(ii)All wood work shall be varnished or painted once in three years dating from the period when last varnished or painted;

(iii)All internal structural iron or steel work shall be vanished or painted once in three years dating from the period when last vanished or painted:

Provided that inside walls of the kitchen shall be lime washed once in every four months.

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

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

Suitable arrangements shall be made for the collection and disposal of garbage.

92.Dining hall.-(1) The dining hall shall accommodate at a time at least 30 percent of the workers working at a time:

Provided that in any particular factory or in any particular class of factories, [the Chief Inspector of Factories](Substituted by G.O. (Ms) No. 4/87/LBR, dt. 17-01-1987) may, by an order in writing in this behalf alter the percentage of workers to be accommodated.

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

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

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

Provided that where the Chief Inspector is satisfied that satisfactory alternate arrangements are made, he may exempt any particular factory or class of factories from the provisions of this sub-rule.

(5)Soaps and towels should be provided at the washing places in the canteen for the use of the workers.

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

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

(3)Food and food materials should be stored in fly-proof safes and handled with the help of wooden ladles or suitable metal forceps whichever is convenient. Vessels once used should be scaled before being used again:

94.Prices to be charged.-(1) Food, drinks and other items served in the canteen shall be served on a non-profit basis and the prices charged shall be subject to the approval of the Canteen Managing Committee. In the event of the committee not approving the price list should be sent to the Chief Inspector for approval:

Provided that where the canteen is managed by a Co-operative Society registered as such, such society may be allowed to include in the charges to be made for the foodstuffs served, a profit up to 5 per cent on its working capital employed in running the canteen.

"(2)In computing the prices referred to in sub-rule(1), the following items of expenditure shall not be taken in to consideration, but will be borne by the Occupier:-

(a)the rent for the land and building;

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

(c)the cost of purchase, repairs and replacement of equipment, including furniture, crockery, cutlery, and utensils;

(d)the water charges and expenses for providing lighting and ventilation;

(e) the cost of fuel required for cooking or heating foodstuffs or water; and

(f) the wages of the employees serving in the canteen and the cost of uniforms, if any, provided to them."

(3)The charge per portion of foodstuff, beverages and any other item served in the canteen shall be conspicuously displayed in the canteen.

[94A. Supply of balanced diet in the canteen.-(Inserted by GO (Rt) No. 1567/79/LBR, dt. 3-11-1979)

(1)The management shall ensure that the foodstuffs provided in the Canteen are based on a balanced diet taking into account the requirements of nutrition for an average worker.

(2)The foodstuffs to be served in the Canteen should be approved by the Canteen Managing Committee in accordance with the requirements of a balanced diet.

(3)Where there is no Canteen Managing Committee the foodstuffs to be served shall be got approved by the Director of Factories and Boilers.

(4)Where a Canteen Managing Committee is not able to agree on a balanced diet, the matter should be referred to the Director of Factories and Boilers and his decision thereon shall be final.

95.Account.-(1) All books of accounts, registers and any other documents used in connection with the running of the canteen shall be produced on demand to an Inspector of Factories.

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

Provided that the accounts pertaining to the canteen in a Government Factory having its own Accounts Department may be audited in such department:

Provided further that where the canteen is managed by a Co-operative Society registered as such, the accounts pertaining to such canteen may be audited in accordance with the provisions of the Co-operative Societies Act for the time being in force.

96Managing Committees.

The Manager shall appoint a Canteen Managing Committee which shall be consulted from time to tome as to:-

(a)The quality and quantity of foodstuffs to be served in the Canteen;

(b)The arrangement of the menu;

(c)Time of meals in the canteen; and

(d) Any other matter as my be directed by the committee:

Provided that where the canteen is managed by a Co-operative Society registered as such, it shall not be necessary to appoint a Canteen Managing Committee.

(2)The Canteen Managing Committee shall consist of an equal number of persons nominated by the occupier and elected by the workers. The number of elected workers shall be in the proportion of one for every 1000 workers employed in the factory, provided that in no case shall there be more than five or less than two workers on the Committee and in cases where the workers refuse to elect their representatives the occupier shall himself nominate the workers representatives.

(3)The occupier shall appoint from among the persons nominated him, a Chairman of the Canteen Managing Committee.

(4)The Manager shall determine and supervise procedure for elections to the Canteen Managing Committee.

(5)A Canteen Managing Committee shall be dissolved by the Manager, two years after the last election, no account being taken of a bye-election or its constitution, as the case may be.

(6)Where the workers of a factory in which a canteen has been provided by the occupier in accordance with rules 91 to 93 for the use of the workers, desire to run the canteen by themselves on a co-operative basis with share capital contributed by themselves, the management may permit them to run the canteen in accordance with the byelaws of the co-operative canteen, subject to such conditions the Chief Inspector may, in consultation with the Registrar of Co-operative Society, impose.

96A. Medical inspection of canteen staff. – Annual medical examination for fitness of each member of the canteen staff who handles food stuffs shall be carried out by the factory medical officer or the certifying surgeons which should include the following:

(1)Routine blood examination

(2)Routine and bacteriological testing of faces and urine for germs of dysentery and typhoid fever

(3)Any other examination including chest X-ray that may be considered necessary by the factory medical officer or the certifying surgeons.

Any person who in the opinion of the factory medical officer or the certifying surgeon is unsuitable for employment on account of possible risk to the health of others shall not be employed as canteen staff.

Workers who have any skin sores must not be allowed to work.

