draught shall be deemed to be efficient if it fails to control effectively any gas or vapour generated at the point where such gas, fume or vapour originates;
 - (g) "life belt" means a belt made of leather or other suitable material which can be securely fastened round the body with a suitable length of rope attached to it, each of which is sufficiently strong to sustain the weight of a man;
 - (h) "protective equipment" means apron, goggles, face shields, foot wear, gloves and overalls made of suitable materials.

2. Ventilation.

(a) In all workrooms where a fume process is carried on, adequate ventilation by natural or mechanical means shall be provided so as to control, in association with other control

- measures, the concentration of Carbon-disulphide and hydrogen sulphide in the air of every work environment within the permissble limits.
- (b) Notwithstanding the requirements in subparagraph (a), an efficient exhaust draught shall be provided and maintained to control the concentration of Carbon-di-sulphide and hydrogen sulphide in the air at the following locations:
- (i) dumping hoppers of dry churns;
- (ii) spinning machines;
- (iii) trio rollers and cutters used in staple fibre spinning;
- (iv) hydro-extractors for yarn cakes:
- (v) after treatment processes; and
- (vi) spin baths.
- (c) In so far as the spinning machines and trio rollers and cutters used in staple fibre spinning are concerned, they shall be, for the purpose of ensuring the effectiveness of the exhaust to be provided as required in sub-paragraph (a), enclosed as fully as practicable and provided with suitable shutters in sections to enable the required operations to be carried out without giving rise to undue quantities of Carbon-di-sulphide and hydrogen sulphide escaping to the work environment.
- (d) No dry churn shall be opened after completion of reaction without initially exhausting the residual vapour of carbon-di-sulphide by operation of a suitable and efficient arrangement for exhausting the vapour which shall be continued to be operated as long as the churn is kept opened.
- (e) Wherever any ventilation apparatus normally required for the purpose of meeting the requirements in sub-paragraphs (b), (c) and (d) is ineffective, fails or is stopped for any purpose whatsoever, all persons shall be required to leave the work areas where the equipment or purposses specified in the above said subparagraphs are in use as soon as possible, and in any case within 15 minutes after such an occurrence.
- (f) All ventilation system provided for the purpose as required in sub-paragraphs (b), (c) and (d) shall be examined and inspected once every week by a responsible person. It shall be thoroughly examined and tested by a competent

- person once in every period of 12 months. Any defects found by such examinations or tests shall be rectified forthwith.
- (g) A register containing particulars of such examinations and tests and the state of the systems and the repairs or alternations (if any) found to be necessary shall be maintained and kept available for inspection by an Inspector at all times during working of the factory.
- 3. Waste from spinning machines:—Waste from the spinning machines shall be deposited in suitable containers provided with close fitting covers. Such waste shall be disposed off as quickly as possible after decontamination.
- 4. Lining of Dry Churns.—The inside surface of all dry churns shall be coated with a non-strickly paint so that cellulose xanthate may not stick to the surface of the churn. Such coating shall be maintained in good working condition.
- 5. Air monitoring:
 - (a) To ensure the effectiveness of the control measures, monitoring of carbon-di-sulphide and hydrogen sulphide 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.
 - (b) For the purpose of the requirement in subparagraph (a), instantaneous gas detector tubes shall not be used. Samples shall be collected over a duration of not less than 10 minutes and analysed by an approved method. The locations where such monitoring is to be done shall be as directed by the Inspector.
 - (c) If the concentration of either carbon disalphide or hydrogen sulphide exceeds the permissible limits for such vapours gas as faid down in rule 19B, suitable steps shall be taken for controlling the concentrations in air of such contaminants. A report of such occurences shall be sent to the Chief Inspector forthwith.
- 6. Probhibition to remain in fume process room.—
 No person during his intervalls for meal, or rest shall remain in any room wherein fume process is carried on.
- 7. Prohibition relating to employment of young persons.—No young person shall be employed or permitted to work in any fume process or in any room in which any such process is carried on.
- 8. Protective equipment:
 - (a) The occupier shall provide and maintain in good condition protective equipment as

specified in the table below for use of persons employed in the processes referred to therein.

TABLE

	Process	Protective Equipment
1.	Dumping	Overalls, face-shields, gloves and foodwear—all made of suitable materials.
2.	Spinning	Suitable aprons, gloves and foot wear.
3.	Process involving or likely to involve contact with viscose solution	Suitable gloves and foot wear.
4.	Handling of sulphur	Suitable chemical goggles
5.	Any other process involving contact with hazardous chemicals	Protective equipment as may be directed by the Chief Inspector by an order in writing.

(b) A suitable room, rooms or lockers shall be provided exclusively for the storage of all the protective equipment supplied to workers and no such equipment shall be stored at any place other than the room, rooms or lockers so provided.

9. Breathing apparatus:

- (a) There shall be provided in every factory where fume process is carried on, sufficient supply of—
- (i) breathing apparatus;
- (ii) Oxygen and suitable appliances for its administration; and
- (iii) life belts.
- (b) (i) The breathing apparatus and other appliances referred to in sub-paragraph (a), shall be maintained in good condition and kept in appropriate locations so as to be readily available;
 - (ii) the breathing apparatus and other applicances referred to in clauses (i) and (ii) of sub paragraph (a) shall be cleaned and disinfected at suitable intervals and thoroughly inspected once every month by a responsible person;
 - (iii) a record of the maintenance and of the checking of the condition of the breathing apparatus and other appliances referred to in sub-paragraph (a), shall be entered in a register provided for that purpose which shall be readily

- available for inspection by an Inspector at all times during working of the factory.
- (c) Sufficient number of workers shall be trained and periodically retrained in the use of breathing apparatus and administering artificial respiration so that at least 2 such trained persons be available at all times during the working hours in each room in which fume process is carried on.
- (d) Breathing apparatus shall be kept, properly labelled, in clean, dry, light-proof cabinets and if liable to be affected by fumes, shall be protected by placing them in suitable containers.
- (e) No person shall be allowed or required to perform any work specified in sub-paragraph (a) 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.
- (f) No breathing apparatus, provided in pursuance of sub-paragraph (a), which has been worn by a person shall be allowed or required to be worn by another person unless it has been thoroughly cleaned and disinfected since last work and the said person has been fully instructed in the proper use of that equipment.
- 10. Electric fittings: All electric fittings in any room in which carbon-di-sulphide is produced, used or given off or is likely to be given off into the work environment, other than a spinning room, shall be of flame-proff construction and all electric conductors shall either be enclosed in metal conduits or be leadsheated.
- 11. Prohibition relating to smoking etc.: No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in a room in which fume process is carried on. A notice in a language understood by the majority of the workers shall be displayed in prominent locations in the plant prohibiting smoking and carrying of matches, fire or naked light or other means of producing naked light or spark into such rooms;

Provided that fire, naked light or other means of producing naked light or spark may be carried on in such room only when required for the purposes of the process itself under the direction and supervision of a responsible person.

12. 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 porcesses covered by the Schedule adequate washing and bathing places having a constant supply of water, under cover, at the rate of one such place for every 25 persons employed:

 Provided that if female workers are employed, such washing and bathing places shall be so enclosed or screened that the interiors are not visible from any place where persons of the other sex work or pass and all such places shall bear conspicuous notice "FOR WOMEN ONLY" and to be pictorially indicated.
- (b) The washing places shall have stand-pipes 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 soap, nail brushes and clean towels made of suitable material shall be provided. Provided that such towels shall be supplied individually for each worker if so ordered by the Inspector.

13. Rest room.

- (a) A rest room shall be provided for the workers engaged in doffing operations of filament yarn spinning process.
- (b) Such rest room shall be provided with fresh air supply and adequate seating arrangement.
- 14. Cautionary notice and instructions:
 - (a) The following cautionary notice shall be prominently displayed in each fume process room:

Cautionary Notice

- 1. Carbon disulphide (CS₂) and Hydrogen sulphide (H₂S) which may be present in this room are hazardous to health.
- 2. Follow safety instructions.
- 3. Use protective equipment and breathing apparatus and when required.
- 4. Smoking is strictly prohibited in this area.

This notice shall be in a language understood by the majority of the workers and displayed where it can be easily and conveniently read. If any worker illiterate, effective steps shall be taken to explain carefully to him the contents of the notice so displayed.

- (b) Arrangements shall be made to instruct each worker employed in any room in which a fume process is carried on regarding the health hazards connected with their work and the preventive measures and methods to protect themselves. Such instructions shall be given on his first employment and repeated periodically.
- (c) Simple and special instructions shall be framed to ensure that effective measures shall be carried out in case of emergency involving escape of carbon disulphide and hydrogen sulphide. These instructions shall be displayed in the concerned areas and workers shall be instructed and trained in the actions to be taken in such emergencies.
- 15. Medical facilities and records of examinations and tests:
 - (a) The occupier of each factory to which this Schedule applies shall—
 - (i) employ a qualified medical practitioner for medical surveillance of the workers employed in the fume process whose employment shall be subject to the approval of the Chief Inspector;
 - (ii) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clase (i).
 - (b) The record of medical examination and appropriate tests carried out by the said medical practitioner shall be maintained in a seperate register approved by the Chief Inspector, which shall be kept readily available for Inspection by the Inspector at all times during working of the factory.
- 16. Medical Examination by the Certifying Surgeon:
 - (a) Every worker employed in the fume process shall be produced for examination by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for estimation of exposure co-efficient (iodineazide test on urine) and cholesterol, as well as eloctrocardiogram (ECG) and Central Nervous system (CNS) tests. No worker shall be allowed or required to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
 - (b) Every worker employed in the fume process shall be produced for re-examination by a Certifying Surgeon at least once in every

- twelve calendar months. Such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests as specified in sub-paragraph (a).
- (c) The Certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 25. The record of re-examinations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the Manager of the factory. The record of each examination carried out under subparagraphs (a) and (b), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
- (d) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector at all times during working of the factory. The worker so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the worker affected shall be suitably rehabilitated.
- (e) If, at any time, the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the fume process on the ground that continuance therein may 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 shall also include the period for which he considers that the said worker is unfit for work in the fume process.
- (f) No person, who has been found unfit to work as said in sub-paragraph (e) above, shall be required or allowed to work in the fume process unless the Certifying Surgeon, after further examination again certifies him fit for employment in such process.
- 17. Exemptions.—If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this Schedule is not necessary for protection of the workers in the factory, the Chief Inspector may, by a certificate in writing, which he may at his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.";
 - (o) for Schedule XVIII, substitute the following Schedule:

"SCHEDULE XVIII

Chemical Works

PART I

- 1. Application.—This Schedule shall apply to all manufacture and processes incidental thereto carried on in chemical works.
- 2. Definitions.—For the purpose of this Schedule—
 - (a) "Chemical works" means any factory or such parts of any factory as are listed in appendix 'A' to this Schedule;
 - (b) "efficient exhaust draught" means localised ventilation effected by mechanical or other means for the removal of gas, vapour, fume or dust to prevent it from escaping into the air of any place in which work is carried on;
 - (c) "bleaching powder" means the bleaching powder commonly called chloride of lime;
 - (d) "chlorate" means chlorate or perchlorate;
 - (e) "caustic" means hydroxide of potassium or sodium;
 - (f) "nitro or amino process" means the manufacture of nitro or amino derivatives of phenol and of benzene or its homologues, and the making of explosives with the use of any of these substances;
 - (g) the term 'permit to work' system means the compliance with the procedures laid down under paragraph 20 of Part II;
 - (h) "toxic substances" means all those substances which, when they enter into the human body, through inhalation or ingestion or absorption through skin, in sufficient quantities, cause fatality or exert serious affliction of health, or chronic harmful effects on the health of persons exposed to it due to its inherent chemical or biological effects. In respect of substances whose TLV is specified in Schedule-II of the Act, exceeding the concentration specified therein would make the substance toxic:
 - (i) "emergency" means a situation or condition leading to a circumstance or set of circumstances in which there is danger to the life or health of persons or which may result in big fire or explosion or pollution to the work and outside environment, affecting the workers or neighbourhood in a serious manner, demanding immediate action;
 - (J) "dangerous chemical reaction" means high speed reactions, run-away reactions etc. and are characterised by evolution of large quantities

- of heat, intense release of toxic or flammable gas or vapours, sudden pressure build-up etc;
- (k) "manipulation" means mixing, blending, filling, empthing, grinding, sieving, drying, packing, sweeping, handling, using etc.;
- (1) "aproved personal protective equipment" means items of personal protective equipment having certification by Indian Standards Institution or in the absence of it, personal protective epuipment approved by the Chief Inspector;
- (m) "appropriate personal protective equipment" means that when the protective equipment is used by the worker, he shall have no risk to his life or health or body; and
- (n) "confined space" means any space by reason of its construction, situation, as well as in relation to the nature of the work carried therein and where hazards to the persons entering into or working inside exist or are likely to develop during working.

PART II General Requirement

Applying to all the works in Appendix 'A'

1. Housekeeping:

- (a) Any spillage of materials shall be cleaned up before further processing.
- (b) Floors, platforms, stairways, passages and gangways shall be kept free of obstructions.
- c) There shall be provided easy means of access to all parts of the plant to facilitate cleaning,
- 2. Improper use of Chemicals: No chemicals or solvents or empty containers containing chemicals or solvents shall be permitted to be used by workers for any purposes other than in the processes for which they are supplied.
- 3. Prohibition on the use of food etc.: No food, drink, tobacco, pan or any edible item shall be stored or heated or consumed on or near any part of the plant or equipment.
- 4. Cautionary Notices and Instructions:
 - (a) Cautionary Notices in a language understood by the majority of workers shall be prominently displayed at conspicuous and convenient places in all hazardous areas drawing the attention of all workers about the hazards to health, involving fire and explosion and any other hazard such as consequences of testing of materials or substances used in the process or using any contaminated container for drinking or eating,

- to which the workers' attention is to be drawn for ensuring their safety and health.
- (b) In addition to the above cautionary notice, arrangement shall be made to instruct and educate all the workers including illiterate workers about the hazards in the process including the specific hazards to which they may be exposed to, in the normal course of their work. Such instructions and education shall also deal with the hazards involved in unauthorised and unsafe practices including the properties of substances used in the process under normal conditions as well as abnormal conditions and the precautions to be observed against each and every kind of hazard. An undertaking from the workers shall be obtained within one month of their first employment and for old workers employed, within one month coming into operation of this Schedule to the effect that they have read or have been apprised of the contents of the cautionary notices and instructions, understood them and shall abide by them. The training and instructions to all workers and all supervisory personnel shall include the significance of different types of symbols and colours used on the labels stuck or printed on the various types of containers and pipe lines.
- 5. Evaluation and provision of safeguards before the commencement of process:
 - (a) Before commencing any process or any experimental work or any new manufacture covered under Appendix 'A', all possible steps shall be taken to ascertain definitely all the hazards involved both from the actual operations and the chemical reactions including the dangerous chemical recations. The properties of the raw materials used, the final products to be made, and any by-products derived during manufacture, shall be carefully studied and provisions shall be made for dealing with any hazards including effects of workers, which may occur during manufacture.
 - (b) Information in writing giving details of the process, its hazards and the steps taken or proposed to be taken from the design stage to disposal stage for ensuring the safety as in subparagraph (a) above, shall be sent to the Chief Inspector at the earliest but in no case less than 15 days before commencing manufacture, handling or storage of any of the items covered under Appendix 'A', whether on experimental basis,

- or as pilot plant or as trial production, or as large scale manufacture. The said information in respect of existing factories shall be sent within one month of coming into operation of this Schedule.
- (e) The design, construction, installation, operation, maintenance and disposal of the buildings, plant and facilities shall take into consideration effective safeguards against all the safety and health hazards so evaluated.
- (d) The requirements under the sub-paragraphs (a) to (c) shall not act in lieu of or in derogation to, any other provisions contained in any other Act governing the work.
- 6. Authorised entry: Only authorised persons shall be permitted to enter any section of the factory or plant where any dangerous operations or processes are or are being carried on or where dangerous chemical reactions take or are taking place or where hazardous chemicals are stored or manipulated.
- 7. Examination of instruments and safety devices:
 - (a) All instruments and safety devices used in the process shall be tested before taking into use and after carrying out any repair to them and examined once in a month, by a competent person. Records of such tests and examinations shall be maintained in a register, approved by the Chief Inspector.
 - (b) All instruments and safety devices used in the process shall be operated daily or as often as it is necessary, to ensure its effective and efficient working at all times.
- 8. Electrical installations: All electrical installations used in any area of the processes covered in Appendix 'A' shall be of an appropriate type to ensure safety against the hazard prevalent in that area such as suitability against dust, dampness, corrosion, flammability and explosivity etc. and shall have certification by Indian Standards Institution or appropriate authority governing their construction and use for that area.
- 9. Handling and storage of chemicals:
 - (a) The containers for handling and storage of chemicals shall be of adequate strength taking into consideration the hazardous nature of the contents. They shall also be provided with adequete labelling and colour coding arrangements to enable identification of the containers and their contents indicating the hazards and safe handling methods and shall have certification by Indian Standards Institution. The

- instructions given in the level shall be strictly adhered to. Damaged containers shall be handled only under supervision of a knowledge able and responsible supervisor and spillage shall be cleaned and rendered innecessors in a safe manner using appropriate means.
- (b) The arrangements for the storage of chemicals including charging of chemicals in reaction vessels and containers shall be such as to prevent any risk of fire or explosion or formation of toxic concentration of substances above the limits specified in Schedule II of the Act.
- (c) Without prejudice to the generality of the requirements in sub-paragraph (b) above, the arrangements shall have suitable ventilation facilities and shall enable the maintenance of safe levels in vessels and containers. Such arrangements shall also take into consideration, the type and capacity of flooring and the compatibility requirements of substances with other chemicals stored or manipulated nearby.
- (d) (i) Storage of chemicals and intermediate products, which are highly unstable or reactive or explosive shall be limited to the quantities for two months use.
- (ii) Whenever the quantities laid down in the clause (I) are to be exceeded, print permisson of the Chief Inspector shall be obtained.
- (iii) Notwithstanding anything contained in clauses (i) and (ii) above, the Chief Inspector may direct any factory carrying out any or more of the processes covered in Appendix 'A' to further limit the storage of hazardous substances to quantites less than two months use on considerations of safety.
- (e) Standby arrangements equal to the biggest container shall always be available to transfer the toxic substances quickly into the standby storage facility, if any defect develops in any of the containers used resulting in the release of taxic substances.
- (f) Any storage facility constructed using non-metallic material such as fibreglass, reinforced plastics, all glass vessels etc. shall have adequate strength to withstand the stress, if any, exerted by the contents and shall be properly anchored. Working platforms, access ladders, pipe lines etc. used in such storage facility shall not have any support on the structure of the storage facility and shall be independently supported.

10. Facility for isolation:—The plant and equipment shall be so situated, constructed and maintained as to enable quick isolation of plant or part of plant or equipment, with appropriate indication. One copy of the lay out plan indicating the isolation facilities shall always be available with the security personnel, the maintenance and the health and safety personnel and these isolation facilities shall be checked for its effectiveness once in a month.

11. Personal protective equipment.

- (a) All workers exposed to the hazards in the processes covered by this Schedule shall be provided with appropriate and approved type of personal protective equipment. Such equipment shall be in a clean, sterile and hygienic condition before issue.
- (b) Effective arrangements shall be made to inform, educate and supervise all the workers in the use of personal protective equipment while engaged or carrying out their respective jobs.
- (c) As regards any doubt regarding the appropriateness of any personal protective equipment, the decision of the Chief Inspector shall be final.

12. Alarm System.

- (a) Suitable and effective alarm systems giving audible and visible indications, shall be installed at the control room as well as in all strategic locations where process control arrangements are available so as to enable corrective action to be taken before the operational parameters exceed the predetermined safe levels or lead to an emergency to occur. Such alarm systems shall be checked daily and tested every month at least once to ensure its performance efficiency at all times.
- (b) The Chief Inspector may direct such system to be installed in case of plants or processes where toxic materials are being used and spillage or leakage of which may cause wide spread poisoning in or around the plant.
- 13. Control of escape of substances into the work atmosphere.
 - (a) Effective arrangements such as enclosure or bypass or efficient exhaust draught, maintenance of negative pressure etc. shall be provided in all plants, containers, vessels, sewers, drains, flues, ducts, culverts, and buried pipes and equipment, to control the escape and spread of substances which are likely to give rise to fire or explosion

- or toxic hazards during normal working and in the event of accident or emergency.
- (b) In the event of the failure of the arrangements for control resulting in the escape of substances in the work atmosphere, immediate steps shall be taken to control the process in such a manner that further escape is brought down to the safe level.
- (c) The substances which may have escaped into the work atmosphere before taking immediate steps as required in sub-paragraph (b), shall be rendered innocuous by diluting with air or water or any other suitable agent or by suitably treating the substances.
- 14. Control of dangerous chemical reactions.—Suitable provisions such as automatic and/or remote control arrangements, shall be made for controlling the effects of 'dangerous chemical reactions'. In the event of failure of 'control arrangements, automatic flooding or blanketing or other effective arrangements shall be put into operation.
- 15. Testing, examination and repair of plant and equipment.—
 - (a) All parts of plant, equipment and machinery used in the process which, in the likely event of their failure, may give rise to an emergency, shall be tested by a competent person before commencement of the process and retested at an interval of two years or after carrying out repairs to it. The competent person shall identify the parts of the plant, equipment and machinery required to be tested as aforesaid and evolve suitable testing procedures. In carrying out the said test in respect of pressure vessels or reaction vessels, the following precautions shall be observed, namely:—
 - (i) before the test is carried out, each vessel shall be thoroughly cleaned and examined externally, and as far as practicable, internally also for surface defects, corrosion and foreign matters. During the process of cleaning and removal of sludge, if any, all due precautions shall be taken against fire or explosion or toxic atmosphere if such sludge is of pyropheric nature or contains spontaneously combustible or toxic chemicals;
 - (ii) as soon as the test is completed, the vessel shall be throughly dried internally and shall be clearly stamped with the marks and figures indicating the person by whom testing has been done and the date of test; and

- (iii) any vessel which fails to pass the test or which, for any other reason, is considered or found to be unsafe for use, shall be destroyed or rendered unusable under intimation to the Chief Inspector.
 - (b) All parts of plant, equipment, machinery which, in the event of failure, may give rise to an emergency shall be examined once in a month by the competent person.
- (c) Records of testing and examination referred to in sub-paragraphs (a) and (b), shall be maintained as long as that part of the plant, equipment and machinery are in use and kept available to the Inspector at all times during working of the factory.
- (d) All repair work including alteration, modification and addition to be carried out to the plant, equipment and machinery shall be done under the supervision of a responsible person who shall evolve a procedure to ensure safety and health of persons doing the work. When repair or modification is done on pipelines, and joints are required to be welded, but welding of joints shall be preferred. Wherever necessary the responsible person shall regulate the aforesaid work through a 'permit to work system'.

16. Staging.—

- (a) All staging erected for the purpose of maintenance work or repair work or for work connected with entry into confined spaces or use in the processes included in Appendix 'A'. shall be stable, rigid and constructed our of substantial material of adequate strength. Such staging shall conform to the respective Indian Standard specifications.
- (b) Staging shall not be erected over any closed or open vessel unless the vessel is so constructed and ventilated as to prevent exposure of workers to emergency while working on the stages.
- (c) All stagings shall have appropriate access which is safe and shall be fitted with proper hand rails to a height of one metre and the board on the exposed sides.
- 17. Seating arrangements.—The seating arrangements provided for the operating personnel working in processes covered in Appendix 'A' shall be located in a safe manner as to prevent the risk of exposure to toxic, flammable and explosive substances evolved in the work environment in the course of

manufacture or repair or maintenance, enter the to failure of plant and equipment or the to the substances which, under pressure of parentse escape into the atmosphere.

18. Ezzy into or work in confined sparse.

- In every factory to which the provisions of this Schedule apply, the observance of the following precautions shall be ensured before permaning any worker to enter or work itsude the confiner spaces, namely:
- in all confined spaces and the matter of factorists that are to be encountered in such spaces, mormally or abnormally six the administration and arrangement shall be made to dere up the most appropriate safeguards for ensuring the safety and health of workers entering in the orking inside, the confined spaces:
- the entry or work inside the committed spaces shall be regulated through a permit to work system' which shall include the safeguard so developed as required under sub-clause 1) above;
- (iii before testing the confined space for entry into or work, it shall be removed safe by washing or cleaning with neutrinizing agents or purging with steam or inertigas and making adequate forced venteletted arrangements or such other measure which shall render the confined space safe;
- tests as are necessary for the purpose by a competent person to ensure that the confined space is safe for the workers to enter or work. Such testing shall be catried out as often as is necessary during the course of work to ensure its continued safety; and
- arrangement shall be made to educate and train the workers who are required or allowed to work in confined spaces about the hazards involved in the work, as also, to keep in readiness the appropriate and approved personnel protective equipment including arrangements for rescue, resurrection and first aid, and supervision of the work at all times by a responsible and knowledgeable person shall be arranged.
- (b) A log book of all entry into or work in confined spaces shall be maintained and sith record shall contain the details of workers assigned for the work, the location of the work

and such other details that have a bearing on the safety and health of the persons assigned for this work. The log book so maintained shall be retained as long as the concerned workers are in service and produced to the Inspector when demanded, at all times during working of the factory.

19. Maintenance work etc.

- (a) All the works connected with the maintenance of plants and equipment including cleaning of empty containers which have held hazardous substances used in the processes covered in this Schedule, shall be carried out under 'permit to work system' employing trained personnel and under the supervision of responsible person, having knowledge of the hazards and precautions required to deal with them.
- (b) Maintenance work shall be carried out in such a manner that there is no risk to the workers, in the vicinity, or, who pass by. If necessary, the place of such work shall be cordoned off or the presence of unconnected personnel effectively controlled.
- 20. Permit to work system. The "permit to work system" shall inter-alia include the observance of the following precautions while carrying out any specified work to be subjected to the permit to work system.
 - (a) all works subject to the permit to work system shall be carried out under the control and direct supervision of a knowledge and responsible person;
 - (b) all parts of plant or machinery or equipment on which permit to work system is carried out, shall remain isolated from other parts throughout the period of permit to work and the place of work including the parts of plant, machinery shall be rendered safe by cleaning, purging, washing etc., as may be necessary;
 - (c) all work subject to the permit to work system shall have predetermined work procedures which integrate safety with the work. Such procedures shall be reviewed whenever any change occurs in material or equipment so that continued safety is ensured;
 - (d) it shall be ensured that workers who are assigned to carry out the permit to work system are physically fit in all respects taking into consideration the demands and nature of the work before allowing or requiring entry or work into the confined space. Such workers

- shall be adequately informed about the correct work procedures as well as the precautions to be observed while carrying out the permit to work system;
- (e) adequate rescue arrangements; wherever considered necessary, and adequate first aid, rescue and resurrection arrangements shall be available in good working condition near the place of work while carrying out the permit to work system, for use in emergency;
- (f) appropriate personal protective equipment duly certified by Indian Standards Institution shall be provided and used while carrying out the 'permit to work system';
- (g) after completion of work subject to the 'permit to work system' the person responsible for control and supervision shall ensure to remove all the equipments and tools and restore to the original condition so as to prevent any danger while carrying out regular process.
- 21. Safety sampling personnel: The safety of persons, assigned for collecting samples shall be ensured by instructing them on the safe procedures. Such personnel shall be provided with proper and approved personal protective equipment if acquired.
- 22. Ventilation. Adequate ventilation arrangements shall be provided and maintained at all times in the process area where dangerous or toxic or flammable or explosive substances are likely to be evolved. These arrangements shall ensure that concentrations, which are either harmful or may result in explosion, are not permitted to be built up in the work environment.

23. Procedures for meeting emergencies:

- (1) In every factory carrying out the works covered in Appendix 'A' necessary arragements shall be provided to identify all types of possible emergencies that may occur in the processes during the course of work or while carrying out maintenance work or repair work. The emergencies so identified shall be reviewed every year.
- (2) A detailed plan shall be formulated to meet all such identified emergencies including arrangements for summoning outside help for rescue and fire fighting and for making available urgent medical facilities.
- (3) The list of emergencies and the details of procedures and plans formulated to meet the emergencies shall be submitted to the Chief Inspector.

- (4) Provisions shall be made to install distinctive and recognizable warning arrangements to caution all persons inside the plant as well as the neighbouring community, if necessary, to enable evacuation of persons and to enable the observance of emergency procedure by the persons who are assigned emergency duties. All concerned shall be well informed about the warning arrangements and their meaning. The arrangements must be checked for its effectiveness every month.
- (5) Alternative power supply arrangements shall be made and interlocked with the normal power supply system so as to ensure constant supply of power to the facilities and equipment meant for compliance with the requirements of paragraphs 10, 11, 12, 13, 14, 18, 22 and this paragraph of Part-II and the requirements of Part-III, Part-IV and Part-V of this Schedule.
- (6) Arrangements shall be made to suspend the further process work in a place where emergency is established and to evacuate forthwith all persons in that area except the workers who have been assigned emergency duties.
- (7) All the employees of the factory shall be trained about the action to be taken by them including evacuation procedures during emergencies.
- (8) All emergency procedures shall be rehearsed every three months and deficiencies, if any, in the achievement of the objectives shall be suitably corrected.
- (9) Arrangements shall be made to have ten percent of the workers trained in the use of first aid, fire fighting appliances and in the rendering of specific first aid measures taking into consideration the special hazards of the particular process.
- (10) The specific chemical identity of the hazardous substance shall be furnished immediately, on request, to the treating physician when the information is needed to administer proper emergency or first-aid treatment to exposed persons.
- 24. Danger due to effluents.—
 - (1) Adequate precautions shall be taken to prevent the mixing of effluents from different processes and operations which may cause dangerous or poisonous gas to be evolved.
 - (2) Effluents which contain or give rise to the presence of other effluents to poisonous gas shall be provided with independent drainage systems to ensure that they may be trapped and rendered safe.

PART III Fire and Explosions Risks

- 1. Sources of ignition including lighting installation.—
 - (a) No internal combustion engine and no electric motor or other electrical equipment, and fittings and fixtures capable of generating sparks or otherwise causing combustion and any other source of ignition or any naked light shall be installed and/or permitted to be used in the process area where there may be fire and explosion hazards.
 - (b) All hot exhaust pipes shall be installed outside a building and other hot pipes or hot surface or surfaces likely to become hot shall be suitably protected.
 - (c) The classification of work areas in terms of their hazard potential and the selection of electrical equipment or other equipment that could constitute a source of ignition shall be in accordance with the respective Indian Standard.
 - (d) (i) where a flamable atmosphere may be prevalent or may occur in an area, the soles of footwear worn by workers shall have no metal on them;
 - (ii) the wheels or trucks or conveyors shall be of conductive type; and
 - (iii) All tools and appliances used for work in this area shall be of non-sparking type.
 - (e) Smoking in process areas, where there are risks of fire and explosion, shall be prohibited and warning notices in the language understood by the majority of workers shall be displayed at conspicuous and convenient places in the factory prohibiting smoking or carrying of matches or of any ignitable sources into specified areas.

2. State Electricity.

- (a) All machinery and plant, particularly pipe lines and belt drives, on which static charge is likely to accumulate, shall be effectively earthed. Receptacle for flammable liquids shall have metallic connections to the earthed supply tanks to prevent static sparking. Where necessary humidity shall be regulated.
- (b) Mobile tankers and tanker wagons shall be earthed during filling and discharge, and precautions shall be taken to ensure that earthing is effective before such filling or discharge takes place.
- 3. Lighting protection:—Lighting protection arrangement shall be maintained.

- 4. Process heating: The method of providing heat for a process likely to result in fire and explosion shall be as safe as practicable and, where the use of naked film is necessary, the plant shall be so constructed, maintained and operated as to prevent any escaping of flammable gas, vapour or dust coming into contact with the flame or exhaust gas or other sources likely to cause ignition. Wherever possible, the heating arrangement shall be automatically controlled at a pre-determined temperature below the danger temperature.
- 5. Leakage of flammable liquids:
 - (a) Provision shall be made to confine, by means of bund walls, dykes, sumps etc., possible leakages from strong vessels containing flammable liquids,
 - (b) Waste material in contact or seaked with flammable substances shall be disposed off suitably under the supervision of knowledgeable and responsible person.
 - (c) Adequate and suitable fire-fighting appliances shall be installed in the vicinity of such vessels.
- 6. Safety valves: Every still and every closed vessel in which gas is involved or into which gas is passed, and in which the pressure is liable to rise above the atmospheric pressure, shall have attached to it a pressure gauge and proper safety valve or other equally efficient means to relieve the pressure. These appliances shall be maintained in good working condition.
- 7. Installation of pipe line etc.: All pipelines carrying flammable or explosive substances shall be protected from mechanical damage and shall be examined by a responsible person once in a week to detect any deterioration or defects or accumulation of flammable or explosive substances and record kept of the dates of examination, any defects found and repairs made. Such records shall be kept available to the Inspector at all times during working of the factory.
- 8. Fire fighting systems:
 - (a) In every factory employing 500 or more workers and earring out processes listed in Appendix 'A', there shall be provided—
 - (i) trained and responsible fire fighting squad so as to effectively handle the fire fighting and life saving equipment in the event of fire or other emergency. Number of persons in this squad shall necessarily depend upon the size of risk involved, but in no case shall be less than

- 8 such trained persons to be available at any time. The squad shall consist of watch and ward personnel, fire pumpman, departmental supervisors and operators trained in the operation of fire and emergency services;
- (ii) Squad leaders shall preferably be trained in a recognised government institution and their usefulness enhanced by providing residence on the premises;
- (iii) squad personnel shall be provided with clothing and equipment including helmets, boots and belts.
- (b) A muster roll showing the duties allocation to each member of the squad shall be prepared and copies supplied to each leader as well as displayed at conspicuous and convenient places so as to be easily available for reference in case of emergency.
- (c) The squad personnel shall be thoroughly conversant with the location of all appliances and responsible for maintaing all fire fighting equipment in proper working order. Any defect coming to notice shall be immediately brought to the notice of squad leader and rectified, forthwith.
- (d) As far as practicable, the fire pump room and the main gate(s) of the factory be connected to all manufacturing or storing areas through telephone interlinked and placed in a convenient location near such areas.

PART IV

Risks of Toxic Substances

1. Leakage.

- (a) All plants shall be of such design and construction as to prevent the escape of toxic substance. Where necessary, separate buildings, rooms or protective structures shall be used for the dangerous stages of the process and the buildings shall be so designed as to localise any escape of toxic substances.
- (b) Catch pits, bund wall, dykes or other suitable safeguards shall be provided to restrict the serious effects of such leakages. Catch pits shall be placed below joints in pipelines where there is danger involved to maintenance and other workers from such leakage.
- 2. Drainage. Adequate drainage shall be so provided as to lead to collection tanks specifically provided for this purpose wherein deleterious material shall

be neutralised, treated or otherwise rendered safe before it is discharged into public drains or sewers.

3. Covering of vessels.

- (a) Every fixed vessel or structure containing any toxic substance and not so covered as to eliminate all reasonable risk of accidental contact of any portion of the body of a worker, shall be so constructed as to avoid physical contact.
- (b) Such vessel shall, unless its edge is at least one metre above adjoining ground or platform, be securely fenced to a height of at least one metre above such adjoining ground or platform.
- (c) Where such vessels adjoin and the space between them, clear of any surrounding brick or other work is either less than 45 centimeters in width or is 45 or more centimeters in width, but is not securely fenced on both sides to a height of at least one metre, secure barriers shall be so placed as to prevent passage between them:

Provided that sub-paragraph (b) shall not apply to:

- (i) saturators used in the manufacture of sulphate of ammonia; and
- (ii) that part of the sides of brine evaporating pans which require raking, drawing or filling.

4. Continuous exhaust arrangement.

- (a) Any process evolving toxic vapour, gas, fume and substances shall have efficient continuous exhaust draught. Such arrangement shall be interlocked in the process control, wherever possible.
- (b) In the event of failure of continuous exhaust arrangement, means shall be provided to automatically stop the process.
- 5. Work Bench: All the work benches used in processes involving the manipulation of toxic substances, shall be graded properly and shall be made of smooth impervious surface which shall be washed daily after the completion of work.