97.Relaxation of rule in the case of centralized cooking.- The provisions of rules 91 to 96 may be relaxed by the Chief Inspector, subject to such conditions as he may deem fit, in the case of factories belonging to the same business groups or amalgamation where centralized cooking in an approved industrial canteen is arranged for. Adequate arrangements to the satisfaction of the Chief Inspector shall, however, be made in such cases for the conveyance and proper distribution of the food so cooked to the workers concerned as if separate canteen had actually be provided at site, in the factories covered by this relaxation.

Rules under Section 47

98. Shelters, rest rooms and lunch rooms.

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

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

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

(b)The height of every room in the building shall be not less than 12 feet form floor level to the lowest part of the roof and there shall be at least 12 square feet of floor area for every person employed:

Provided that (i) workers who habitually go home for their meals during the rest period may be excluded in calculating the number of workers to be accommodated and (ii) in the case of factories in existence at the date of commencement of the Act, where it is impracticable owing to lack of space or other difficulties, provide 12 square feet of floor area for each person, or to provide a minimum height of 12 feet such reduced floor area per person or reduced height shall be provided as may be approved in writing by the Chief Inspector.

(c)Effective and suitable provision shall be made in every room for securing and maintaining adequate ventilation by the circulation of fresh air and there shall also be provided and maintained sufficient and suitable natural or artificial lighting.

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

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

(f)The Chief Inspector may, for reasons to be recorded in writing, relax the provisions of this rule subject to such conditions as he may deem fit to impose, in respect of factories in existence on the 1st April 1949.

[(3)The lunch rooms shall.- (Inserted by GO(Ms) No.4/87/LBR. Dt. 17-01-1987)
(a) Comply with the requirements laid down in clauses (a) to (f) of sub-rule (2); and
(b) Be provided with adequate number of tables with impervious tops for the use of workers for taking food.]

Rule 98 : By Notification dated 6-6-1958 in Kerala Gazette dated 24-6-1958 the Rule came into force at once in respect to Cashew Factories, Match Factories, Paper Mills, Cotton Spinning Hosiery Works and Cotton Weaving Factories, Coir-mats and Matting Factories, and Yarn Bailing Factories, Factories manufacturing splints, Veneers or Plywood, Saw Mills and Wood Works, Soap Factories, Coffee Works, Tile factories, Engineering Works, Chemical Factories, Rayon Factories, Cement Factories, Sugar Factories, Aluminium Factories, Rubber Factories, Printing Presses and Glass Factories.

Rules 99 to 102 under sub-section (3) of Section 48

99.Creches.

(1)Rules 99 to 102 shall come into force, in respect of any class or description of factories, on such dates as the State Government may, by notification in the Official Gazette appoint in this behalf.

(2)The crèche shall be conveniently accessible to the mothers of the children accommodated therein and so far as is reasonably practicable it shall not be situated in close proximately to any part of the factory where abnoxious fumes, dust or odours are given off or in which excessively noisy processes are carried on.

(3)The building in which the crèche is situated shall be soundly of constructed and all the walls and roof shall be of suitable heat resisting materials and shall be water proof. The floor and internal walls of the crèche shall be so laid or finished as to provide smooth impervious surface

(4)The height of the rooms in the building shall be not less than 12 feet from the floor to the lowest part of the roof and there shall be not less than 20 square feet of floor area for each child to be accommodated:

Provided that in the case of a room having sloping roofs, the Chief Inspector may reduce the above minimum height if he is satisfied that the room will be sufficiently cool.

(5)Effective and suitable provision shall be made in every part of the crèche for securing and maintaining adequate ventilation by the circulation of fresh air.

(6)The crèche shall be adequately furnished and equipped and in particular there shall be one suitable cot or cradle with the necessary bedding for each child: (provided that for children over two years of age it will be sufficient if suitable bedding is made available) at least one chair or equivalent seating accommodation for the use of each mother while she is feeding or attending to her child, and a sufficient supply of suitable toys for the older children.

(7)A suitably fenced and shady open air play grounds shall be provided for the older children: Provided that the Chief Inspector may by order in writing exempt any factory from compliance with this sub-rule if he is satisfied that there is not sufficient space available for the provision of such a play ground.

(8)Where the number of children and infants accommodated in any crèche exceeds twenty-five, one woman, experienced in the care of children and infants, shall be appointed for every additional twenty-five or less number of children and infants accommodated, to assist the woman-in-charge of the crèche.

100.Wash room.

(1)There shall be in or adjoining the crèche a suitable wash room for the washing of the children and their clothing. The wash room shall conform to the following standards:-

(a)The floor and internal walls of the room to a height of 3 feet shall be so laid or finished as to provide a smooth impervious surface. The room shall be adequately lighted and ventilated and the floor shall be effectively drained and maintained in a clean and tidy condition.-

(b)There shall be at least one basin or similar vessel for every four children accommodated in the crèche at any one time together with a supply of water provided if practicable, through tap from a source approved by the Health Officer. Such source shall be capable of yielding for each child a supply of at least five gallons of water a day.

(c) An adequate supply of clean clothes, soap and clean towels shall be made available for each child while it is in the crèche.

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

101.Supply of milk and refreshment.- Al least half a pint of clean pure milk shall be available for each child, on every day it is accommodated in the crèche and the mother of such a child shall be allowed in the course of her daily work. 2 intervals of at least 15 minute each to feed the child. For children above two years of age there shall be provided in addition an adequate supply of wholesome refreshment.

102.Clothes for crèche staff.- The crèche staff shall be provided suitable clean clothes for use while on duty in the crèche.

[102A. Exemption from the provision of crèche (Inserted by GO(Rt).1567/79/L&H dt. 03.11.1979)

(1) In factories where the number of married women or widows employed does not exceed 15 or where the factory works for less than 180 days in a calendar year, or where number of children kept in the crèche was less than 5 in the preceding year, the Chief Inspector may exempt such factories from the provisions of Section 48 and the rules 99 to 102 made there under, if he is satisfied that alternate arrangements as stipulated under sub-rule (2) are provided by the factory.

(2) (a) The alternate arrangements required in sub-rule(1) shall include a crèche building which has a minimum accommodation at the rate of 1.86sq.m per child and constructed in accordance with the plans approved by the Chief Inspector.

(b)The crèche building shall have,

(i)A suitable wash room for washing of the children and their clothing.

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

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

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

CHAPTER VI
WORKING HOURS OF ADULTS

Rule under sub-section (2) of Section 53

103.Compensatory Holidays.

(1)Except in the case of workers engaged in any work which for technical reasons must be carried on continuously throughout the day, the compensatory holidays to be allowed under sub-section(1) of Section 52 of the Act shall be so spaced that not more than two holidays are given in one week.

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

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

(4) (a) The Manager shall maintain a Register in Form No.9:
Provided that, if the Chief Inspector of Factories is of the opinion that any Muster Roll or Register maintained as part of the routine of the factory or return made by the Manager, gives in respect of any or all of the workers in the factory the particulars required for the enforcement of Section 52, he may, by order in writing, direct that such muster roll or register or return shall, to the corresponding extent, be maintained in place of and be treated as the register or return required under the rule for that factory.

(b) The register maintained under Clause (a) shall be preserved for a period of three years after the last entry in it and shall be produced before the Inspector on demand.

Rules under Section 59

104. Muster roll for exempted factories.

(1)The Manager of every factory in which workers are exempted under Section 64 or 65 from the provisions of Section 51 or 54 shall keep a muster roll in Form No. 10 showing the normal piece work rate of pay or the rate of pay per hour, of all exempted employees. In this muster roll, shall be correctly entered the overtime hours of work and payments therefore of all exempted workers. The muster roll in Form No.10 shall always be available for inspection.

(2)The cash equivalent of the advantage accruing through the concessional sale to a worker of food grains and other articles shall be computed at the end of every wage period fixed under the provisions of the Payment of Wages Act, 1936.

(3)For the purposes of computing cash equivalent of the advantage accruing through the concessional sale to a worker of food grains and other articles, the difference between the value of food grains and other articles at the average rates in the nearest market prevailing during the wage period in which overtime was worked and value of food grains and other articles supplied at concessional rates shall be calculated and allowed for the number of overtime hours worked.

(4)Period of overtime worked shall be entered in overtime slips in duplicate, a copy of which duly signed by the Manager or by a person duly authorized by him shall be given to the worker immediately after completion of the overtime work.

Sub-rules (2) and (3) shall not apply to any Federal Railway Factory whose alternative method of computation has been approved by the State Government;

Provided that if the Inspector is of opinion that any muster roll or register maintained as part of the routine of a factory gives in respect of any or all the workers in the factory, the particulars required in the form prescribed under this rule, he may by order in writing direct that such muster roll or register shall to the corresponding extent, be maintained in place of an treated as, the overtime muster roll for exempted workers in the factory.

105.Restriction of double employment.- An adult worker may be employed in more than one factory on the same day, with the previous approval of the Inspector, subject to the following conditions:-

(1)He shall not be employed for more than nine hours in all on any one day.

(2)He shall receive a weekly holiday in accordance with the provisions of Section 52.

(3) Every worker who is required to work in another factory on the same day shall carry with him a card in which the following particulars shall be entered by the manager of the first factory:-

(a)His normal periods of work as in the notice of periods of work, for the day.

(b)The period or periods he was worked in the first factory for the day.

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

Notice under sub-section (8) of section 61

106. Notice of periods of work for adults.- The notice of period of work for adult workers shall be in Form No.11

Register under sub-section (2) of Section 62

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

Rules 108 to 110 prescribed under Section 64

[108.Persons who hold position of supervision or management or are engaged in confidential position in a factory.- (Rules 108 to 110 including schedule substituted by SRO No. 1170/2004 dt. 03.11.2004)

(1) The following persons shall be deemed to hold positions of supervision or management, namely:-

1.Managers

2.Assistant Managers

3.Departmental Heads and Assistants

4.Engineers

5.Foremen

6.Chargemen or Head Maistries in Engineering Workshops

7.Weaving Master and spinning Master in Textile Mills

8.Head Electricians/Electrical Supervisors
9.Head Tea Makers
10.Head Rubber Makers
11.Assistant Head Tea Makers
12.Assistant Head Rubber Makers
13.Moopans in Oil Mills
14.Moopans, Yard Superintendents, Yard supervisors, Assistant Yard Superintendents and Assistant Yard-Supervisors in Coir Factories.
15.Labour or welfare Officers
16.Security Officers
17.Assistant Security Officers including Security Inspectors
18.Guards
19.Shifts in charge
20.Industrial Relations Managers
21.Supervisors
22.Safety Officers

(2) Persons defined to hold confidential position.