6. Waste disposal.

(a) There shall be provided a suitable receptacle made of non-absorbing materials with a tightly fitting cover for depositing waste material soiled with toxic substances and the contents of such receptacle shall be destroyed by burning or using other suitable methods under the supervision of a responsible and knowledgeable person.

- (b) During the course of munufacture, whenever any batch or intermediate products having toxicity is rejected on consideration of quality, sufficient precautions shall be taken to render them innocuous or otherwise treat them or inactive them, before disposal.
- (c) The empty containers of texic substance shall be cleaned thoroughly before disposal under the supervision of a responsible and person.

PART V

Special Provisions

- 1. Special precautions for Nitro or Amino Processes.—
 - (a) Unless the crystalised nitro or amino substances of any of its liquor is broken or agitated in a completely enclosed process so as not to give rise to dust or fume, such process shall be carried on under an efficient exhaust draught or by adopting any other suitable means in such a manner as to prevent the escape of dust or fume in the working atmosphere.
 - (b) No part of the plant or equipment or implement which was in contact with nitro or amino compounds shall be repaired, or handled unless they have been emptied and throughly cleaned and decontaminated.
 - (c) Filling of containers with nitro or amino compounds shall be done only by using a suitable scoop to avoid physical contact and the drying of the containers in the stove shall be done in such a manner that the hot and contaminated air from the stove is not drawn into the work room.
 - (d) Processes involving the steaming into or around any vessel containing nitro or amino compounds or its raw materials shall be carried out in such a manner that the steam or vapour is effectively prevented to be blown back into the working atmosphere.
 - (e) Suitable antidotes such as methylene blue injections shall always be available at designated places of work for use during emergency involving the poisoning with nitro or amino compounds.
- 2. Special precautions for processes carried out in glass vessels.
 - (a) Processes and chemical reactions such as manufacture of vinyl chloride, benzyl chloride etc. which are required to be carried out in glass vessels shall have suitable means like substantial wiremesh covering to protect persons

- working nearby in the event of breakage of glass vessel.
- (b) Any spillage or emission of vapour from the glass vessel due to breakage, shall be immediatly inactivated or rendered innocuous by suitable means such as dilution with water or suitable solvents so as to avoid the risks of fire or explosion or health hazards".
- 3. Special precautions for processess involving chlorate manufacture.
 - (a) Crystallisation, grinding or packing of chlorate shall not be done in a place used for any other purpose and such places shall have hard, smooth and impervious surface made of noncombustible material. The place shall be thoroughly cleaned daily.
 - (b) The personal protective equipment like overall etc. provided for the chlorate workers shall not be taken from the place of work and they shall be thoroughly cleaned daily.
 - (c) Adequate quantity of water shall be available near the place of chlorate process for use during fire emergency.
 - (d) Wooden vessels shall not be used for the crystallisation of chlorate or to contain crystallised ground chlorate.

PART VI

Medical Requirements

- 1. Decontamination facilities.—In all places where toxic substances are used in processes listed in Appendix 'A', the following shall be provided to meet an emergency;
 - (a) fully equipped first aid box;
 - (b) readily accessible means of drenching with water workers, parts of body of workers and clothing of workers who have been contaminated with such toxic and corrosive substances and such means shall be in the following scale:

No. of workers employed at any time		No. of drenching showers
Upto 50 workers	****	2
Between 51 to 100	•	3
101 to 200	****	3+1 for every 50 workers or part thereafter.
201 to 400	****	5+1 for every 100 workers or part thereafter.
401 and above		7+1 for every 200 workers or part thereafter.

- (c) a sufficient number of eye wash bottles filled with distilled water or suitable liquid, kept in boxes or cupboards conveniently situated and clearly indicated by a distinctive sign which shall be visible at all times.
- 2. Occupational Health Centre:—In all the factories carrying out processes covered in Appendix 'A' there shall be provided and maintained in good order an occupational Health Centre with facilities as per scale laid down hereunder:
 - (a) For factories employing upto 50 workers,—
 - (i) the services of a qualified medical practitioner hereinafter known as Factory Medical Officer, available on a retainership basis, in his notified clinic near the factory for seeking medical help during emergency and to carry out the pre-employment and periodical medical examination as stipulated in paragraph 4 of this Part;
 - (ii) a minimum of five persons trained in first aid procedures, amongst whom at least one shall always be available during the working period;
 - (iii) A fully equipped first aid box;
 - (b) For factories employing 51 to 200 workers,—
 - (i) the occupational Health Centre shall have a room having a minimum floor area of 15 sq. m. with floors and walls made of smooth, hard and impervious surface and shall be adequately illuminated, ventilated and equipped;
 - (ii) a part-time Factory Medical Officer shall be in over-all charge of the Centre who shall visit the Factory at least twice in a week and whose services shall be readily available during emergencies;
 - (iii) there shall be one qualified and trained dresser-cum-compounder on duty throughout the working period;
 - (iv) a fully equipped first-aid box.
 - (c) For factories employing above 200 workers.—
 - (i) there shall be one full-time Factory Medical Officer for factories employing upto 500 workers and one more medical officer for every 1000 workers or part thereof;
 - (ii) The Occupational Health Centre in this case shall have a minimum of 2 rooms each having a minimum floor area of 15 sq. m. with floors and walls made of smooth, hard and impervious surface and shall be adequately illuminated, ventilated and equipped;

- (iii) there shall be one trained nurse, one dressercum-compounder and one sweeper-cum-ward boy throughout the working period;
- (iv) the Occupational Health Centre in this case shall be suitably equipped to manage medical emergencies.

3. Ambulance Van:

- (a) In every factory carrying out processes covered in Appendix 'A', there shall be provided and maintained in good condition, a suitably constructed and fully equipped ambulance van as per Appendix 'C' manned by a full-time driver cum-mechanic and a helper, trained in first aid for the purposes of transporation of serious cases of accidents or sickness unless arrangements for procuring such facility at short notice during emergencies have been ensured with the nearby hospital or other places. The ambulance van shall not be used for any purpose other than the purpose stipulated herein and shall always be available near the Occupational Health Centre.
- (b) The relaxation to procure ambulance van from nearby places provided for in sub-paragraph (a), shall not be applicable to factories employing more than 500 workers.

4. Medical examination.

- (a) Workers employed in processes covered in Appendix 'A' shall be medically examined by a Factory Medical Officer in the following manner:
- (i) once before employment, to ascertain physical suitability of the person to do the particular job;
- (ii) once in a period of 6 months, to ascertain the health status of the workers: and
- (iii) the details of pre-employment and periodical medical examinations carried out as aforesaid shall be recorded in a register in Form No. 17.
- (b) Any finding of the Factory Medical Officer revealing any abnormality or unsuitability of any person employed in the process shall immediately be reported to the Certifying Surgeon, for his further examination of the concerned worker and communicating his findings within 30 days. If the Certifying Surgeon is of the opinion that the worker so examined is required to be suspended from the process for health protection, he shall direct the occupier accordingly, and the said worker shall not be

- employed in the same process. However, the person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case, the person affected shall be suitably rehabilitated: Provided that the Certifying Surgeon on his own, may examine any other worker whom he feels necessary to be examined for ascertaining the suitability of his employment in the process covered in Appendix 'A' or for ascertaining the health status of any other worker and his opinion shall be final.
- (e) No worker shall be newly appointed without the certificate of fitness in Form 25, granted by the Factory Medical Officer. If the Factory Medical Officer declares a person unfit for being appointed to work in the process covered in Appendix 'A', such worker shall have a right of appeal in this regard.
- (d) The worker suspended from the process owing to the circumstances covered in sub-paragraph (b), shall be employed again in the same process only after obtaining the fitness certificate from the Certifying Surgeon and after making entries to that effect in the health register in Form 17.

PART VII

Additional Welfare Amenities

1. Washing facilities.

- (a) There shall be provided and maintained in every factory for the use of all the workers taps for washing, at the rate of one tap for every 15 persons including liquid soap in a container with tilting arrangements and nail brushes or other suitable means for effective cleaning. Such facilities shall be conveniently accessible and shall be kept in a clean and hygienic condition.
- (b) If washing facilities as required above are provided for women, such facilities shall be separate for them and adequate privacy at all times shall be ensured in such facilities.

2. Mess room facilities.

(a) In every factory carrying out any process covered in Appendix 'A' and employing 50 workers or more, mess room facilities which are well ventilated and provided with tables and sitting facilities along with the provision

- of cold and hygienic drinking water shall be provided for use by the working in a shift.
- (b) Such facilities shall include suitable arrangements for cleaning and washing and shall be maintained in a clean and hygienic condition.

3. Cloak room facilities-

- (a) In every factory carrying out any process covered in Appendix 'A', cloak room facilities with lockers shall be provided for use by all the workers employed in the process. Each worker shall be provided with two lockers, one for work clothing and another separately for personal clothing and the lockers shall be such as to enable the keeping of the clothing in a hanging position.
- (b) The cloak room facilities so provided in pursuance of sub-paragraph (a) above, shall be located as far as possible near the facilities provided for washing in pursuance of sub-paragraph (a) of paragraph-1. If it is not possible to locate the cloak room near the washing facilities, then the cloak room facilities shall have adequate and suitable arrangements for cleaning and washing.

4. Special bathing facilities,

- (a) The occupier of any factory carrying out the process covered under Appendix 'B' shall provide special bathing facilities for all the workers employed and such facilities shall be provided at the rate of 1 for 25 works and part thereof, and shall be maintained in a clean and hygienic condition.
- (b) It shall be ensured that all the workers employed in the processes covered in Appendix 'B' take bath after the completion of the day's or shift work using the bathing facilities so provided and such of those workers taking bath in any place other than the bathing facilities shall be effectively prevented.
- (c) Notwithstanding anything contained in subparagraph (a) above, the Chief Inspector may require, in writing, the occupier of any factory carrying out any other process for which, in his opinion, bathing facilities are essential from the health point of view, to provide special bathing facilities.

PART VIII

Duties of Workers

- 1. Every worker employed in the processes covered in Appendix 'A' and 'B', shall not make any safety device or appliance or any guarding or fencing arrangement, inoperative or defective and shall report the defective condition of the aforesaid arrangements as soon as he is aware of any such defect.
- 2. Before commencing any work, all workers employed in processes covered in Appendix 'A' shall check their workplace as well as the machinery, equipment or appliance used in the processes and report any mal-function or defect immediately to the supervisor or any responsible person of the management.
- 3. All workers shall co-operative in all respects with the management while carrying out any work or any emergency duty assigned to them in pursuance of this Schedule and shall always use all the personal protective equipments issued to them in a careful manner.
- 4. All workers employed in the processes covered in Appendix 'A' or Appendix 'B', shall not smoke in the process area or storage area. If special facilities are provided by the management, only such facilities shall be availed of.
- 5. All workers employed in the processes covered in Appendix 'A', shall not remain in unauthorised place or carry out unauthorised work or improvise any arrangements or adopt short cut method or misuse any of the facilities provided in pursuance of the Schedule, in such a manner as to cause risk to themselves as well as to others employed.
- 6. The workers shall not refuse undergoing medical examination as required under these rules.

PART IX

Restrictions on the employment of young persons under 18 years of age and women

- 1. The Chief Inspector may, by an order in writing, restrict of prohibit the employment of women and young persons under the age of 18, in any of the process covered in Appendix 'A' of this Schedule on considerations of health and safety of women and young persons.
- Such persons who are restricted or prohibited from working in the process due to the order issued in pursuance of paragraph 1 above shall be provided with alternate work which shall not be detrimental to their health or safety.

PART X

Power of Exemptions

1. The State Government or, subject to the control of the State Government, the Chief Inspector may exempt from the compliance with any of the requirements of this Schedule partly or fully, any factory carrying out processes covered in Appendix 'A', if he is satisfied that the compliance with any of the requirements is not necessary to ensure the safety and health of workers employed and suitable and effective alternate arrangements are available to any of the requirements covered in this Schedule.

Appendix 'A'

Any works or that part of works in which-

- (a) the manufacture, manipulation or recovery of any of the following is carried on:—
 - (i) Sodium, Potassium, iron, aluminium, cobalt, nickel, copper, arsenic, antimony, chromium, zinc, Solenium, magnesium, cadmium, mercury, beryllium and the organic and inorganic salts, alloys, oxides and hydroxides;
- (ii) ammonia, ammonium hydroxide and salts of ammonium;
- (iii) The organic or inorganic compounds of sulphurous; sulphuric, nitric, nitrous, hydrochloric, hydrofluoric, hydroiodic, hydrosulphuric, hydrobromic, boric;
- (iv) Cyanogen compounds, cyanide compounds, cyanate compounds;
 - (v) Phosphorous and its compounds other than organo phosphorous insecticides;
- (vi) chlorine:
- (b) hydrogen sulphide is evolved by the decomposition of metallic sulphides, or hydrogen sulphide is used in the production of such sulphides;
- (c) bleaching powder is manufactured or chlorine gas is produced in chlor-alkali plants;
- (d) (i) gas tar or coal tar of bitumen or shall oil asphalt or any residue of such tar is distilled or is used in any process of chemicals manufacture;
 - (ii) tar based synthetic colouring matters or their intermediates are produced;
- (e) nitric acid is used in the manufacture of nitro compounds;

- (f) explosives are produced with the use of nitro compounds;
- (g) aliphatic or aromatic compounds or their metallic and non-metallic derivatives or substituted derivatives, such as chloroform, ethylene glycol, formaldehyde, benzyl chloride, phenol, methyl ethyl keytone peroxide, cobalt carbonyl, tungsten carbide etc. are manufactured or recovered.

Appendix 'B'

Concerning Special Bathing Accommodation in pursuance of paragraph 4 of Part VII.

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

Appendix 'C'

Ambulance -

Ambulance shall have the following equipments:—General—

An wheeled stretcher with folding and adjusting devices.

Head of the stretcher must be capable of being tilted upward.

Fixed suction unit with equipments.

Fixed oxygen supply with equipments.

Pillow with case.

Sheets.

Blankets.

Towels.

Emesis bag.

Bed Pan.

Urinal.

Glass.

Safety equipment—

Flares with life of 30 minutes.

Flood lights.

Flash lights.

Fire extinguisher dry powder type.

Insulated gauntlets.

Emergency care equipments:

Resuscitation-

Portable suction unit.

Portable oxygen unit.

Bag-valve-mask, hand operated artificial ventilation unit.

Airways.

Mouth gags.

Tracheostomy adaptors.

Short spine board.

I.V. Fluids with administration unit.

B.P. manometer.

Cugg.

Stehhoscope.

Immobilization-

Long and short padded boards.

Wire ladder splints.

Triangular bandage.

Long and short spine boards.

Dressings-

Gauze pads $-10 \text{ cm.} \times 10 \text{ cm.}$

Universal dressing-25 cm. × 90 cm.

Roll of aluminium foils.

Soft roller bandages 15 cm. × 4.5 M.

Adhesive tape in 7.5 roll.

Safety pins.

Bandage sheets.

Burn sheet.

Poisoning-

Syrup of Ipecac.

Prepacketed in doses

Activated Charcoal.

Snake bite kit.

Drinking water.

Emergency Medicines-

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

- (P) in Schedule XX.—
 - (i) in paragraph 3, after clause (a), insert the following clause:—
 - "(aa) Use of benzene and substances containing benzene shall be prohibited in the following processes:—
 - (i) Manufacture of varnishes, paints and thinners; and
 - (ii) cleaning and degreasing operation.";

- (ii) in clauses (b) and (c) of paragraph 4, for the figures, words and letters "25 parts per million" and "80 mg/m3" substitute the figures, words and letters "10 parts per million" and "30 mg/m3" respectively.
- (iii) for paragraph 13, substitute the following paragraphs:—
- "13. Medical facilities and records of examinations and tests.—
 - (a) The occupier of every factory to which this Schedule applies shall—
 - (i) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector; and
 - (ii) provide to the said medical practitioner all the necessary facilities for the purpose referred to in sub-clause (i).
 - (b) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector, which shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- "14. Medical examination by the Certifying Surgeon :-
 - (a) Every worker employed in process mentioned in paragraph 1, shall be produced for examination by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for detection of phenol in urine and determination of urinary sulphide ratio and C.N.S. and haemotological tests. No worker shall be allowed or required to work after 15 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 process shall be produced for re-examination by the Certifying Surgeon at least once in every twelve calendar months and such examinations shall, wherever the Certifying Surgeon considers appropriate, include all the tests specified in clause (a). Every worker shall also be examined once in every three calendar months by the medical practitioner as employed under Sub-clause (i) of clause (a) paragraph 13.
 - (c) 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 clauses (a) and (b), including the nature and the results of these tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
- (d) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- (e) 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 may 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 shall also include the period for which he considers that the said worker is unfit to work in the said process. The worker so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the worker affected shall be suitably rehabilitated.
- (f) No person who has been found unfit to work as mentioned in clause (e), shall be allowed or required to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes."—
- (Q) in Schedule XXII, for paragraph 12, substitute the following paragraphs:—
- "12. Medical facilities and records of examinations and tests.—
 - (a) The occupier of every factory to which this Schedule applies, shall—
 - (i) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector; and
 - (ii) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (i).

- (b) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector, which shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- 12A. Medical examination by Certifying Surgeon.—
 - (a) Every worker employed in any mangenese process shall be produced for examination by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for detection of serum calcium, serum phosphate and manganese in blood and urine and also include stediness tests and other neuro-muscular co-ordination tests. No worker shall be allowed or required to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
 - (b) Every worker employed in a manganese process shall be produced for re-examination by a Certifying Surgeon at least once in every three calendar months and such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests in subparagraph (a).
 - (c) 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 (a) and (b) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon, in a health register in Form 17.
 - (d) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector at all times during working of the factory.
 - (e) If, at any time, the Certifying Surgeon is of the opinion that the worker is no longer fit for employment in the said process on the ground that continuance therein may 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 shall also include the period for which he considers that the said worker is unfit to work in the said process. The worker so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the worker affected shall be suitably rehabilitated.