(i)All Time keepers employed in a factory within the meaning of clause (1) of section 2 shall be deemed to be employed in a confidential position in the factory;

(ii)Stenographers and Personal Clerks of Managers or Managing Directors of factories;

(iii)Any other person, declared in writing by the Government as holding a confidential position in the Factory and is declared so, in writing, by Government on application by the manager of the factory under conditions as may be imposed by the Government;

(iv) staff maintaining personal files/Service Registers

109.List to be maintained of persons holding confidential position or position of supervision of management.- A list showing the names and designations of all persons to whom the provisions of sub-section (1) of section 64 have been applied, shall be maintained in every factory.

110.Exemption of certain adult workers.-Adult workers engaged in factories specified in column(2) of the Schedule below for the work specified in column (3) of the said schedule shall be exempted from the provisions of the sections specified in column (4) subject to the conditions if any, specified in column (5) of the said schedule.

Schedule

Section of the Act empowering grant of exemption	Class of factory	Nature of exempted work	Extent of exemption	Remarks
(1)	(2)	(3)	(4)	(5)
64 (2) (a) and 64 (3)	All factories	Urgent repairs	Sections 51, 52, 54, 55, 56 and 61	(1) No worker shall be employed on such repairs for more than 15 hours on any one day, 39 hours during any three consecutive days or 66 hours during each period of seven consecutive days commencing from his first employment on such repairs (2) Within 24 hours of the commencement of the work,

				notice shall be sent to the Inspector describing the nature of the urgent repairs and the period probably required for their completion. (3) Exemption from the provisions of section 54 shall apply only in the case of adult male workers.
64 (2) (b) and 64 (3)		(1) Work in the machine-shop, the smithy or the foundry or in connection with the mill gearing the electric driving of lighting apparatus, the mechanical or electrical lifts or the steam or water pipes or pumps of a factory (2)Work of examining or repairing any machinery or other part of the plant which is necessary for carrying on the work in the factory. (3)Work in boiler houses and engine rooms, such as lighting fires, in order to raise steam or generate gas preparatory to the commencement of regular work in the factory.	Section 51, 54 55, 65 & 61	The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of section 64.
64 (2) (c) and 64 (3)	All factories	Work performed by drivers, on lighting, ventilating and humidifying apparatus work performed by fire pump men.	Sections 51, 54, 55, 56 and 61	The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of section 64
64 (2) (c)	Rice mills	Work of persons employed for filling and sewing bags of rice for delivery to customers	Sections 51, 54, 55 and 56	do
Do	News paper presses	Work of persons employed in the rotary machines, stereo, binding and process department	Sections 51, 54, 55 and 56	do
Do	Railway Creosoting Plant	Treatment of wooden sleepers required for railway work	Sections 51, 54, 55 and 56	do
Do	Coir Factories	Workers engaged in drying coir yarns	Section 55	Nil
Do	Beedi Factories	Work of all persons	Sections 55 and 61	Exemption from the provisions of section 61 will apply in so far as it relates to a specification of the periods of rest intervals in the notice of work periods for adults.
64 (2) (c), 64 (2) (e) and 64(3)	Fertilizer mixing Factories	Worker engaged in mixing of fertilizers	Sections 51, 52, 54, 55, 56 and 61	The limits of work inclusive of overtime shall not exceed those mentioned in sub section (4) of section 64.

64 (2) (d)	Enamel Works	Work in furnace and annealing room	Section 55 and 61	Exemption from the provisions of section 61 will apply in so far as it relates to a specification of the periods of rest intervals in the notice of work periods for adults.
Do.	Plywood Manufacture	Work of cutting, gumming, pressing and drying of Plywood	Sections 55 and 61	do.
Do.	Cashew Factories	Work in the processing of Cashew nut for oil	Section 52	Nil
Do.	Tanneries	Country and Chrome tanning, all process from the receiving of skins to the completion of the tanning process finishing process being excluded	Sections 51, 54 and 55	(1) The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of Section 64. (2) The total number of hours worked in a week inclusive of overtime shall not exceed 56.
64 (2) (d)	Textile dyeing factories (non power)	Workers employed in the dyeing, bleaching and finishing sections	Section 51, 54, 55, 56 and 61	(1) The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of section 64. (2) The exemption from the provision of Section 61 will apply in so far as it relates to a specification of the periods of rest intervals in the notice of work periods for adults. (3) Total number of hours inclusive worked in a week of overtime shall not exceed fifty six.
64 (2) (d)	Chicory factories	Work of persons engaged in the process of drying chicory	Sections 55 and 61	Exemptions from the provisions of Section 61 will apply in so far as it relates to a specification of the periods of rest intervals in the notice of work periods for adults.
64 (2) (d)	Electrical Battery charging works	All works	Section 55	Nil
64 (2) (d) and 64 (3)	Oil tank installations	Works performed by workers in connection with pumping operations	Sections 51, 52, 54, 55, 56 and 61	(1) The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of Section 64 (2) The total number of hours worked in a week inclusive of overtime shall not exceed fifty-six

Do.	Fish curing or canning or freezing factories	All adult workers engaged in fish curing or fish canning or fish freezing	do	
64 (2) (d) and 64 (4)	Chemical factories	All workers engaged in continuous process work.	Sections 51, 52, 54, 55 and 56	(1) The Limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of section 64 (2) When any shift worker in the continuous process has to work the whole or part of a subsequent shift in the absence of worker who has failed to report for duty, exemption shall be deemed to have been granted to such workers from the restrictions imposed by Sections 51, 54 and clauses (i) and (ii) of Section 64(4) subject to the following conditions :- (a) The next shift of the shift worker shall not commence before a period of eight hours has elapsed. But if the same shift worker is again employed for two consecutive shifts on the following day also, his next shift on the succeeding day shall not commence before a period of sixteen hours has elapsed. (b) Within twenty-four hours of the commencement of the subsequent shift notice shall be sent to the Inspector, describing the circumstances under which the worker is required to work in subsequent shift. (c) The exemption will be restricted to only male adult workers. (3) The total number of hours worked in a week inclusive of overtime shall not exceed fifty-six This conditions shall not apply to the exemption shall not apply to the exemption granted under Section 64 (4).
64 (2) (d), 64 (3) and 64 (4)	Petroleum refineries	All workers engaged in continuous process work	Sections 51, 52, 54, 55, 56 and 61	do

Do.	Machine Tool Factory	Workers in the foundry, electrical and final assembly painting, maintenance, heat treatment and rectification work in planning, milling grinding and turning.	Sections 51, 52, 54, 55, 56 and 61	do
Do.	Bakeries	All workers engaged on continuous process work	Sections 51, 52, 54, 55, 56 and 61	do
64 (2) (d) and 64 (4)	Electrical generating and distribution station	Operation and maintenance of prime movers and auxiliaries, transformers and switches. The work of engine drivers and assistants, generator attendants, boilers attendants and greasers, switch board operators and pumpmen.	Sections 52, 54, and 55	(1) The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of Section 64 (2) When any shift worker in the continuous process has to work, the whole or part of a subsequent shift in the absence of a worker who has failed to report for duty, exemption shall be deemed to have been granted to such workers from the restrictions imposed by Sections 51, 54 and Clauses (i) and (ii) of Section 64 (4) subject to the following conditions:- (a) The next shift of the shift workers shall not commence before a period of sixteen hours has elapsed. b) Within twenty-four hours for the commencement of the subsequent shift notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the subsequent shift. c) The exemption will be restricted to only male adult workers.
64 (2) (d) and 64 (4)	Electrical transforming factories	The work viz., operation and maintenance of the transforming plant, switches and synchronous condensers.	Sections 52, 54 and 55	do
64 (2) (d) and 64 (4)	Distilleries	Work on the extraction of sugar from various bases fermentation of sugar juice and distillation of fermented wash.	do	do
Do	Sugar factories	Extraction of the juice from the cane, clarification, evaporation and boiling of the juice, curing of the massecuite and bagging.	do	do

Do	Municipal and public water and sewage pumping station	All workers engaged in continuous process work	do	do
Do.	Vegetable oil hydrogenation factories	The work, namely refining bleaching filtering generation of hydrogen hydrogenating and deodorizing processes up to the end of filling up the finished refined or hydrogenated product. Also compression of oxygen and the cylinder filling and work in the electrical power plant	Sections 51, 52, 54, 55 and 56	1) The limits of works inclusive of overtime shall not exceed those mentioned in sub-section (4) of section 64. 2) When any shift worker in the continuous process has to work the whole or part of a subsequent shift in the absence of a worker who has failed to report for duty, exemption shall be deemed to have been granted to such worker from the restrictions imposed by section 51, 54 and clauses (i) and (ii) of section 64(4) subject to the following conditions:- (a) The next shift of the shift worker shall not commence before a period of sixteen hours has elapsed. (b) Within twenty-four hours of the commencement of the subsequent shift notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the subsequent shift. c) The exemption shall be restricted to only male adult workers 3) The total number of hours worked in a week, inclusive of overtime, shall not exceed fifty-six. This condition shall not apply to the exemption granted under Section 64(4)
64 (2) (d) and 64 (4)	Ice Factories	Work of the engine and compressor drivers and assistants and oilers	Sections 52, 54 and 55	1) The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of Section 64. 2) When any shift worker in the continuous process has to work the whole or part of a subsequent shift in the absence of a worker who has failed to report for duty, exemption shall be deemed to have been granted to such workers from the restrictions imposed by Sections 51 and 54 and Clauses (i)

				and (ii) of Section 64(4) subject to the following conditions:- a) The next shift of the shift worker shall not commence before a period of sixteen hours has elapsed. b) Within twenty-four hours of the commencement of the subsequent shift, notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the subsequent shift. c) The exemption will be restricted to only male adult workers.
Do	Glass factories	Work in attending to furnace. All work and processes from mixing to removal of the manufactured glassware from the lears.	Section 52	do
Do	Paper factories	All work on paper making machinery and on the generation and supply of power connected, therewith. Work on choppers, digesters kneeders, strainers, and washers, beaters paper making machines pumping plant, reelers, cutters and power plant.	Sections 52, 54 and 55	do
Do	Rubber tyre factories and Tyre Re-treading factories	All work	Sections 51, 52, 54 and 55	do
64 (2) (d) and 64 (4)	Hardboard factories	All workers on chipper and Sorters. Digesters, Defibractors, Holandors, Mixers and Strainers, Beaters, Board forming Machines, Hardening and tempering chambers, Humidifiers pumping Plants and Trimmers	Section 55	When any shift worker in the continuous process has to work the whole or part of subsequent shift in the absence of worker who has failed to report for duty, exemption shall be deemed to have been granted to such workers from the restrictions imposed by sections 51, 54 and clauses (i) and (ii) of section 64(4) subject to the following conditions:- a) The next shift of the shift worker shall not commence before a period of sixteen hours has elapsed. b) Within 24 hours of the commencement of the subsequent shift, notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the