- (f) No worker who has been found unfit to work as mentioned in sub-paragraph (e), shall be allowed or required to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes."
- (R) in Schedule XXIII
 - (i) in paragraph 2, delete clause (e); and
 - (ii) for paragraphs 18 and 19, substitute the following paragraphs:—
- "18. Medical facilities and records of examinations and tests:—
 - (a) The occupier of every factory to which this Schedule applies, shall—
 - (i) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector; and
 - (ii) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (i).
 - (b) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector, which shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- 19. Medical examination by Certifying Surgeon. :-
- (a) Every worker employed in the processes mentioned in paragraph 1, shall be produced for examination by the Certifying Surgeon within 15 days of his first employment. Such examination in respect of Halogenated Pesticides, shall include tests for determination of the chemical in blood and in fat tissues, EEG abnormalities and memory tests. In respect of organo phosphorous compounds, such examinations shall include test for depression of cholinesterase in plasma and red blood-cells. No

- worker shall be allowed or required to work after 15 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 produced for re-examination by a Certifying Surgeon at least once in every six calendar months. Such examination shall, wherever the Certifying Surgeon considers appropriate, include the tests specified in sub-paragraph (a). Every worker employed in the said processes shall also be examined once in every three months by the medical practitioner employed under subclause (i) of clause (a) of Paragraph 18.
- (c) 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 which shall be kept in the custody of the Manager of the factory. The record of each examination carried out under sub-paragraphs (a) and (b), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
- (d) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- (e) 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 may involve special danger to the Health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in these documents shall also include the period for which he considers that the said worker is unfit to work in the processes. The worker so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the worker affected shall be suitably rehabilitated.
- (f) No worker who has been found unfit to work as said in sub-paragraph (e), shall be allowed or required to work in the said process unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes ..."

- (S) in Schedule XXIV, for paragraphs 18 and 19, substitute the following paragraphs:—
- "18. Medical facilities and records of examinations and tests.—
 - (a) The occupier of every factory to which this Schedule applies shall—
 - (i) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector; and
 - (ii) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (i).
 - (b) The record of medical examinations and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector, which shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- 19. Medical examination by the Certifying Surgeon,-
- (a) Every worker employed in the said processes shall be produced for examination by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for detection of methemoglobin in blood (Haematological tests), paranitrophenol inurine, pulmonary function tests and CNS tests. No worker shall be allowed or required to work after 15 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 produced for re-examination by a Certifying Surgeon at least once in every six calendar months and such re-examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests specified in sub-paragraph (a).
- (c) 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 which shall be kept in the custody of the Manager of the factory. The record of each examination carried out under sub-paragraphs (a) and (b), including nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

- (d) The certificates of fitness and the health register shall be kept readily available for inspection by the Inspector, at all times during working of the factory.
- (e) 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 may 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 shall also include the period for which he considers that the said worker is unfit to work in the said processes. The worker so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated it the opinion of the Certifying Surgeon. in which case the worker affected shall be suitably rehabilitated.
- (f) No worker who has been found unfit to work as mentioned in sub-paragraph (e), shall be allowed or required to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes";
- (T) in Schedule XXV.
 - (i) in paragraph 18, in sub-paragraph (2), after the words "by the Inspectors.". insert the words "at all times during working of the factory.";
 - (ii) paragraph 19,-
 - (a) in sub-paragraph (1), for the words "shall be examined", substitute the words "shall be produced for examination";
 - (b) in sub-paragraph (2), for the words "shall be re-examined", substitute the words "shall be produced for re examination";
 - (c) in sub-paragraph (4), after the words "by the Inspector", insert the words "at all times during working of the factory";
 - (d) in sub-paragraph (5), for the words "should also include", substitute the words "shall also include" and for the words "said person", substitute the words "the said worker";
 - (e) in sub-paragraph (6) for word "person" substitute the word "worker" and for the words "re-employed or permitted" substitute the words "allowed or required"; and add the following at the end "The worker so suspended from the

process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the worker affected shall be suitably rehabilitated."

- (iii) in paragraph 20, for the words "a certificate", substitute the words "an order".
- (U) after Schedule XXV, add the following schedules:

SCHEDULE XXVI

Manipulation of stone or any other material containing Free Silica.

- 1. Application.—This Schedule shall apply to all factories or parts of factories in which manipulation of stone or any other material containing free silica is carried on.
- 2. Definition.—For the purpose of this Schedule—
 - (a) "manipulation" means crushing, breaking, chipping, dressing, grinding, seiving, mixing, granding or handling of stone or any other material containing free silica or any other operation involving such stone materials;
 - (b) "stone or any other material containing free silica" means a stone or any other solid material containing not less than 5% by weight of free silica.
- 3. Precautions in manipulation.—No manipulation shall be carried out in a factory or part of a factory unless one or more of the following measures, namely—
 - (a) damping the stone or other material being processes;
 - (b) providing water supply;
 - (c) enclosing the process;
 - (d) isolating the process; and
 - (e) providing localised exhaust ventilation; are adopted so as to effectively control the dust in working environment in any place in the factory where any worker is employed, at a level equal to or below the maximum permissible level for silica dust as laid down in the Second Schedule appended to Section 41F of the Act: Provided that such measures as above mentioned may not be necessary when the process or operation itself is such that the level of dust created and prevailing does not exceed the permissible level referred to.
- 4. Maintenance of floors.—
 - (a) All floors of places where fine dust is likely to settle on and whereon any person has to work

- or pass shall be of impervious material and maintained in such condition that they can be thoroughly cleaned by a moist method or any other method which would prevent such dust being airborne in the process of cleaning.
- (b) The surface of every floor of every work-room or place where any work is carried on or where any person has to pass during the course of his work, shall be cleaned of dust at least once during each shift either by a moist method or by any other suitable method so as to prevent dust being airborne in the process of cleaning.
- 5. Prohibition relating young persons.—No young person shall be employed or permitted to work in any of the operational works involving manipulation or at any place where such operations are carried on.
- 6. Medical facilities and records of examinations and tests.
 - (a) The occupier of every factory to which this Schedule applies, shall
 - (i) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector; and
 - (ii) provide to the said medical practitioner all the necessary facilities for the purpose referred to clause (i).
 - (b) The record of medical examination and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector, which shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- 7. Medical examination by Certifying Surgeon.—
 - (a) Every worker employed in the processes specified in paragraph I shall be produced for examination by a Certifying Surgeon within 15 days of his first employment. Such medical examination shall include pulmonary function tests and chest X-ray. No worker shall be allowed or required to work after 15 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 produced for re-examination by a Certifying Surgeon at least once in every twelve

months. Such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests as specified in sub-paragraph (a) except chest X-ray which shall be once in 3 years.

- (c) 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 certificates shall be kept in the custody of the Manager of the factory. The record of each examination carried on under sub-paragraphs (a) and (b), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
- (d) The Certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- (f) 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 may 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 shall also include the period for which he considers that the said worker is unfit for work in the said The worker so suspended from processes. the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the worker affected shall be suitably rehabilitated.
- (f) No worker who has been found unfit to work as mentioned in sub-paragraph (e) shall be allowed or required to work in the said processes unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.
- 8. Exemption.—If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this Schedule is not necessary for protection of the workers in the factory, the Chief Inspector may, by an order in writing, which he may in his discretion revoke at any time, exempt such factory

from all or any of such provisions subject to such conditions, if any, as he may specify therein.

SCHEDULE XXVII

Manufacture, handling or manipulation of corrosive substances.

- 1. Definitions.—For the purposes of this Schedule,—
 - (a) "corrosive operation" means an operation of manufacturing, storing, handling, processing, packing, or using any corrosive substance in a factory; and
 - (b) "corrosive substance" includes sulphuric acid, nitric acid, hydrochloric acid, hydrofluoric acid, carbolic acid, phosphoric acid, liquid chlorine, liquid bromine, ammonia, sodium hydroxide and potassium hydroxide and a mixture thereof, and any other substance which the State Government may, by notification in the Offlicial Gazette, specify to be a corrosive substance.
- 2. Flooring.—The floor of every workroom of a factory in which corrosive operation is carried on shall be made of impervious, corrosion and fire resistant material and shall be so constructed as to prevent collection of any corrosive substance at any place. The surface of such flooring shall be smooth and cleaned as often as necessary and maintained in a sound condition.
- 3. Protective equipment.—
 - (a) The occupier shall provide for the use of all persons, employed in any corrosive operation, suitable protective wear for hands and feet, suitable aprons, face shields, chemical safety goggles, and respirators. The equipments shall be maintained in good order and shall be kept in clean and hygienic condition by suitably treating to get rid of the ill effects of any absorbed chemicals and by disinfecting. The occupier shall also provide suitable protective creams and other preparations wherever necessary.
 - (b) The protective equipment and preparations provided shall be used by the persons employed in any corrosive operation.
- 4. Water facilities.—Where any corrosive operation is carried on, there shall be provided as close to the place of such operation as possible, a source of clean water at a height of 210 centimeters from a pipe of 1-25 centimeters diameter and fitted with a quick active valve so that in case

of any part of the body of a worker coming in contact with any corrossive substance, the part can be thoroughly flooded with water. Whenever necessary, in order to ensure continuous supply, a storage tank having a minimum length, breadth and height of 210 centimeters, 120 centimeters and 60 centimeters, respectively or of such dimensions as are approved by the Chief Inspector, shall be provided as the source of clean water.

5. Cautionary notice.—Cautionary notice in the following form and printed in the language understood by majority of the workers employed, shall be displayed prominently close to the place where a corrosive operation is carried out and where it can be easily and conveniently read by the workers. If any worker is illiterate, effective steps shall be taken to explain carefully to him the contents of the notice so displayed.

CAUTIONARY NOTICE DANGER

Corrosive substances cause severe burns and vapours thereof may be extremely hazardous. In case of contact, immediately flood the part affected with plenty of water for at least 15 minutes.

Get medical attention quickly.

6. Transport.—

- (a) Corrosive substances shall not be filled, moved or carried except in containers or through pipes and when they are to be transported in containers they shall be placed in creates of sound construction and of sufficient strenght.
- (b) For a container with a capacity of 11-5 litres or more of a corrosive substance provision shall be made to place it in a receptacle or crate and then carried by more than one person at a height below the waist line unless a suitable rubber wheeled truck is provided for the purpose.
- (c) Containers for corrosive substances shall be plainly labelled.
- 7. Devices for handling corrosives.—
 - (a) Suitable tilting, lifting or pumping arrangements shall be provided for emptying jars, carboys and other containers of corrosives.
 - (b) Corrosive substance shall not be permitted to be handled by bare hands but by means of a suitable scoop or othe device.
- 8. Opening of valves.—valves fitted to containers holding a corrosive substance shall be opened with

great care. If they do not work freely, they shall not be forced open. They shall be opened by a worker suitably trained for the purpose.

9. Cleaning tanks, stills etc.—

- (a) In cleaning out of removing residues from stills or other large chambers used for holding any corrosive substance, suitable implements made of wood or other material shall be provided for use to prevent production of arseniuretted hydrogen (arsine).
- (b) whenever it is necessary for the purpose of cleaning or other maintenance work for any worker to enter a chamber, tank, vat, pit or other confined space where a corrosive substance had been stored, all possible precautions required under section 36 of the Act shall be taken to ensure the worker's safety.
- (c) Wherever possible, before repairs are undertaken to any part of equipment in which a corrosive substance was handled, provision shall be made to make such equipment or part thereof free of any adhering corrosive substance by adopting suitable methods.

10. Storage.—

- (a) Corrosive substances shall not be permitted to be stored in the same room with other chemicals, such as turpentine, carbides, metallic powders and combustible materials, to prevent accidental mixing with so as to cause a reaction resulting formation of toxic fumes and gas and affecting the workers therein or nearby.
- (b) Pumping or filling overhead tanks, receptacles, vats or other containers for storing corrosive substances shall be so arranged as to prevent possibility of any corrosive substance over-flowing and causing injury to any person.
- (c) Every container having a capacity of twenty litres or more and every pipeline, valve and fitting used for storing of corrosive substances shall be thoroughly examined every year for finding out any defect and, defects so found out, shall be removed forthwith. A register shall be maintained of every such examination made and shall be produced before the Inspector at all times during working of the factory.
- 11. Fire extinguishers and fire fighting equipment.—

 An adequate number of suitable type of fire extinguishers or other fire fighting equipment,

- depending on the nature of chemicals stored, shall be provided. Such extinguishers or other equipment shall be regularly tested and refilled. Clear instructions as to how the extinguishers or other equipment are to be used, printed in the language understood by majority of the workers employed, shall be affixed near each extinguisher or other equipment.
- 12. Exemption.—If, in respect of any factory, on an application made by the manager, the Chief Inspector is satisfied that owing to the exceptional circumstances, or the infrequency of the process or for any other reasons, to be recorded by him in writing, all or any of the provisions of this schedule are not necessary for the protection of the persons employed therein, he may by an order in writing, which he may at any time revoke, exempt the factory from such of the provisions and subject to such conditions as he may specify therein.

SCHEDULE XXVIII

Manufacturing process or operations in carbon disulphide plants.

- 1. Application.—This Schedule shall apply to all electric furnaces in which carbon disulphide is generated and all other plants where carbon disulphide after generation, is condensed, refined and stored in a factory or part of a factory. This Schedule shall be in addition to and not in derogation of any of the provisions of the Act and the rules made thereunder.
- 2. Construction, installation and operation.—
 - (a) The buildings in which electric furnaces are installed and carbon disulphide after generation is condensed and refined shall be segregated from other parts of the factory and shall be of open type to ensure optimum ventilation and the plant layout shall be such as to expose a minimum number of workers to the risk of any fire or explosion at any one time.
 - (b) Every electric furnace and every plant in which carbon disulphide is condensed, refined and stored with all their fittings and attachments shall be of good condition, sound material and of adequate strengh to sustain the internal pressure to which the furnace or the plant may be subjected and shall be so designed that carbon disulphide, liquid and gas are contained in closed system during their normal working.

- (c) Supports of an electric furnace generating carbon disulphide shall be firmly grouted about 60 centimeters in concrete or by other effective means.
- (d) Every electric furnace shall be installed and operated according to manufacturers' instructions and such instructions shall be clearly imparted to the personnel in charge of construction and operation.
- (e) The instructions regarding observance of correct furnace temperature, sulphur dose, admissible current or power consumption and periodical checking of charcoal level shall be strictly complied with.

3. Electrodes.-

- (a) Where upper rind electrodes made of steel are used in the electric furnace, they shall be of seamless tube construction and shall have arrangement for being connected to cooling water system through a siphon built in the electrodes or through a positive pressure water-pump.
- (b) The arrangement for cooling water referred to in sub-paragraph (a), shall be connected with automatic alarm system so as to actuate in the event of interruption of cooling water in the electrodes and give visible and audible alarm signals in the control room and simultaneously stop power supply for the furnace operation as also further supply of water. The alarm system and the actuating device shall be checked everyday.
- 4. Maintenance of charcoal level.—When any electric furnace is in operation, it shall be ensured that the electrodes are always kept covered with charcoal bed.
- 5. Charcoal separator:—A charcoal-separator of cyclone type shall be fitted on the off-take pipe between the electric furnace and sulphur separator to prevent entry of pieces of charcoal into the condensers and piping.
- 6. Rupture discs and safety seal. -
 - (a) At least two rupture discs of adequate size as to be blown off at a pressure twice the maximum operating pressure shall be provided on each furnace and shall either be mounted directly on the top of the furnace or each through an independent pipe as close as possible to the furnace.

- (b) A safety water seal shall be provided and tapped from a point between the charcoal separator and the sulphur separator.
- 7. Pyrometer and manometers.
 - (a) Each electric furnance shall be fitted with adequate number of pyrometers to give an indication of the temperature as correctly as reasonably practicable at various points in the furnance. The dials for reading the temperatures shall be located in the control room.
 - (b) Manometers or any other suitable devices shall be provided for indicating pressure—
 - (i) in the off-take pipe before and after the sulphur separator, and
 - (ii) in primary and secondary condensers,
- 8. Check Valves. All pipings carrying carbon disulphide shall be fitted with check valves at suitable positions so as to prevent gas from flowing back into any electric furnace in the event of its shut down.
- 9: Inspection and maintenance of electric furnaces.
 - (a) Every electric furnace shall be inspected internally by a competent person before being placed in service after—
 - (i) installation;
 - (ii) reconstruction or repairs, and
 - (iii) every time the furnace is opened for cleaning or de-ashing or for replacing electrodes.
 - (b) When an electric furnace is shut down for cleaning or de-ashing,
 - (i) the brick lining shall be checked for continuity and any part found defective removed;
 - (ii) after removal of any part of the lining referred to in clause (i), the condition of the shell shall be closely inpected; and
 - (iii) any of the plates of the shell found corroded to the extent that safety of the furnace is endangered shall be replaced.
- 10. Maintenance of records.
 - (a) The following hourly records shall be maintained in a log book:—
 - (i) Manometer readings at the points specified in clause (b) sub-paragraph 7.
 - (ii) Gas temperature indicated by pyrometers and all other vital points near the sulphur separator and primary and secondary condensers.

- (iii) Water temperature and flow of water through the siphon in the electrodes.
- (iv) Primary and secondary voltages and current and energy consumed.
- (b) The log book shall be checked and signed by a responsible officer and always be readily available to the Inspector at all times during working of the factory.
- 11. Electrical apparatus, wiring and fittings. All buildings in which carbon disulphide is refined or stored shall be provided with electrical apparatus, wiring and fittings so as to afford adequate protection from fire and explosion.
- 12. Prohibition relating to Smoking:—No person shall be permitted to smoke or carry matches, fire or naked light or other means of producing a naked light or spark in buildings in which carbon disulphide is refined or stored, and a notice in the language understood by a majority of the workers shall be posted in the plant prohibiting smoking and carrying of matches, fire or naked light or other means producing naked light or spark into such 100ms.
- be provided and maintained to enable persons to move to a safe place as quickly as possible in case of an emergency. At least two independent staircases of adequate width shall be provided in every building, housing the furnaces at reasonable intervals at opposite ends. The means of escape shall always be kept clear of all obstructions and so designed as to afford easy escape.
- 14. Warnings in case of fire:—There shall be adequate arrangements for giving warnings in case of fire or explosion, and the same shall operate on electricity and in case of failure of electricity, by some effective mechanical means.
- 15. Fire-fighting equipments.
 - (a) Adequate number of suitable fire extinguishers or other fire-fighting equipments shall be kept in constant readiness for dealing with risks involved and depending on the amount and nature of materials stored.
 - (b) Clear instructions as to how the extinguishers or other equipments are to be used, printed in the language understood by a majority of the workers employed, shall be affixed to each extinguishers or other equipment and the personnel, trained in their use.