				subsequent shift. c) The exemption will be restricted to only male adult workers.
Do	Iron and Steel Factories	All work on steel furnaces	Sections 51, 52, 54, 55 and 56	(1) The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of Section 64 (2) When any-shift worker in the continuous process has to work the whole or part of a subsequent shift in the absence of a worker who has failed to report for duty, exemption shall be deemed to have been granted to such worker from the restrictions imposed by Section 51, 54 and Clauses (i) and (ii) of Section 64 (4) subject to the following conditions:- (a) The next shift of the shift worker shall not commence before a period of sixteen hours has elapsed. (b) Within twenty-four hours of the commencement of the subsequent shift, notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the subsequent shift. (c) The exemption shall be restricted to only male adult workers. (3) The total number of hours worked in a week inclusive of overtime shall not exceed 56. This condition shall not apply to the exemption granted under Section 64 (4).
64 (2) (d) and 64 (4)	Factories engaged in the manufacture of bricks, tile and pottery	Work in Kiln burners and work of firing the producer, loading and unloading of trucks and driving the engine, propelling the trucks in the continuous kiln section of potteries only	Sections 52, 55 and 61	When any shift worker in the continuous process has to work the whole or part of a subsequent shift in the absence of a worker who has failed to report for duty exemption shall be deemed to have been granted to such workers from the restrictions imposed by Sections 51, 54 and Clauses (i) and (ii) of Section 64 (4) subject to the following conditions;- (a) The next shift of the worker shall not commence before a period of sixteen hours has elapsed.

				(b) Within twenty-four hour of the commencement of the subsequent shift, notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the subsequent shift. (c) The exemption shall be restricted to only male adult workers.
Do	Aluminium Factories	All works	Sections 51, 52, 54, 55, 56 and 61	(1) The limits of work inclusive of over time shall not exceed those mentioned in sub-section (4) of Section 64 (2) When any shift worker in the continuous process has to work the whole or part of a subsequent shift in the absence of a worker who has failed to report for duty exemption shall be deemed to have been granted to such workers from the restrictions imposed by Sections 51, 54 and Clauses (i) and (ii) of Section 64 (4) subject to the following conditions;- (a) The next shift of the worker shall not commence before a period of sixteen hours has elapsed. (b) Within twenty-four hour of the commencement of the subsequent shift, notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the subsequent shift. (c) The exemption shall be restricted to only male adult workers. 3) The total number of hours worked in a week, inclusive of overtime, shall not exceed 56. This condition shall not apply to the exemption granted under Section 64 (4).
64 (2) (d) and 64 (4)	Aluminium Conductor Factories	All works	Sections 51, 52, 54, 55 and 56	(1) The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of section 64. (2) When any shift worker in the continuous process has to work the whole or part of a subsequent shift in the absence of a worker

				who has failed to report for duty exemption shall be deemed to have been granted to such workers from the restrictions imposed by Sections 51, 54 and Clauses (i) and (ii) of Section 64 (4) subject to the following conditions;- (a) The next shift of the worker shall not commence before a period of eight hours has elapsed. But if the same shift worker is again employed for consecutive shifts of the following day also, his next shift of the succeeding day shall not commence before a period of 16 hours has elapsed. (b) Within 24 hour of the commencement of the subsequent shift, notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the subsequent shift. (c) The exemption shall be restricted to only male adult workers. 3) The total number of hours worked in a week, inclusive of overtime, shall not exceed 56. This condition shall not apply to the exemption granted under Section 64 (4).
64 (2) (d) and 64 (4)	Copper Conductor Factories	All works	Sections 51, 52, 54, 55 and 56	(1) The limits of work inclusive of over time shall not exceed those mentioned in sub-section (4) of Section 64. (2) When any shift worker in the continuous process has to work the whole or part of a subsequent shift in the absence of a worker who has failed to report for duty exemption shall be deemed to have been granted to such workers from the restrictions imposed by Sections 51, 54 and Clauses (i) and (ii) of Section 64 (4) subject to the following conditions;- (a) The next shift of the worker shall not commence before a period of eight hours has elapsed. But if the same shift worker is again employed for two consecutive shifts of the following day also, his next shift of the succeeding

				day shall not commence before a period of 16 hours has elapsed. (b) Within twenty-four hours of the commencement of the subsequent shift, notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the subsequent shift. (c) The exemption will be restricted to only male adult workers. 3) The total number of hours worked in a week, inclusive of overtime, shall not exceed 56. This condition shall not apply to the exemption granted under Section 64 (4).
64 (2) (d) and 64 (4)	High Tensile Galvanised Steel Wire Plant and Steel Wire Rope Factories	All works	Sections 51, 52, 54, 55 and 56	(1) The limits of work inclusive of over time shall not exceed those mentioned in sub-section (4) of Section 64. (2) When any shift worker in the continuous process has to work the whole or part of a subsequent shift in the absence of a worker who has failed to report for duty exemption shall be deemed to have been granted to such workers from the restrictions imposed by Sections 51, 54 and Clauses (i) and (ii) of Section 64 (4) subject to the following conditions;- (a) The next shift of the worker shall not commence before a period of eight hours has elapsed. But if the same shift worker is again employed for consecutive shifts of the following day also, his next shift of the succeeding day shall not commence before a period of 16 hours has elapsed. (b) Within twenty-four hour of the commencement of the subsequent shift, notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the subsequent shift. (c) The exemption shall be restricted to only male adult workers. 3) The total number of hours worked in a week, inclusive of

				overtime, shall not exceed 56. This conditions shall not apply to the exemption granted under Section 64 (4).
64 (2) (d) and 64 (4)	Rayon Factories	All works	Sections 55	(1) The limits of work inclusive of over time shall not exceed those mentioned in sub-section (4) of Section 64. (2) When any shift worker in the continuous process has to work the whole or part of a subsequent shift in the absence of a worker who has failed to report for duty exemption shall be deemed to have been granted to such worker from the restrictions imposed by Sections 51, 54 and Clauses (i) and (ii) of Section 64 (4) subject to the following conditions;- (a) The next shift of the shift worker shall not commence before a period of sixteen hours has elapsed. (b) Within twenty-four hour of the commencement of the subsequent shift, notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the subsequent shift. (c) The exemption shall be restricted to only male adult workers.
64 (2) (d) and 64 (4)	Soap factories	(1) Work of person from the stage of handling and mixing of raw materials to the stamping and packing of soap tablets of bars both inclusive (2) Glycerine recovery and distillation plant-Complete working of the plant (3) Soap powder (spray plant) complete working of the plant.	Sections 51, 52, 54, 55 and 56	(1) The limits of work inclusive of over time shall not exceed those mentioned in sub-section (4) of Section 64. (2) When any shift worker in the continuous process has to work the whole or part of a subsequent shift in the absence of a worker who has failed to report for duty exemption shall be deemed to have been granted to such worker from the restrictions imposed by Sections 51, 54 and Clauses (i) and (ii) of Section 64 (4) subject to the following conditions;- (a) The next shift of the shift worker shall not commence before a period of sixteen hours has elapsed. (b) Within twenty-four hour of the

				commencement of the subsequent shift, notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the subsequent shift. c)The exemption shall be restricted to only male adult workers. 3) The total number of hours worked in a week inclusive of overtime shall not apply to the exemption granted under Section 64(4)
Do	Cement Factories	All workers engaged on continuous process work.	Section 55	When any shift worker in the continuous process has to work the whole or part of a subsequent shift in the absence of a worker who has failed to report for duty exemption shall be deemed to have been granted to such worker from the restrictions imposed by Sections 51, 54 and Clauses (i) and (ii) of Section 64 (4) subject to the following conditions;- a)The next shift of the worker shall not commence before a period of sixteen hours has elapsed. b)Within twenty-four hour of the commencement of the subsequent shift, notice shall be sent to the Inspector describing the circumstances under which the worker is required to work in the subsequent shift. c)The exemption shall be restricted to only male adult workers.
64 (2) (e) and 64 (3)	Naval establishments dealing with stores	All workers	Sections 52 and 61	The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of section 64.
64 (2) (f) and 64 (3)	Establishments dealing in the Export of Pepper, Ginger and Spices and other hill products	All workers	Sections 52 and 61	The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of section 64.
64 (2) (g) and 64 (3)	Factories in Tea and Rubber Plantations	Work of persons engaged in any manufacturing process in a factory situated in and used solely for the purpose of Tea and Rubber Plantations	Sections 52, 55 and 61	Do

Do	Salt factories	All works	do	do
Do	Oil Mills	Workers employed in the yard.	do	do
Do	Flour Mills	Workers employed in the yard.	do	do
Do	Rice Mills	Work of persons employed in drying, lifting and storing of paddy	do	do
Do	Cashew factories	Work of persons employed in receiving, drying, lifting and storing unpeeled or unshelled cashew nuts	do	do
Do	Wood working factories	Work of person engaged in drying of splints or veneers	do	Do
64 (2) (i)	Newspaper printing factories	Teleprinter Services	Sections 51, 54 and 56	Do
64 (2) (i) and 64 (3)	All factories	Workers engaged in the loading or unloading of railway wagons, lorries or trucks	Sections 51, 52, 54, 55, 56 and 61	(1) The total number of hours worked in a week inclusive of overtime shall not exceed 60. (2) The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of section 64.
64 (2) (d) and 64 (3)	All factories	Works on automatic equipment engaged in galvanizing, anodising and enameling	Sections 51, 52, 54, 55, 56 and 58	(1) The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of section 64. (2) The exemption shall be granted only in respect of adult male workers.
64 (2)	Any factory or class or description, of factories as may be notified by the State Government in the Official Gazette	Work of national importance as may be notified by the State Government in the Official Gazette	Sections 51, 52, 54, 55, 56 and 58	(1) The limits of work inclusive of overtime shall not exceed those mentioned in sub-section (4) of section 64. (2) The exemption shall be limited to adult male workers.

Explanation:-(1) The following shall be considered to be urgent repairs:-

(a) Repairs to any part of the machinery, plant or structure of a factory which are of such a nature that delay in their execution would involve danger to human life of safety or the stoppage of manufacturing process.

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

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

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

(2)Periodical cleaning is not included in the term 'examining or 'repairing.]

Rule prescribed under section 66(2)

[111.Exemption to women working in fish curing and fish canning or fish freezing factories.- (Substituted by SRO No. 827/2002 dt., 04/10/2002)

All women working in fish curing fish canning or fish freezing factories shall be exempted from the provisions of sub-section (1) of section 66 subject to the following conditions :-

(1) All women whose duty terminates or starts after 7 p.m. and before 6 a.m. should be provided with free conveyance from their residence to factory and back.