16. Bulk sulphur:

- (a) Open or semi-enclosed spaces for storage of bulk sulphur shall be sited with due regard to the dangers which may arise from sparks given off by nearby locomotives etc., and precautions shall be taken to ensure that flames, smoking and matches and other sources of ignition may not come in contact with the clouds of dust 21. arising during handling of bulk sulphur.
- (b) All enclosures for bulk sulphur shall be of noncombustible construction, adequately ventilated and so designed as to provide a minimum of ledges on which dust may lodge.
- (c) The bulk storage of sulphur in the enclosures shall be handled in such a manner as to minimise the formation of dust clouds and flame, smoking and matches or other sources of ignition shall be avoided during handling, and non-sparking tools shall be used whenever sulphur is shovelled or otherwise removed by hand.
- (d) No repairs involving flames, heat or use of hand or power tools shall be permitted in the enclosure where bulk sulphur is stored.
- 17. Liquid sulphur:—Open flames, electric sparks and other sources of ignition, including smoking and matches, shall be excluded from and prohibited in the vicinity of molten sulphur.
- 18. Training and supervision.
 - (a) All electric furnaces and all plants in which carbon disulphide is condensed, refined or stored shall be under adequate supervision at all times while the furnaces and plant are in operation.
 - (b) Every worker employed for operation and maintenance of electric furnaces and the plants shall be properly qualified and adequately trained before permitting to undertake such work.
- 19. Prohibition of employment of women and young persons. No women or young persons shall be employed or permitted to work in any of the plants to which this Schedule applies.
- 20. Washing facilities:—The occupier shall provide and maintain in a clean state and in good repair, for the use of all persons employed, wash-places

under cover at the scale of one tap or stand-pipe having a constant supply of clean water for every five such persons. The taps or stand-pipes shall be spaced not less than 120 centimetres apart and provided with a sufficient supply of soap, said brushes and clean towels, provided that the towers shall be supplied individually to each worker.

21. Personal protective equipment:—

- (a) Suitable goggles and protective clothing consisting of overalls without pockets, gloves and foot-wear shall be provided for the use of operatives.
- (i) when operating valves or cocks controlling fluids etc.;
- (ii) drawing off a molten sulphur from sulphur pits; and
- (iii) handling charcoal or sulphur.
 - (b) Suitable respiratory protective equipment shall be provided and stored in the appropriate place for use during abnormal conditions or in an emergency.
 - (c) Arrangements shall be provided for proper and efficient cleaning of all such protective equipment.
- Cloak rooms:—There shall be provided and maintained for the use of all persons employed in the processes, a suitable cloak room for clothing put off during work hours and a suitable place separate from the cloak-room for the storage of overalls or working clothes. The accommodation so provided shall be placed in the charge of a responsible person and shall be kept clean.
- 23. Unauthorised persons:—Only maintenance and repair personnel, persons directly connected with the plant operation and those accompanied by authorised persons shall be admitted into the plant.

SCHEDULE-XXIX

Operations involving High Noise Level

- 1. Application. This Schedule shall apply to all operations in any manufacturing process having high noise level.
- 2. Definitions. For the purpose of this Schedule,—
 - (i) "noise" means any unwanted sound;
 - (ii) "high noise level" means any noise level when measured on the A-weighted scale reads 90 dB or above;

- (iii) "decibel" means one-tenth of "Bel" which is the fundamental division of a logarithmic scale used to express the ratio of two specified or implied quantities, the number of "Bels" denoting such a ratio being the logarithm to the base of 10 of this ratio. The noise level (or the sound pressure level) corresponds to a reference pressure of 20 × 10 newtons per square meter or 0.0002 dynes per square centimeter which is the threshold of hearing, that is, the lowest sound pressure level necessary to produce the sensation of hearing in average healthy listeners. The decibel in abbreviated form is dB.;
- (iv) "frequency" is the rate of pressure variations expressed in cycles per second or hertz;
- (v) "dBA" refers to sound level in decibels as measured on a sound level meter operating on the A-weighting net work with slow meter response; and
- (vi) "A-weighting" means making grade adjustments in the intensities of sound of various frequencies for the purpose of noise measurement, so that the sound pressure level measured by an instrument reflects the actual response of the human ear to the sound measured.

3. Protection against noise:

(a) In every factory, suitable engineering control or administrative measures shall be taken to ensure, so far as is reasonably practicable, that no worker is exposed to cound levels exceeding the maximum permissible noise exposure levels specified in Tables 1 and 2, annexed hereto.

TABLE—1

Permissible exposure in cases of continuous noise.

Total time of exposure (continuous or a number of short term exposures) per day, in hours.	Sound pressure in DBA	level
8	90	
6	92	
4	95	
3	97	
2	100	
$1\frac{1}{2}$	102	
<u>ī</u> ·	105	
3/4	107	
· · · · · · · · · · · · · · · · · · ·	110	
1 6	115	

- Note: (1) No exposure in excess of 115 dBA is permitted.
 - (2) For any period of exposure falling in between any figure and the next higher or lower figure as indicated in column 1, the permissible sound pressure level is to be determined by extrapolation on a proportionate basis.

TABLE—2

Permissible exposure levels of Impulsive or impact noise.

Peak sound pressure level in dB	Permitted number of impulses of impact per day.
140	100
135	315
130	1000
125	3160
120	10000

- Note: (1) No exposure in excess of 140 dB peak sound pressure level is permitted.
 - (2) For any peak sound pressure level falling in between any figure and the next higher or lower figure as indicated in column 1, the permitted number of impulses or impacts per day is to be determined by extrapolation on a proportionate basis.
 - (b) For the purposes of this Schedule, if the variations in the noise level involve maximum at intervals of one second or less, the noise shall be considered as a continuous one and the criteria given in Table 1 shall apply. In other cases, the noise shall be considered as impulsive or impact noise and the criteria given in Table 2 shall apply.
 - (c) When the daily noise exposure is composed of two or more periods of noise exposure at different levels their combined effect shall be considered, rather that the individual effect of each. The mix exposure shall be considered to exceed the limit value if the sum of the fractions C1+C2+...+...Cn
 T1 T2 Tn exceedsUnity, where the C1, C2, etc. indicate the total time of actual exposure at a specified noise level and T1, T2, etc. denote the time of exposure permissible at that level. Noise exposure of less than 90 dBA may be ignored in the above calculation.

- (d) Where it may not be possible to reduce the noise exposure to the levels specified in clause (a) by reasonably practicable engineering control or administrative measures, the noise exposure shall be reduced to the greatest extent feasible by such other control measures, and each worker so exposed shall be provided with suitable ear protectors so as to reduce the exposure to noise to the levels specified in clause (a).
- (e) Where the ear protectors provided in accordance with clause (d) and worn by a workers cannot still attenuate the noise reaching near his ear, as determined by substracting the attenuating value in dBA of the ear protectors concerned from the measures sound pressure level, to a level permissible as specified in Table 1 or Table 2, as the case may be, the noise exposure period snall be suitably reduced to correspond to the permissible noise exposures specified in clause (a).
- (f) (i) In all cases where the prevailing sound levels exceed the permissible levels specified in clause (a), there shall be administered an effective hearing conservation programme which shall include among other hearing conservation measures, pre-employment and periodical auditory surveys conducted on workers exposed to noise exceeding the permissible levels and rehabilitation of such workers either by reducing the exposure to the noise levels or by transferring them to places where noise levels are relatively less or by any other suitable means.
 - (ii) Every worker employed in areas, where the noise exceeds the maximum permissible exposure levels specified in clause (a), shall be subjected to an auditory examination by a Certifying Surgeon within 15 days of his first employment and thereafter, shall be re-examined at least once in every 12 months. Such initial and periodical examinations shall include tests which the Certifying Surgeon may consider appropriate and shall include determination of auditory thresholds for pure tones of 125, 250, 500, 1000, 2000, 4000 and 8000 cycles per second.

SCHEDULE -XXX

Manufacture, handling, manipulation, storage of and operations using highly flammable liquids and flammable compressed gases.

- 1. Application:—This Schedule shall be applicable to all factories or part of factories where highly flammable liquid or flammable compressed gas is manufactured, stored, handled or used.
- 2. Definition:—For the purpose of this Schedule—
- (i) "highly flammable liquids" means any liquid including its solution emulsion or suspension which when tested in a manner specified by sections 14 and 15 of the Petroleum Act, 1934 (30 of 1934), gives off flammable vapours at a temperature less than 32 degrees centigrade; and
- (ii) "flammable compressed gas" means flammable compressed gas as defined in Section 2 of the Static and Mobile Pressure Vessels (Unfired) Rules, 1981 frammed under the Explosives Act, 1884.

3. Storage:

- (a) Every flammable liquid or flammable compressed gas used in every factory shall be stored in suitable fixed storage tank, or in suitable closed vessel located in a safe position under the ground, in the open or in a store room of adequate fire resistant construction.
- (b) Except as necessary for use, operation or maintenance, every vessel or tank which contains or had contained a highly flammable liquid or flammable compressed gas shall be always kept closed and all reasonable practicable steps shall be taken to contain or immediately drain off to a suitable container any spill or leak that may occur.
- (c) Every container, vessel, tank, cylinder, or store room used for storing highly flammable liquid or flammable compressed gas shall be clearly and in bold letters marked "Danger-Highly Flammable Liquid" or "Danger-Flammable Compressed Gas" in one or more languages understood by a majority of persons employed.
- 4. Enclosed systems for conveying highly flammable liquids:—
 - (a) Wherever it is reasonably practicable, highly flammable liquids shall be conveyed within a factory in totally enclosed systems consisting of pipe lines, pumps and similar appliances from the storage tank or vessel to the point of use. Such enclosed systems shall be so designed

installed, operated and maintained as to avoid leakage or the risk of spilling.

(b) Wherever there is a possibility for leakage or spill of highly flammable liquid or flammable compressed gas from an equipment, pipeline, joint or other part of a system, all practicable measures shall be taken to contain, drain off or dilute such spills or leakage as to prevent formation of flammable or explosive mixture with air.

5. Prevention of ignition.

- (a) In every room, work place or other location where highly flammable liquid or flammable compressed gas is stored, conveyed, handled or used or where there is danger of fire or explosion from accumulation of such highly flammable liquid or flammable compressed gas in air, all practicable measures shall be taken to exclude the source of ignition. Such precautions shall include the following:—
- (i) 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 prevant the danger of their being a source of ignition;
- (ii) effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;
- (iii) no person shall wear or be allowed to wear any foot wear having iron or steel nails or any other exposed ferrous materials which may cause sparks by friction;
- (iv) smoking, lighting or carrying of matches, fire or lighters or other means of producing a naked light or spark shall be prohibited;
- (v) transmission belts with iron fasteners shall not be used; and
- (vi) all other precautions, as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks, overheated surfaces of machinery or plants, chemical or physical-chemical reaction and radiant heat.
- 6. Fire fighting. In every factory where highly flammable liquid or flammable compressed gas is manufactured, stored, handled or used, appropriate and adequate means of fighting a fire at such sources shall be provided. The adequacy and suitability of such means, which expression include

the fixed and portable fire extinguishing systems, extinguishing materials, procedures and the process of fire fighting, shall be to the standards and levels prescribed by the Indian Standards applicable, and in any case not inferior to the stipulations under rule 62.

Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this Schedule is not necessary for protection of the workers in the factory, the Chief Inspector may by an order, in writing which he may at his disceration revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

SCHEDULE —XXXI Operation in foundaries

- 1. Application. Provisions of this Schedule shall apply to all parts of factories where any of the following operations or processes are carried on:—
 - (a) The production of iron castings or steel castings by casting in moulds made of sand, loam, moulding composition or other mixture of materials, or by shell moulding, or by centrifugal casting and any process incidental to such production.
 - (b) The production of non-ferrous castings by casting metal in moulds made of sand, loam, metal, moulding composition or other material or mixture of materials, or by shell mouldings, die-casting (including pressure die-casting), centrifugal casting or continuous casting and any process incidental to such production.
 - (c) The melting and casting of non-ferrous metal for the production of ingots, billets, slabs or other similar products, and the stripping thereof, but shall not apply with respect to—
 - (i) any process in respect of the smelting and manufacture of lead and the Electric Accumulators; or
 - (ii) any process for the purposes of printing works; or
 - (iii) any smelting process in which metal is obtained by a reducing operation or any process incidental to such operation; or

- (iv) the production of steel in the form of ingots; or
 - (v) any process in the course of the manufacture of solder or any process incidental to such manufacture; or
- (vi) the melting and casting of lead or any leadbased alloy for the production of ingots, billets, slabs or other similar products or the stripping thereof, or any process incidental to such melting, casting or stripping.
- 2. Definition. For the purpose of this schedule,—
 - (a) "approved respirator" means a respirator of a type approved by the Chief Inspector;
 - (b) "cupola or furnace" includes receiver a associated therewith;
 - (c) "dressing or fettling operations" include stripping and other removal of adherent sand, cores, runners, risers, flash and other surplus metal from a casting and the production of reasonably clean and smooth surface, but does not include—
 - (i) the removal of metal from a casting when performed incidentally in connection with the machining or assembling of castings after they have been dressed or fettled; or
 - (ii) any operation which is a knock-out operations within the meaning of this Schedule;
 - (d) "foundry" means those parts of a factory in which the production of iron or steel or nonferrous castings (not being the production of pig iron or the production of steel in the form of ingots) is carried on by casting in moulds made of sand, loam, moulding composition or other mixture of materials, or by shell moulding or by centrifugal casting in metal moulds lined with sand, or die casting including pressure die castings, together with any part of the factory in which any of the following process are carried on as incidental process in connection with and in the course of, used in foundry process, the preparation and mixing of materials used in foundry process, the preparation of moulds and cores, knock out operations and dressing or fettling operations;
 - (e) "knock-out operations" mean all methods of removing castings from moulds and the following operations, when done in connection

- therewith, namely, stripping, coring-out and the removal of runners and risers:
- (f) "pouring aisle" means an aisle leading from main gangway or directly from a cupola or furnance to where metal is poured into moulds.
- 3. Prohibition of use of certain materials as parting materials:—
 - (a) A material shall not be used as a parting material if it is a material containing compounds of silicon calculated as silica to the extent more than 5 percent by weight of the dry material;

Provided that this prohibition shall not prevent the following being used as a parting material if the material does not contain an admixture of any other silicon:—

- (i) Zirconium silicate (Zircon);
- (ii) Calcined china clay;
- (iii) Calcined aluminous fireclay;
- (iv) Sillimanite;
- (v) Calcined or fused alumina;
- (vi) Olivine;
- (vii) Natural sand.
 - (b) Dust or other matter deposited from a fettling or blasting process shall not be used as a parting material or as a constituent in a parting material.
- 4. Storage arrangement:—For the purpose of promoting safety and cleanliness in workrooms the following requirements shall be observed:—
 - (a) Moulding boxes, loam plates, lailes, patterns, pattern plates, frames, boards, box weights, and other heavy articles shall be so arranged and placed as to enable work to be carried on without any risk of bodily injury.
 - (b) Suitable and conveniently accessible racks, bins or other receptacles shall be provided, maintained and used for the storage or other gear and tools.
 - (c) Where there is bulk storage of sand, fuel, metal scrap or other materials or residues, suitable bins, bunkers or other receptacles shall be provided and maintained for the purpose of such storage.
- 5. Construction of floors:
 - (a) Floors of indoor workplaces in which the processes are carried on, other than parts

- which are of sand, shall have an even surface of hard materials.
- (b) No part of the floor of any such indoor workplace shall be of sand except where this is necessary by reason of the work to be done.
- (c) All parts of the surface of the floor of any such indoor workplace which are of sand shall, so far as reasonably practicable, be maintained in an even and firm condition.

6. Cleanliness of indoor workplaces:

- (a) All accessible parts of the walls of every indoor workplace in which the processes are carried on and of everything affixed to those walls shall be effectively cleaned by a suitable method to a height of not less than 4.2 metres from the floor at least once in every period of fourteen months. A record of the carrying out of every such effective cleaning in pursuance of this paragraph including the date (which shall be not less than five months nor more than nine months after the last immediately preceding washing, cleaning or other treatment) shall be entered in a register maintained as nearly as possible in Form 6.
- (b) Effective cleaning by a suitable method shall be carried out at least once every working day of all accessible parts of the floor of every indoor workplace in which the processes are carried on, other than parts which are of sand and the parts which are of sand shall be kept in good order.

7. Manual operations involving molten metal:

- (a) There shall be provided and properly maintained for all workers employed or permitted on mannual operations involving molten metal with which they are liable to be splashed, a working space for that operation—
- (i) which shall be adequate for the safe performance of the work; and
- (ii) which, so far as reasonably practicable, shall be kept free from obstruction.
- (b) Any operation involving the carrying by hand of a container holding molten metal shall be performed on a floor all parts of which, where any worker walks while engaged in the operation, shall be on the same level:

Provided that where necessary to enable the operation to be performed without undue

risk, nothing in this paragraph shall prevent the occassional or exceptional use of a working space on a different level from the floor, being a space provided with a safe means of access from the floor for any worker while engaged in the operation.

8. Gangways and pouring aisles:-

- (1) In every workroom, to which this paragraph applies, constructed, reconstructed or converted for use as such after the making of this Schedule, and so far as reasonably practicable, in every other workroom to which this paragraph applies, sufficient and clearly defined main gangways shall be provided and properly maintained which—
 - (i) shall have an even surface of hard material and shall, in particular, not be of sand or have on them more sand than is necessary to avoid risk of flying metal from accidental spillage;
 - (ii) shall be kept, so far as reasonably practicable, free from obstruction;
- (iii) if not used for carrying molten metal, shall be at least 920 millimetres in width; and
- (iv) if used for carrying molten metal shall be-
- (a) where truck ladles are used exclusively, at least 600 millimetres wider than the overall width of the ladle;
- (b) Where hand shanks are carried by not more than two men, at least 920 millimetres in width;
- (c) where hand shanks are carried by more than two men, at least 1.2 metres in width; and
- (d) where used for simultaneous travel in both directions by men carrying hand shanks, at least 1.8 metres in width.
- (2) In workroom to which this paragraph applies constructed, reconstructed or converted for use as such after the coming in to force of this Schedule, sufficient and clearly defined pouring aisles shall be provided and properly maintained which—
 - (i) shall have an even surface of hard material and shall, in particular, not be of sand or have on them more sand than is necessary to avoid risk of flying metal from accidental spillage;
 - (ii) shall be kept, so far as reasonably practicable, free from obstruction;
 - (iii) if molten metal is carried in hand ladles or bull-ladles by not more than two men per ladle, shall be at least 460 millimetres wide.

- but where any moulds alongside the aisle are more than 510 millimetres above the floor of the aisle, the aisle shall be not less than 600 millimetres wide;
- (iv) if molten metal is carried in hand ladles or bull ladles by more than two men per ladle, shall be at least 760 millimetres wide: and
- (v) if molten metal is carried in crane, strolley or truck ladles, shall be of a width adequate for the safe performance of the work.
- Explanation.—In this paragraph "workroom to which this paragraph applies" means a part of a ferrous or non-ferrous foundry in which molten metal is transported or used, and a workroom to which this paragraph applies shall be deemed for the purposes of this paragraph to have been constructed, reconstructed or converted for use as such after the coming into force of this schedule if the construction, reconstruction or conversion thereof has begun after the making of this Schedule.
 - (3) Requirements of sub-paragraphs (1) and (2) shall not apply to any workroom or part of a workroom if, by reason of the nature of the work done therein, the floor of that workroom or, as the case may be, that part of a workroom be of sand.
- 9. Work near cupolas and furnaces.—No person shall carry out any work within a distance of 4 metres from a vertical line passing through the delivery end of any metal spout of a cupola or of a furnace used for delivering molten metal, or within a distance of 2.4 metres from a vertical line passing through the nearest part of any ladle which is in position at the end of such a spout:

Provided that for proper use or maintenance of a cupola or a furnace work, which should necessarily be carried on, may be undertaken within that distance at such a time and under such condition that there exists no danger to the worker carrying on such work from molten metal.

- 10. Dust and fumes.
 - (1) Open coal, coke or wood fires shall not be used for heating or drying ladles inside a workroom unless adequate measures are taken to prevent, so far as practicable, fumes or other impurities from entering into or remaining in the atmosphere of the workroom.
 - (2) No open coal, coke or wood fires shall be used for drying moulds except in circumstances in which the use of such fire is unavoidable.

- (3) Mould stoves, core stoves and annealing furnace shall be so designed, constructed, maintained and worked as to prevent, so far as reasonably practicable, offensive or injurious fumes from entering into any workroom during any period when a worker is engaged therein.
- (4) All knock-out operations shall be carried out-
 - (a) in a separate part of the foundry suitably partitioned off, being a room or part in which, so far as reasonably practicable, effective and suitable local exhaust ventilation and a high standard of general ventilation are provided; or
 - (b) in an area of the foundry in which, so far as reasonably practicable, effective and suitable local exhaust ventilation is provided, or where compliance with this requirement is not reasonably practicable, a high standard of general ventilation is provided.
- (5) All dressing or fettling operations shall be carried
 - (a) in a separate room or in a separate part of the foundry suitably partitioned off; or
 - (b) in an area of the foundry set apart for the purpose; and shall, so far as reasonably practicable, be carried out with effective and suitable local exhaust ventilation or other equally effective means of suppressing dust, operating, as near as possible, to the point of origin of the dust.
- 11. Maintenance and examination of exhaust plant
 - (1) All ventilation plants used for the purpose of extracting, suppressing or controlling dust or fumes shall be properly maintained.
 - (2) All ventilating plants used for the purpose of extracting, suppressing or controlling dust or fumes shall be examined and inspected once every week by a responsible person. It shall be thoroughly examined and tested by a competent person at least once in every period of twelve months, and particulars of the results of every such examination and test shall be entered in a register approved by the Chief Inspector and it shall be available for inspection by an Inspector at all times during working of the factory. Any defect found on any such examination and test shall be immediately reported in writing by the person carrying out the examination and test to the occupier or manager of the factory and a copy thereof endorsed to the Inspector.

12. Protective equipment-

- (1) The occupier shall provide and maintain suitable protective equipment specified below for the protection of the workers:—
 - (a) suitable gloves or other protection for the hands of workers engaged in handling any hot material likely to cause injury to the hands by burn, scald or scar, or in handling pig iron, rough castings or other articles likely to cause injury to the hands by cut, abrasion or otherwise; and
 - (b) approved respirators for workers carrying out any operations creating a heavy dust concertration which cannot be dispelled quickly and effectively by the existing ventilation arrangements
- (2) No respirator which has been provided for the purposes of clause (b) of sub-paragraph (1) and worn by a worker shall be worn by another worker it has not since been thoroughly cleaned and disinfected.
- (3) Workers who, for any portion of their time.—
 - (a) work at a spout of or attend to, a cupola or furnace in such circumstances that material therefrom may come into contact with the body, being material at such a temperature that its contact with the body would cause a burn; or
 - (b) are engaged in, or in assisting with, the pouring of molten metal; or
 - (c) carry by hand or move by manual power any ladle or mould containing molten metal; or
 - (d) are engaged in knocking out operations involving material at such a temperature that its contact with the body would cause a burn; shall be provided with suitable footwear and gaiters which shall be worn by them to prevent, so far as reasonably practicable, risk or burns to his feet and ankles.
- (4) Where appropriate, suitable screens shall be provided for protection against flying materials (including splashes of molten metal and sparks and chips thrown off in the course of any process).
- (5) The occupier shall provide and maintain suitable accommodation for the storage and make adequate arrangements for cleaning and maintaining of the protective equipment supplied in pursuance of this paragraph.
- (6) Every worker shall make full and proper, use of the equipment provided for his protection in

pursuance of sub-paragraphs (1) and (2) and shall, without delay, report to the occupier, Manager or other appropriate person, of any defect in, or loss of, the same.

13. Washing and bathing facilities.—

- (1) There shall be provided and maintained in clean state and good repair for the use of all workers employed in the factory—
 - (a) a wash place under cover with either—
 - (i) a trough with impervious surface fitted with a waste pipe without plug, of sufficient length to allow at least 60 centimetres for every 10 such workers employed at any one time and having a constant supply of clean water from taps or jets above the through at intervals of not more than 60 centimetres; or
 - (ii) at least one tap or stand pipe for every 10 of such workers employed at any one time, and having a constant supply of clean water, the tap or stand pipe being spaced not less than 1.2 metres apart;
 - (b) not less than one half of the total number of washing places provided under clause (a) shall be in the form of bathrooms; and
 - (c) a sufficient supply of clean towels made of suitable material changed daily, with sufficient supply of nail brushes and soap.
- (2) The facilities provided for the purposes of subparagraph (1) shall be placed in charge of a responsible person or persons and maintained in a clean and orderly condition.
- 14. Disposal of dross and skimmings.—Dross and skimmings removed from molten metal or taken from a furnace shall be placed forthwith in suitable receptacles.
- 15. Disposal of waste.—Appropriate measures shall be taken for the disposal of all waste products from shell moulding (including waste burnt sand), as soon as reasonably practicable, after the castings have been knocked-out.
- 16. Materials and equipments left out of doors.—All materials and equipments left out of doors (including material and equipment so left only temporarily or occassionally) shall be so arranged and placed as to avoid any risk of bodily injury. There shall be safe means of access to all such materials and equipments and, so far as reasonably practicable, such access shall be by roadways or pathways which shall be properly maintained. Such

- roadways or pathways shall have a firm and even surface and shall, so far as reasonably practicable, be kept free from obstruction.
- 17, Medical facilities and records of examinations and tests.—
 - (1) The occupier of every factory to which the Schedule applies, shall—
 - (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector; and
 - (b) provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).
 - (2) The record of medical examinations and appropriate tests carried out by the said medical pratitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector at all times during working of the factory.
- 18. Medical examination by Certifying Surgeon.—
 - (1) Every worker employed in a foundry shall be produced for medical examination by a Certifying Surgeon within 15 days of his first employment. Such medical examination shall include pulmonary function tests and chest X-ray. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
 - (2) Every worker employed in the said processes shall be produced for re-examination by a Certifying Surgeon at least once in every twelve months. Such examination shall, wherever the Certifying Surgeon considers appropriate, include all the tests as specified in sub-paragraph (1) except chest X-ray which may be 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-exminations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.
 - (4) The Certificate of Fitness and the health register shall be kept readily available for inspection by

- the Inspector at all times during working of the factory.
- (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 may 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 shall also include the period for which he considers that the said worker is unfit for work in the said processes. The worker so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the worker affected shall be suitably rehabilitated.
- (6) No worker who has been found unfit to work as said in sub-paragraph (5) shall be re-employed or permitted to work in the said process unless the Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.
- 19. Exemption.—If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this Schedule is not necessary for protection of the workers in the factory, the Chief Inspector may, by a certificate in writing, which he may at his discretion revoke at any time, exempt such factory from all or any of such provisions, subject to such conditions, if any, as he may specify therein.";
- 59. in rule 95, in the second paragraph, for the figures "48", substitute the figures "12".
- 60. in rule 101, for sub-rule (1), substitute the following sub-rule: "(1) An appeal presented under section 107 shall be with the Chief Inspector, or in case where the order appealed against is an order passed by that officer, with the State Government may appoint in this behalf and shall be in the Form of memorandum setting forth concisely the grounds of objection to the order and bearing court-fee stamps in accordance with Article 11 of Schedule II to the Court-fee Act, 1870, and shall be accompanied by a copy of the order appealed against."
- 61. in rule 103, (a) after sub-rule (2), insert the following sub-rule "(3) Quarterly return—Not later than 15th of the month of April/July/October/January for

the respective quarter beginning first of January/April/July/October of the calendar year, as nearly as possible in Form 23-A";

- (b) delete sub-rule 2A and the Explanation there under;
- 62. Insert the following rule after rule 105:-

Rule Prescribed under section 112 105A. Production of records, forms, registers etc.—The occupier or Manager of every factory shall produce before the Inspector on his demand any record, document, form, register etc. kept maintained in pursuance of any provision of the Act and the rules framed thereunder."

63. for rule 106, substitute the following rule:—
"106. Register of accidents and dangerous occurrence—The manager of every factory shall maintain
a Register of all accidents and dangerous

occurrences, which occur in the factory, as nearly as possible in Form 24. Such register shall be maintained up-to-date and kept available in the factory for examination by an Inspector at all times during working of the factory.";

64. insert the following rule after rule 107:-

Rule Prescribed Under section 112

"107A. Cost of medical examination.—
In respect of any worker of a factory, when it is necessary to carry out any clinical or other tests for the purpose of a medical examination specified under any provision of the Act and the rules framed thereunder, the cost of such test or tests shall be borne by the occupier of the factory and shall not be recovered from that worker,"

65. for Form No. 2, substitute the following Form-

"FORM NO. 2" (See rule 4, 7 and 13)

Application for Registration and Grant or Renewal of Licence and Notice of Occupation specified in Section 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 Factor	y (different from the present na	ame)
2.	. Situation of factory—		
	Address		
	Post Office	Telegraph Office	Dist.
	Sub Divl. Headquarters	P. S	
3.	. Address to which communications	relating to the factory may be	sent
4.	. Name and address of the owner of	the premises occupied as a fa	ctory
5.		• •	ths (if the factory was then in existence)
	(b) To be carried on in the factor		nths
6.	i. (a) If registered Company, Socie		proprietory of concern

	seperate sheet may be attached, duly signed by occupier)—
	i)
	ii)
7 N	
	and address of the occupier under Section 2(n) of the Act.
Ad	ldress
8. (a) 1	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 case of a power Generating Station in KW
durin	mum number of workers (including contract labour), likely to be employed in the Factory on any day ag the next twelve months—
(i)	Men (ii) Women
(iii)	Adolescents (over 15 but under 18 years of age)— (a) Male (b) Female
(iv)	Children (over 14 but under 15 years of age)—
(11)	(a) Male (b) Female
	TOTAL:
	imum number of workers (including contract labour) employed on any day during the previous twelve
mor 11. In ca (a)	imum number of workers (including contract labour) employed on any day during the previous twelve of the
mor 11. In ca (a)	imum number of workers (including contract labour) employed on any day during the previous twelve of the second and the previous twelve are of a factory constructed or extended or taken into use after the date of commencement of the Rules—
mor 11. In ca (a) (b)	imum number of workers (including contract labour) employed on any day during the previous twelve of the
(a) (b) 12. Amo paid	imum number of workers (including contract labour) employed on any day during the previous twelve of the
11. In ca (a) (b) 12. Amo paid for th	imum number of workers (including contract labour) employed on any day during the previous twelve on the
mor 11. In ca (a) (b) 12. Amore paid for the calculations of the	imum number of workers (including contract labour) employed on any day during the previous twelve on the set of a factory constructed or extended or taken into use after the date of commencement of the Rules—Reference number and date of approval of plans by the State Government/Chief Inspector
11. In ca (a) (b) 12. Amo paid for the calculation of the calculation	imum number of workers (including contract labour) employed on any day during the previous twelve on the set of a factory constructed or extended or taken into use after the date of commencement of the Rules—Reference number and date of approval of plans by the State Government/Chief Inspector

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

66, after Form No. 3, insert the following Form:

"FORM NO. 3A" (See rule 13A)

NO	OTICE OF CHANGE OF MANAGER
1. (a) Name of Factory	
(b) Current Licence number	
2. Postal address of factory	
3. Name of outgoing Manager	
4. (a) Name of new Manager	•
	Permanent:
	Present :
5. Date of appointment of new Mana	
6. Signature of new Manager:	
	Signature of Occupier
	Date
67. for Form No. 7, substitute the fol-	lowing Form:
or. for rother to. 1, sweether the rot	"FORM NO. 7
	(See rule 53)
7 T 0 7 0	
REGIST	ER OF SPECIALLY TRAINED WORKERS
1. Name of factory	
	adult Workers in Form No. 13:
4. Date of birth and age	
5. Nature of work	
6. Experience/Training, if any, or p	eriod of service in similar work before appointment
7. Date of appointment:	
8. Dates when right fitting clothing	was provided
9. Remarks	
10. I certify that the above menti	oned worker whose signature/left hand thumb impression is given below is a
properly trained adult male wor	rker who is competent to mount or ship belts, lubricate or do other adjusting
operation on the machinery, as	prescribed in the proviso to sub-section (1) of Section 22 of the Act, in my
factory.	
Signature/left thumb	Signature of Oi
impression of worker	Signature of Occupier Date: ";

68, after form No. 8, insert the following Form:

FORM NO. 8A

(See rule 54A)

REPORT OF EXAMINATION OF HOISTS AND LIFTS.

(b) Date of construction or reconstruction : Are all parts of hoist or lift of good-mechanical construction, sound material and adequate strength (so far as ascertainable)? Are the following parts of the hoist or lift properly maintained and in good working condition? If not state the defects observed: (a) Enclosure of hoistway or liftway : (b) Landing gates and cage gate(s) : (c) Interlock of the said two gates : (d) Other fastening of the gates : (e) Cage and platform and fittings, guides, buffers, interior of the hoistway or liftway. (f) Overrunning devices : (g) Suspension ropes or chains and their fittings. (h) Safety gear i.e. arrangements for preventing fall of platforms or failure of cage brakes. (i) Brakes : (j) Worm or spur gearing : (k) Other electrical equipment : (l) Other parts : 7. Repairs, renewals or alterations (if any) required and the period within which they should be executed: 8. Maximum safe working load subject to repairs, renewals, or alterations (if any) specified against items:	1.	Name and address of factory :
(b) Date of construction or reconstruction : Are all parts of hoist or lift of good-mechanical construction, sound material and adequate strength (so far as ascertainable)? Are the following parts of the hoist or lift properly maintained and in good working condition? If not state the defects observed: (a) Enclosure of hoistway or liftway : (b) Landing gates and cage gate(s) : (c) Interlock of the said two gates : (d) Other fastening of the gates : (e) Cage and platform and fittings, guides, buffers, interior of the hoistway or liftway. (f) Overrunning devices : (g) Suspension ropes or chains and their fittings. (h) Safety gear i.e. arrangements for preventing fall of platforms or failure of cage brakes. (i) Brakes : (j) Worm or spur gearing : (k) Other electrical equipment : (l) Other parts : 7. Repairs, renewals or alterations (if any) required and the period within which they should be executed : 3. Maximum safe working load subject to repairs, renewals, or alterations (if any) specified against items : 10. Other particulars, if any : 11/We certify that on (date) I/We thoroughly examined the hoist/lift as indicated above and that the above is a correct report of the result. 11 employed by a Company or Association name and address Oqualification: Other Company/Association: Address:	2.	Name of Occupier :
as ascertainable)? 5. Are the following parts of the hoist or lift properly maintained and in good working condition? If not state the defects observed: (a) Enclosure of hoistway or liftway : (b) Landing gates and cage gate(s) : (c) Interlock of the said two gates : (d) Other fastening of the gates : (e) Cage and platform and fittings, guides, buffers, interior of the hoistway or liftway. (f) Overrunning devices : (g) Suspension ropes or chains and their fittings. (h) Safety gear i.e. arrangements for preventing fall of platforms or failure of cage brakes. (i) Brakes : (j) Worm or spur gearing : (k) Other electrical equipment : (l) Other parts : 5. What parts, if any, were lnaccessible? : 7. Repairs, renewals or alterations (if any) required and the period within which they should be executed: 8. Maximum safe working load subject to repairs, renewals, or alterations (if any) specified against items: 9. Other particulars, if any : 1/We certify that on (date)	3.	•
the defects observed: (a) Enclosure of hoistway or liftway: (b) Landing gates and cage gate(s): (c) Interlock of the said two gates: (d) Other fastening of the gates: (e) Cage and platform and fittings, guides, buffers, interior of the hoistway or liftway. (f) Overrunning devices: (g) Suspension ropes or chains and their fittings. (h) Safety gear i.e. arrangements for preventing fall of platforms or failure of cage brakes. (i) Brakes: (j) Worm or spur gearing: (k) Other electrical equipment: (l) Other parts: 7. Repairs, renewals or alterations (if any) required and the period within which they should be executed: 8. Maximum safe working load subject to repairs, renewals, or alterations (if any) specified against items: 9. Other particulars, if any: 1/We certify that on (date): 1/We thoroughly examined the hoist/lift as indicated above and that the above is a correct report of the result. 1. If employed by a Company or Association name and address of the Company/Association: Address:	1.	
So What parts, if any, were lnaccessible? Repairs, renewals or alterations (if any) required and the period within which they should be executed: Maximum safe working load subject to repairs, renewals, or alterations (if any) specified against items: Other particulars, if any: I/We certify that on (date): I/We thoroughly examined the hoist/lift as indicated above and that the above is a correct report of the result. If employed by a Company or Association name and address of the Company/Association: Address:	5.	the defects observed: (a) Enclosure of hoistway or liftway: (b) Landing gates and cage gate(s): (c) Interlock of the said two gates: (d) Other fastening of the gates: (e) Cage and platform and fittings, guides, buffers, interior of the hoistway or liftway. (f) Overrunning devices: (g) Suspension ropes or chains and their fittings. (h) Safety gear i.e. arrangements for preventing fall of platforms or failure of cage brakes. (i) Brakes:: (j) Worm or spur gearing:: (k) Other electrical equipment::
Repairs, renewals or alterations (if any) required and the period within which they should be executed: Maximum safe working load subject to repairs, renewals, or alterations (if any) specified against items: Other particulars, if any: I/We certify that on (date)	5.	
Other particulars, if any: I/We certify that on (date) I/We thoroughly examined the hoist/lift as indicated above and that the above is a correct report of the result. If employed by a Company or Association name and address of the Company/Association: Address:	7.	Repairs, renewals or alterations (if any) required and the period within which they should be executed:
I/We certify that on (date) I/We thoroughly examined the hoist/lift as indicated above and that the above is a correct report of the result. If employed by a Company or Association name and address of the Company/Association: Address:	3.	Maximum safe working load subject to repairs, renewals, or alterations (if any) specified against items:
Association name and address of the Company/Association: Address:	9.	I/We certify that on (date) I/We thoroughly examined the hoist/lift as indicated above and that the
		Association name and address of the Company/Association: Address:

"FORM NO, 9A"
See Rule 56A

REGISTER OF EXAMINATION OF GASHOLDERS

Distin- guishing		Particul	ars of Ma	nufacture		Particulars of examination carried out under sub-rules (4) and (5) of rule 56A			Particulars of repair			
number or letter of gasholder	Maker's Name	Date of manu-facture	of	Maxi- mum capacity in cubic meters	Pressure thrown by gasholder when full of gas	Method of examination used	Date of examination	Name and designation of the person making this examination	Nature of repairs	Date of repairs and painting	By whom repairs are carried out	Remarks
1	2	3	4	5	6	71	. 8	9	10	1 11	12	13

FORM NO. 9B

(See rule 56A)

REPORT OF EXAMINATION OF WATER-SEALED GASHOLDER

1. Name of occupier (or factory)	:
2. Situation and address of factory	:
 Name, description, distinguishing number of letter a of gasholder 	nd type
4. Name and address of the Manufacturer	•
5. (a) Number of lifts	·
(b) Maximum capacity in cubic meters	•
(c) Pressure thrown by holder when full of gas	•
6. Particulars of gas to be stored in the holder	•
7. Particulars as to the condition of	
(a) corwn,	•
(b) side sheeting, including grips and cups,	
(c) guiding mechanism (Roller carriages, rollers, pins, rails or ropes)	guide:
(d) tank, and	:
(e) other structure, if any (columns, framing and br	racing):
8. Particulars as to the position of the lifts at the examination	time of :
 Particulars as to whether the tank and lifts were four ciently level for safe working and if not, as to the ste to remedy the defect. 	
10. Date of examination and by whom it was carried11. Condition of vessel	out :
(a) External	•
(b) Internal	:
12. (a) Are all fittings and appliances properly maintage good condition?	ained in
(b) Repairs, if any, required and period within wh should be executed	ich they :
(c) Any other condition which the person ma examination thinks it necessary for securi working	
13. Other observations	:
Transfer that an (data) the control	and described the same thoroughly aromined and such of
the tests as were necessary, have been made on the same	er described above was thoroughly examined and such of day and that the above is a true report of my examination.
Signature :	**************************************
Qualification:	
	· eur eur
Date :	
If employed by a Comp	
name and address of the	e company or
association.";	

70.	after Form No.	16, insert	the following Form
	FORM NO. 16A		

(See rule 93)

NOMINATION FOR PAYMENT OF WAGES DUE FOR ANNUAL LEAVE UNDER SECTION 80 IN THE EVENT OF A WORKER.

	I, Sri	ng padag yann dagar essay over teased their c		ereby require that in the event of my death, while in
ser	vice, all was	ges due for ann	ual leave as payable under se	ection 80 shall be paid to my nominee
			who is my	and resides
at .			,	mann telas feets films. Geolg mala, 60000 mills ples, 6000 deze, 6000 deze, 6000 deze Gets Pår Pêzis en- tils gar, 671, 672, 000 mil
				•
At	tested by with	nesses		Signature or thumb impression of worker.
	a :			Porticulars of worker such as Cr. No. in the
1.	C			Particulars of worker, such as Sr. No. in the Register of Adult Workers, Section, Department,
	Name	•		Token No. etc,
	Designation	:		
	Address			
2.	Signature	a a		
	Name	6		
	Designation	v o		
	Address	•		

71. for form No. 17, substitute the following Form:

FORM NO. 17

(See rules 63 and 94)

HEALTH REGISTER

5)A
Name of worker	of adult workers	Serial Number in the Register
		ister

ယ Sex

Date of birth

ocess
ration
ation
ts or e exposed to
r

Sec. Sec.	1	Department / Works							
		Name of hazardous process Dangerous process/operation							
	ပ								
	4	Nature of job or occupat	ion						
	5	Raw materials, products or by-products likely to be exposed to							
	S.	Date of posting	Date of posting						
Compression of the Compression o	7	Date of leaving/cransfer other work							
	8	Reason for discharge/ transfer to other work							
	9	Signs and symptoms observed during examination	Medical examinat and the results thereof						
	10	Nature of tests & results thereof							
	11	Result Fit/Unfit	ation						
	12	Period of Temporary withdrawal from that work	If d						
	13	Reasons for such withdrawal	If declared unfit f						
	14	unition that work							
	15	Date of issuing fitness Certificate	r work						
	16	Signature with date of th Factory Medical Officer the Certifying Surgeon							

Notes: Seperate page should be maintained for individual worker

Fresh entry shoul be made for each examination.

72. for "Form No. 22" substitute the following Form :—

FORM 22

[See Clause (1) of Rule 103]

ANNUAL RETURN UNDER THE WEST BENGAL FACTORIES RULES

Yea	r ending 31st December, 19				Cla	assifica	tion Co	ode No		•	
1.	Registration Number of Factory	*145	***	****	ā\$n\$.		****				0393
2.	Name of Factory			9##?				••••	****	••••	****
3.	Name of the Occupier	****	9400	* * * *	>>6.1					****	. 9 é n
4.	Name of the Manager	****		****				****		****	v2*5
5.	District		*0*1	40.4	••••	•••	700	***			****
6.	Full Postal Address of Factory	****	****	029*	****	••••	****	p+4>	****	••••	**00
7.	Nature of Industry	••••		****			****	F7.00	030=		5003
	Number	of wor	kers and p	particular	s of em	ploym	ent				
8.	Number of days worked in the y	ear	••••	****		****	****	7889	****	9 D + 3	***
9.	Number of mandays worked du	ring the	year:			μ					
	Adults-Men	****		Won	nen	****	****		***	3000	. 564
	Adolescents-Male			Fema	ale .	***	****	****	1404	***	. ****
	Children-Boys	,,		Girls	***	••••	****			P 20 P 3	
10.	Average number of workers emp	oloyed d	aily (See	explanate	ory note	:):					
	Adults-Men			Wom	en		****		9031	****	****
	Adolescents-Male	• • • • • • • • • • • • • • • • • • • •		Fema	ale		****	****			****
	Children-Boys			Girls		***	v # 17		****		*964
11.	Total number of manhours work	ked inch	uding ove	rtime:							
	Men	V	Vomen			****	Childr	en	1000	****	****
12.	Average number of hours worke	ed per w	reek (See	explanato	ry note):					
	Men		Women	****	****		Child	ren	••••	••••	***
13.	(a) Does the factory carry on	any pro	cess or op	eration o	ieclared	l as daı	ngerous	under	Sectio	n 87 ?	
			•								
			(See R	tule 94)							
	(b) If so, give the following in	nformati	on:			-	***				
	ame of dangerous processes or	r opera	ations		Average each of column	the j	ber of process	persones or	ns emp operat	oloyed ions g	daily in iven in
	1				Transition in the second			2			
(i)									- WAREN	A CAMPAGE AND A	- Control of the Cont
(ii)											
(iii))			1							

			Le	eave with wage	\$						
14.	Total	number of work	ers employed during	the year:							
	Men	****	Woı	nen		****	Children	****		4744	
15.	Numb	er of workers wh	o were entitled to ar	nual leave wit	h wages	during	the year:				
	Men		Wo	men	****	14.4	Children		****	****	
16.	Numb	er of workers wh	no were granted leav	e during the ye	ear :						
•	Men	,	Wos	men	,	****	Children	••••	•••.	****	
17.	17. (a) Number of workers who were discharged, or dismissed from the service, or who quit employment, or were superannuated, or who died while in service during the year										t, or
		•	workers in respect of						****	****	****
	, .		•								
				Safety Officers							
18.	(a) N	Number of Safety	Officers required to	be appointed	as per N	Notificat	tion under Se	ection	40B		****
	(b)	Details of Safety	Officers appointed:								
Name of Office		Date of Appointment	Qualification	Name of the tution from w obtained a d diploma or a cate in In Safety	hich he	tution thord in Be red a	ime of the Ins n from whi ough knowled ngali was acqu nd the exan.in passed	ch ge li- a-	Date of Viva Vo- Clause (of the Factorie Officers)	ce Test d) of F West B s (S	under Kule 4
		2	3	4			5			6	
(i) (ii) (iii)			-			entretention of the total contract of the cont					
			A	mbulance Roo	m						
19.	Is the	re an Ambulanc	e Room provided in	the factory as	required	under	Section 45?		****	****	1546
		·		Canteen							
20.	• /		provided in the factor		under S	Section	46	****	****	****	
		Is the Canteen p departmental	rovided managed / r	un:							
	ii		•					ve•a	1117	1111	****
		· -									
			Shelters or Re	est Rooms and	Lunch 1	Rooms					
21.	(a)]	No. of Shelters	r rest Rooms provid	ed in the facto	ry as rec	quired u	ınder Section	47		****	****
	(b)	No, of Lunch Ro	ooms provided in the	e factory as req	uired ur	ider Sec	ction 47	8779	****	****	6990

		Cr	eches							
22. (a) No. of (Creches provided	in the factory as requi	red under Section 48		499 69., cora 66.06					
(b) No. of	children utilizing	the creche	PECE #45° +00° +50°	₹800 4004 १ ८ ०१ १८८१ ४० ०९	•হ্ৰড় •ছল ব্যুদ্					
Welfare Officers										
23. (a) Numbe	r of Welfare Office	ers to be appointed as	required under Section	n 49	ବ୍ୟବତ କ୍ୟୁନ୍ତ ନିପ୍ରସ୍					
(b) Details	of Welfare Office	rs appointed:								
Name of Welfare Officer	Date of Appointment	Name of the Institu- tion from which he obtained a degree or diploma in I abour and Social Welfare or when he passed the L.W.O. Training Course of the Govt. of West Bengal*	**Name of the Insti- tution from which thorough knowledge in Bengali was acqui- red and the examina- tion passed	Date of passing the Viva Voce Test under Ciause (d) of Rule 5 of the West Bengal Factories (Welfare Officers) Rules	Grade and scale of pay					
1	2	3	4	5	6					
(i) (ii) (iii)										
*If he was e	exempted under R	ule 6 of the West B	engal Factories (Well	Fare Officers) Rules, p	lease quote the					

		Accidents
24.	(a)	Total number of accidents (See explanatory note):
		(i) Fatal (i) Non-Fatal
	(b)	Accidents in which workers returned to work during the year to which this return relates:
		(i) Accidents (workers injured) occurring during the year in which injured workers returned to work during the same year
		(aa) Number of accidents (bb) Mandays lost
		(ii) Accidents (workers injured) occurring in the previous year in which injured workers returned to work during the year to which return relates
		(aa) Number of accidents (bb) Mandays lost
	(c)	Accidents (workers injured) occurring during the year in which injured workers did not return to work during the year to which this return relates
		(aa) Number of accidents (bb) Mandays lost

^{*}If he was exempted under Rule 6 of the West Bengal Factories (Welfare Officers) Rules, please quote the number and date of Government order.

^{**}To be furnished for officers whose mother-tongue is not Bengali.

-		Suggestion Scheme	
25. (a	a) Is	s a Suggestion Scheme in operation in the factory?,,,	
(t	o) I	f so, the number of suggestion;	
	(i)	Received during the year	٠.
	(ii) Accepted during the year,	• 6
(4	e) A	mount awarded in cash prizes during the year:	
	(i) Total amount awarded	٠.
	(ii) Value of the maximum cash prize awarded	
	(iii	i) Value of minimum cash prize awarded	•••
		Ceftified that the information furnished above is, to the best of my knowledge and belief, correct.	
Date	 .	Signature of the Manager	

THIS REFURN SHOULD BE SENT TO THE CHIEF INSPECTOR OF FACTORIES BY 31ST JANUARY OF THE SUCCEEDING YEAR

Explanatory Notes:

- 1. The average number of workers employed daily should be calculated by dividing the aggregate number of attendances on working days (that is, mandays worked) by the number of working days in the year. In reckoning attendance, attendance by temporary as well as permanent employees should be counted, and all employees (including apprentices) should be included, whether they are employed directly or under contractors. Attendance on separate shifts (e. g. night and day shifts) should be counted separately. Days on which the factory was closed for whatever cause, and days on which the manufacturing processes were not carried on should not be treated as working days. However, if more than 50% of workers employed (on the previous day) attend to repair, maintenance or other such work on closed days, such days should be treated as working days. Partial attendance for less than half a shift on a working day should be ignored, while attendance for half a shift or more on such day should be treated as full attendance.
- 2. For seasonal factories, the average number of workers employed during the working season and the off season should be given separately. Similarly the number of days worked and average number of manhours worked per week during the working and off season should be given separately.
- 3. The average number of hours worked per week means the total actual hours worked by all workers during the year excluding the rest intervals but including overtime work divided by the product of average number of workers employed daily in the factory during the year and 52. In case the factory has not worked for the whole year, the number of weeks during which the factory worked should be used in place of the figure 52.
- 4. Every person killed or injured should be treated as one separate accident. If in one occurrence, six persons were injured or killed it should be counted as six accidents.
- 5. In item 24 (a) the number of accidents which took place during the year should be given. In case of non-fatal accident, only those accidents which prevented workers from working for 48 hours or more, immediately following the accident should be indicated."

73. for "Form No. 23", substitute the following Form:

FORM 23

[See Clause (2) of Rule 103]

HALF-YEARLY RETURN UNDER THE WEST BENGAL FACTORIES RULES

	Pe	riod ending 30th June
Registration No.		Classification Code No.
Name of Factory	:	
Name of Occupio	er :	
Name of Manage	er :	
1. District		
	•	
3. Nature of In	dustry	
		ulf-year ending 30th June, 19
5. Number of r	nan-days worked during t	the half-year ending 30th June, 19
Adults-Men	·	Women
Adolescents	-Male	
	pys	
6. *Average nu	imber of workers employe	ed daily:
Adults-Mal	2	Women
Adolescents	-Male	Female
Children-Bo	bys	Girls
Certified that the	information furnished ab	pove is, to the best of my knowledge and belief, correct.
Certified that the	information furnished ab	pove is, to the best of my knowledge and belief, correct.
Certified that the	e information furnished ab	sove is, to the best of my knowledge and belief, correct. Signature of Manager

The Return should be sent to the Chief Inspector of Factories by 15th July of the current year.

*The average daily number should be calculated by dividing the aggregate number of attendances on working days by the number of working days during the half-year. In reckoning attendances, attendance by temporary as well as permanent employees should be counted and all employees (including apprentices) should be counted and all employees should be included whether they are employed directly or under contractors. Attendance on separate shifts (e.g. night and day shifts) should be counted separately. Days on which the factory was closed for whatever cause, and days on which the manufacturing processes were not carried on, should not be treated as working days. However, if more than 50% of workers employed (on the previous day) attend to repair, maintenance or other such work on closed days, such days should be treated as working days.

Partial attendance for less than half a shift of working day should be neglected and attendance for half a shift or more should be treated as full attendance.

74. for Form No. 24, substitute the following Form:

FORM NO. 24

[See rule 106]

REGISTER OF ACCIDENTS AND DANGEROUS OCCURENCES

			ses:	er:						
Sr. No	Date &	Time of	notice		Ι	Details	s of injured pe	rson	本上 出版的 的编码。1980年1月1日 1日 1	THE RESERVE THE PROPERTY OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO I
	Date	Time	Name	Address	Sex	Age	Ins'ce No.	Shift	Depart- ment	Occupa- tion
	1	2	3	4	5	6	7	8	9	10
	and the state of t	Telegraphic Manager Company	and the second of the first of the second of	Application of the Commission						
D	etails of accid	dent/dange	rous occurrenc	е			Details of pers	on sub	mitting not	ice
Date	Time	Place	Nature of inju	ry/damages	How	occur	ed Name	De	signation	Signature with date
11	12	13	14			15	16		17	18
Part	iculars of wit	ness						Details	of absence	9
Name	Designation	Address	No. of days notified	Supplementar	y . notic	e A	of absence	ays D	ate of retu to work	ırn Remarks
			дожу. В. Состочников (С. В. С.	Date	Tim	е				
19	20	21	22	23	24		25		26	27

75. for Form No. 25, substitute the following Forms:

FORM 25

(See rules 63 and 94)

Certificate of fitness for employment in hazardous processes and operations
(To be issued by Factory Medical Officer)

1.	Serial number in the register					
	of adult workers	:				
2.	Name of person examined	:				
3.	Father's Name					
4.	·Sex	:				
5.	Residence					
6.	Date of birth, if available					
7.	Name & Address of the factory :					
8.	The worker is employed/proposed	:				
	to be employed in	•				
	(a) Hazardous process	:				
	(b) Dangerous operation	:				

I certify that I have persona	lly examined the above named pe	rean whose identification ma	rks are			
•	and who is desirous of being emp					
	be ascertained from my examinat	•				
In my opinion he/she is fit f	for employment in the said manufa	cturing process/operation.				
In my opinion he/she is unf	it for employment in the said r	manufacturing process/opera	TT (01			
is referred for further examination	n to the Certifying Surgeon		,			
		Signature of the Fac	ctory Medical Officer :			
Signature or left hand thumb im	pression					
of person examined:		Stamp of Factory Medical Officer with name of the factory:				
The serial number of the	previous certificate is					
Signature or left hand thumb im	pression	Signature o	of Certifying Surgeon			
of person examined.	•					
Date:						
I certify that I examined the person mentioned above on (date of examination)	I extend this certificate until (If certificate is not extended, the period for which the worker is considered unfit for work is to be mentioned)	Signs and symptoms observed during examination	Signature of the certifying Surgeon			

Note: To be issued by the Certifying Surgeon and a copy to be maintained in a bound book or in a file.

76. after form No. 28, insert the following forms:—

FORM NO. 29

(See sub-rule (1) of rule 2A)

Form of Application for grant of Certificate of Competency to a person under sub-rule (1) of Rule 2A

- 1. Name
- 2. Date of birth
- 3. Name of the Organisation (if not self-employed)
- 4. Designation
- 5. Educational Qualification (copies of testimonials to be attached)
- 6. Details of professional experience (in chronological order)

Name of the Organisation	Period of service	Designation	Area of responsibility.
7. Membership, if any, of profession	onal bodies.:		
8. (i) Details of facilities (examinate) etc.) at his disposal.	ation, testing,		
(ii) Arrangements for calibitation maintaining the accuracy of	rating and these facilities.:		
Purpose for which competency sought (section or sections of the be stated).			
10. Whether the applicant has been a competent person under (if so, the details).			
11. Any other relevant information.	· · · · · · · · · · · · · · · · · · ·		
12. Declaration by the applicant.	•		
or as per National Standar	n good working order, cald; and econditons stipulated in t	ibrated periodically as per	manufacturers' instructions and instructions issued by
Place & Date		\	
		Signa	ture of the Applicant
	Declaration by the Institu	tion (if employed)	
furnished above, is in our employed declared as a competent person under (a) notify the Chief Inspector (b) provide and maintain in good (c) notify the Chief Inspector (c)	ment and nominate him or or the Act. I also underta in case the competent persond ood order all facilities at h	on behalf of the organisation will son leaves our employment is disposal as mentioned a (either addition or deletion	on for the purposes of being;; bove:
			A Committee of the Comm
		Telephone No.	
Date		Official Seal,	#

FORM NO. 29A

[See sub-rule (2) of rule 2A]

Form of application for grant of Certificate of Competency to an Institution under sub-rule (2) of rule 2A.

- 1. Name and full address of the Organisation
- 2. Organisation's status (specify whether Government, Autonomous, Co-operative, Corporate of Private)
- 3. Purpose of which Competency Certificate is sought (specify Section (s) of the Act.)
- 4. Whether the Organisation has been declared as a competent person under this or any other statute. If so, give details.
- 5. Particulars of persons employed and possessing qualification and experience as set out in Scheduled annexed to sub-rule (1) of rule 2A.

Sl. N	. Name and Designation	Qualifications	Experience	Section (s) and the rules under which competency is sought for
1.			and the first state of the stat	
2.				
	etails of facilities (relevant to it	tem 3 above and arran	gements made for	their maintenance and period of
7. A	ny other relevant information.			
8. I	eclaration:		¥	
	hereb			certify that the details furnished
	are correct to the best of my know			
(per National Standards; and	orking order, calibrated	periodically as per	r manufacturers' instructions or as
() to fulfil and abide by all the con	•	e certificate of com	petency and instructions issued by

Place & Date

Signature of Head of the Institution or of the person authorised to sign on his behalf.

FORM NO. 29B

[See sub rule (3) of rule 24]

Form of Certificate of competency, issued to a person or an institution in pursuance of rule 2A made under section 2 (ca) read with section 112 of the Act.

		under, hereby recognise(Name of the institution)				
of Shri	aged	employed				
(Name of the per	rson)	•				
lifts and hoists, lifting machines and I	nations, inspections and certification for such b ifting tackels, pressure plants, confined space, ven nay be, used in a factory under the Act	tilation system and process of				
This certificate is valid from	to					
This certificate is issued subject to	o the conditions stipulated hereunder:					
(i) Tests, examinations and in the rules made thereunder;	spections shall be carried out in accordance with	the provisions of the Act and				
	spections shall be carried out under direct supervised by an institution recognised to be a competent p					
(iii) The certificate of competer organisation mentioned in his	ncy issued in favour of a person shall stand car is application;	ncelled if the person leaves th				
	as a competent person shall keep the Chief Insons of the persons authorised by it to carry	_				
(v)						
(vi)						
	Y					
Station Date	Official Seal	Signature of th Chief Inspecto				

Note:—A separate certificate should be issued under each relevant section. A person or an institution may be recognised as competent for the purpose of more than one section of the Act.

Register containing particulars of monitoring of working environment required under section 7-A(2) (e) of the Act.

1. Name of the Department/Plant

2. Raw materials, by-products and finished products involved in the process.

3. Particulars of sampling

Sl. No.	Location/ Operation monitored	Identified contami- nant	Date & time of monitoring	Sampling instrument used	Airbor No. of samples		mination Average	TWA Concentration (as given in Second Schedule)	Reference method	Number of workers exposed at the location being monitered continuous short term exposure	R e m a r k s	Signature of person taking samples	Name (in block letters)
1	2	3	4	5	6	7	8	9	10	11	12	13	14

FORM NO. 31

[See rule 63A]

FORM OF APPLICATION TO THE SITE APPRAISAL COMMITTEE

- 1. Name and address of the applicant
- 2. Site Ownership Data
- 2. (1) Revenue details of site such as Survey No.
 Plot No.

etc.

- 2. (2) Whether the site is classified as forest and if so, whether approval of the Central Government under section 5 of the Indian Forests Act, 1927 has been taken.
- 2. (3) Whether the proposed site attracts the provisions of sections 3(2) (v) of the Environment Protestim Act, 1986, if so, the nature of the restrictions.
- 2. (4) Local authority under whose jurisdiction the site is located.

2. Site Plan

- 3. (1) Site Plan with clear identification of boundaries and total area proposed to be occupied and showing the following details nearby the proposed site.
 - (a) Historical monument, if any, in the vicinity.
 - (b) Names of neighbouring manufacturing units and human habitats, educational and training institution, petrol installations, storages of LPG and other hazaradous substances in the vicinity and their distances from the proposed unit.
 - (c) Water sources (rivers, streams, canals, dams, water filtration plants, etc.) in the vicinity.
 - (d) Nearest hospitals, fire-stations, civil defence stations and police stations and their distances.
 - (e) High tension electrical transmission lines, pipelines for water, oil, gas or sewerage; railway lizes, roads, stations, jetties and other similar installations.
- 3. (2) Details of soil conditions and depth at which hard strata obtained.
- 3. (3) Contour map of the area showing nearby hillocks and difference in levels.
- 3. (4) Plot plan of the factory showing the entry and exit points, roads within, water drains, etc.

4. Project Report

- 4. (1) A summary of the salient features of the Project.
- 4. (2) Status of the organisation (Government, semi-government, public or private, Etc.)
- 4. (3) Maximum number of person likely to be working in the factory.
- 4. (4) Maximum amount of power and water requirements and source of their supply.
- 4. (5) Block diagram of the buildings and installations, in the proposed supply.
- 4. (6) Details of housing colony, hospitals, school and other infrastructural facilities proposed.

5. Organisation structure of the proposed manufacturing unit/factory

- 5. (1) Organisation diagrams of—
 Proposed enterprise in general. Health, Safety
 and Environment protection, departments and
 their linkage to operation and technical departments.
- 5. (2) Proposed Health and Safety Policy.
- 5. (3) Area allocated for treatment of wastes and effluent.
- 5. (4) Percentage outlay on safety, health and environment protection measures.

6. Meteorological data relating to the site

6. (1) Average, minimum and maximum—
 Temperature
 Hunidity
 Wind velocities during the previous the years.

- 6. (2) Seasonal variations of wind direction.
- 6. (3) Heighest water level reached during the floods in the area recorded so far.
- 6. (4) Lightening and seismic data of area.

7. Communication Links

- 7. (1) Availability of telephone/telex/wireless and other communication facilities for outside communication.
- 7. (2) Internal communication facilities proposed.

8. Manufacturing Process Information

- 8. (1) Process flow diagram
- 8. (2) Brief write up on process and technology.
- 8. (3) Critical process parameters such as pressure build-up, temperature rise and run-away reactions.
- 8. (4) Other external effects critical to the process having safety implications, such as ingress of moisture or water, contact with incompatible substances, sudden power failure.
- 8. (5) Highlights of the build-in safety pollution control devices or measures/incorporated in the manufacturing technology.

9. Information of hazardous materials

- 9. (1) Raw materials, intermediates, products and by-products and their quantities Eaclose Material Safety Data Sheet in respect of each hazardous substance).
- 9. (2) Main and intermediate storage proposed for raw materials intermediates products/by-products (maximum quantities to be stored at any time).
- 9. (3) Transportation methods to be used for materials inflow and outflow, their quantities and likely routes to be followed.

9. (4) Safety measures proposed for—

handling or materials;

internal and external transportations; and

disposal (packing and forwarding of finished products)

10. Information on Disposal Disposal of Wastes and Pollutants

- 10. (1) Major pollutants (gas, liquid, solid,) their characteristics and quantities (average and at peak loads).
- 10. (2) Quality and quantity of solid wastes generated, method of their treatment and disposal.
- 10. (3) Air, water and soil pollution problems anticipated and the proposed measures to control the same, including treatment and disposal of effluents.

11. Process Hazards Information

- 11. (1) Enclose a copy of the report on environmental impact assessment.
- 11. (2) Enclose a copy of the report on Risk Assessment study.
- 11. (3) Published (open or classified) reports, if any, on accident situations/occupational health hazards or similar plants elsewhere (within or outside the country).

12. Information of proposed Safety and Occupational Health Measures

- 12. (1) Details of fire fighting facilities and minimum quantity of water, COZ and or other fire fighting measures needed to meet the emergencies.
- 12. (2) Details of in-house medical facilities proposed.

13. Information on Emergency Proparadness

- 13 (1) Onsite emergency plan.
- 13. (2) Proposed arrangements, if any, for mutual aid scheme with the group of neighbouring factories,

14. Any other relevant information

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

Name and signature of the applicant.

FORM—32 (See Rule 63D) MATERIAL SAFETY DATA SHEET

1. CHEMICAL IDENTITY

Chemical Name	Chemical Classification								
Synonyms	Trade Name								
Formula	a manggali Samanga yak di sani sani sani sa maka di sani sani sani sani sani sani sani san	C.A.S. No.			U. N. No.				
Regulated Inentification	SI C	Hazchem No.:							
		D. No. :							
Hazardous Ingredients	C.A.S. No	Hazardous	Ingredients	C.,	A.S. No. :				
1.		3.	Constitution of the second second second second second second second second section second section (second second		et 17 an europeanneachta de la samme en meile, komme is van kristische missel verschiede versche deutsche deutsch				
2.	Account of the second s	4.	·	NACOTE NO SEAL TO ASSESS THE SEAL OF THE S	AND MAKES				
2. PHYSICAL AND CH	EMICAL DATA		and the second s		TOTAL CONTROL OF THE STATE OF T				
Boiling Range/Point	°C	Physi	cal State	Appear	rance				
Melting/Freezing Point	° C	Vapou at 35°	ir Pressure C	mm Hg	Odour				
Vapour Density (Air = 1)	Solubility	in water at 30°C	and a second a second and a second a second and a second		Others				
Specific Gravity Water = 1		H p	and the state of t						
3. FIRE AND EXPLOSI	ON HAZARD DA	ATA							
Flammability	Yes/No. LEL		% Flash Point	°C	Autoignition °C Temperature				
TDG Flammability		UEL	% Flash Point	°C					
Explosion Sensitivity to In	npact	Explosion Ser to Static Elec	•		Hazardous Combustion Products				
Hazardous Polymerisation									
Combustible Liquid		Explos Materi			Corrosive Material				
Flammable Material		Oxidise	er	e e-a i manana manda dakacan e ega a a a a a a a a a a a a a a a a a	Others				
Pyrophoric Material		Organio	Peroxide						

4. REACTIVITY DA	TA				AND THE SECOND S			
	7.1 \(\text{7.1} \)	Рому насе ^б ия том Мібе і покаріта постату на при ¹⁹⁸ 8 ^{на в} ебері покарату г	NET AN SECURITY AND THE SECURITY SECURI	north the contract of the cont				
Chemical Stability			*					
Incompatibility with other Material	entermone de la companya de la comp			and the second s	MICE - AND PROGRAMMENT AND STATE OF THE STAT			
Reactivity	MANATOR MANATOR MANAGEMENT OF A PROPERTY OF			The state of the s				
Hazardous Reaction Products	4							
5. HEALTH HAZAF	RD DATA							
Routes of Entry								
Effects of Exposure/Symptoms	_							
Emergency Treatment								
TLV (ACGIH)	ppm	mg/m³	STEL	ppm	mg/m³			
Permissible Exposure Limit LD _{5 0}	ppm	mg/m ³	Odour Threshold LD_{5-0}	ppm	mg/m³			
NFPA Hazard Signals	Healt	h	Flammability	Stability	Special			
6. PREVENTIVE MI	EASURES							
Personnel Protective Ed	quipment							
Handling and Storage	Precautions							
7. EMERGENCY AND FIRST AID MEASURE								
FIRE		FIRE EXTING	GUISHING					
FIRE		Special Proced	ures					
		Unusal Hazard	S .	and the supply and th				
EXPOSURE		First Aid Mea	sures					
	**************************************	Antidotes/Dos	ages	-				
SPILLS		Steps to be tak	sen					
		Waste Disposa	al Method					

112 THE CALCUTTA	A GAZETTE, EXTRAORDINARY, DECEMBER 12, 1991 [Part-I							
3. ADDITIONAL INFORMATION)N/REFERENCES							
f								
тем от температический поставления принципальный размента и подражения поставления поставления поставления вып								
9. MANUFACTURES/SUPPLI	ERS DATA							
TO THE RESIDENCE OF THE THE PROPERTY OF THE PR	Contact Person in Emergency							
Name of Firm	Local Bodies involve							
Mailing Address Telephone/Telex Nos.	Standard Packing							
Telegraphic Address	Tremcard Details/Ref							
	Other							
10 DIGGI ATSERS								
10. DISCLAIMER								
	his material data sheet is belived to be reliable but no representation, guarantee le as to its accuracy, suitability for a particular application or results to be obtained							
from them. It is upto the manusheet is relevant to the product r	infacturer/seller to ensure that the information contained in the material safety data manufactured/handled or sold by him as the case may be. The Government makes and in respect of the adequacy of this document for any particular purpose.							
	By order of the Governor,							
	Sd/- S. C. RAY							
	Deputy Secretary to the							
	Govt, of West Bengal,							

Memo No. 1183/1 (24)-LW Dated: 27th November, '91

Copy forwarded for information and necessary action to the :-

- 1. The Chief Inspector of Factories, West Bengal.
- 2. The Joint Secretary to the Government of India Ministry of Labour, Shram Sakti Bhavan, New Delhi.

3

Sd/- S. C. ROY Deputy Secretary

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Gazette

Extraordinary

Published by Authority

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THURSDAY, SEPTEMBER 24, 1992

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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

Law Branch

2, Brabourne Road (7th floor), Calcutta-1.

No. 574-LW 1R-1/91 Dt. Calcutta, the 30th June, '92

CORRIGENDUM

In this department notification No. 1183-LW/1R-1/91, dated the 27th November, 1991, published at pages 1 to 112 of the Calcutta Gazette, Extraordinary, of the 12th December, 1991, under the heading 'Amendments',—

- (1) at para 8, in "Schedule B", in sub-item (f) in column (2) against item J in column (1) for the figures '30,00,000', read the figures '3,00 000':
- (2) at para 15, in "Schedule II", in paragraph 2, in clause (h), for the word "Rarnett", read the word "Garnet":
- (3) at page 32, in the second column, in line 8, for the figures and letter "6E 3", read the figures and letter "63E".
- (4) at page 40, in the first column, in line 2, for the figures and letter "46A", read the figures and letter "66A.":
- (5) at page 88, in paragraph 65, under the heading FORM No. 2. '—
 - (a) in item 1, in sub-item (b), for the words 'different from', read the words "if different from";
 - (b) in item 6, in sub item (a), for the words "proprietory of concern", read the words "proprietory concern";
- (6) at page 89,—
 - (a) in item 7, for the words, figure, letter and brackets "Name and address of the occupier under Section 2 (n) of the Act.

Nam	le					
Add	ress					
read	the letters, words, figure and brackets					
"(a) Name and address of the occupier 1						
	Section 2 (n) of the Act.					
	Name					
	Address					
(b)	Name and residential address of the manager.					
	Name					
	Address					
, ,	in item 13, for the words "registered factories", read the words "registered factory";					
(c)	in the foot-note, in paragraph (1)—					

read the word "submitted".

By order of the Governor J. C. Ray

Dy. Secy. to the Government of West Bengal

(i) in line 1, for the words "due signed",

(ii) in line 2, for the word "returned",

read the words, "duly signed";

Memo N	lo. 574/1	(2)-LW	dt.	30.	6.	92
forwarded	10 -					

Copy forwarded to:—
1. Chief Inspector of Factories, West Bengal

2. Government of India, Ministry of Labour

3.

Dy. Secretary

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