(2) No women shall be employed before 6.a.m. or after 7p.m. for more than three days in any one week. The number of days on which a woman may be so employed shall not exceed ninety in a year.

(3)A period of uninterrupted rest of at least nine hours shall intervene between the cessation of a period of work after 7 p.m., on any day and the beginning of a fresh period of work on the following day.]

CHAPTER VII
EMPLOYMENT OF YOUNG PERSONS

Notice under sub-section (3) of section 72

112.Notice of period of work for children. – The notice of periods of work for child workers shall be in Form No.13

Register under Sub-section (2) of section 73

113.Register of child workers- The register of child workers shall be in Form No.14

CHAPTER VIII
LEAVE WITH WAGES

Rules 114 to 121 under sections 83 and 112

114.Leave with wages register.

(1)The Manager shall keep a Register in Form No. 15 (hereinafter called the Leave With Wages Register):

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

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

115.Leave book and attendance card

(1)The Manager shall provide each worker who has become entitled to leave during a calendar year, with a book in Form No.16 (hereinafter called the Leave Book) not later than the 31st January of the following calendar year. The Leave Book shall be the property of the worker and the Manager or his agent shall not demand it except to make entries of the dates of holidays or interruptions in service, and shall not keep in for more than a week at a time:

Provided that in the case of a worker who is discharged or dismissed from service during the course of the year i.e., who comes under sub-section (3) of section 79 of the Factories Act, 1948, the Manager shall issue an abstract from the "Register of Leave with Wages" (Form No.15) within a week from the date of discharge or dismissal as the case may be].

(2)If a worker loses his Leave Book, the Manager shall provide him with another copy on the payment of fifteen paise, and shall complete in from his record.

(3)The Manager shall give an attendance card in Form No.28, free of cost, to every person employed in his factory. A fresh card shall be given to each worker on the first day of every calendar month. The Time-keeper or the Manager should mark his initials or affix any stamp mark specially made for the purpose on each of the date columns in the card for each day of presence of the person, every day and shall return the card to the person before he leaves the factory for the day. The card to be collected again every day when the person reports for work. The card shall be finally returned to the person within 10 days after the close of the month to which the card pertains.

If a person loses or destroys a card, the Manager may issue a new card and realize the value of the card provided the amount thus realized does not exceed five paise per card. No person shall be employed without the attendance card. The Chief Inspector may exempt any factory with such conditions as he may deem necessary, from complying with this rule if he is satisfied that the registers maintained in the factory are correct and up to date.

116.Medical Certificate- If any worker is absent from work due to his illness and he wants to avail himself of the leave with wages due to him to cover the whole or part of the period of his illness under the provisions of clause (7) of section 79 of Chapter VIII as revised by the Factories (Amendment) Act, 1954 he shall, if required by the Manager, produce a medical certificate signed by a registered medical practitioner or by a registered or recognized vaid or hakim stating the cause of the absence and the period for which the worker is, in the opinion of the medical practitioner, vaid or hakim, unable to attend to his work, or other reliable evidence to prove that he was actually sick during the period for which the leave is to be availed of.

117.Notice by workers- Before or at the end of every calendar year, a worker, who may be required to avail of leave in accordance with subsection (8) of section 79 of the Factories Act, 1948, may give notice to the Manager of his intention not to avail himself of the leave with wages falling due during the following calendar year. The Manager shall make an entry to that effect in the Leave With Wages Register and in the Leave Book of the worker concerned.

118. Grant of leave with wages-(1) As far as circumstances permit, members of the same family, comprising husband, wife and children shall be allowed leave on the same date.

(2)A worker may exchange the period of his leave with another worker subject to the approval of the Manager.

119.Payment of wages if the worker dies- If a worker before he resumes work, the balance of his pay due for the period of leave with wages not availed of shall be paid to his nominee within one week of the intimation of the death of the worker. For this purpose each worker shall submit a nomination in Form No.36, duly signed by himself and attested by two witnesses. The nomination shall remain in force until it is cancelled or revised by another nomination.

120.Register to be maintained in case of exemption under section 84

(1)Where an exemption is granted under section 84 the Manager shall maintain a register showing the position of each worker as regards leave due, leave taken and wages granted.

(2)He shall display at the main entrance of the factory, a notice giving full details of the system established in the factory for leave with wages and shall send a copy of it to the Inspector.

(3)No alteration shall be made in the scheme approved by the Government at the time of granting exemption under section 84 without its previous sanction.

121.Calculation of cash equivalent of advantage accruing through the concessional sale of food grains and other articles.-The cash equivalent of the advantage accruing through the concessional sale of food grains and other articles payable to workers proceeding on leave shall be the difference between the value of the average rates in the nearest market prevailing during the month immediately preceding his leave and the value at the concessional rates allowed of food grains and other articles he is entitled to.

For the purpose of the cash equivalent monthly average market rate of food grains and other articles shall be computed at the end of every month.

CHAPTER IX
SPECIAL PROVISIONS

Rule under Section 87

[122.Dangerous manufacturing process or operations-(Substituted by SRO No.1149/2001, dt.28-12-2001)

(1)The manufacturing process or operations in the forgoing schedules given in part A part B of this rule, when carried on in any factory are declared to be dangerous manufacturing process or operation under section 87:

PART A
SCHEDULES

(i)Manufacture of aerated waters and processes incidental thereto

(ii)Electrolytic plating or oxidation of metal articles by use of an electrolytic containing acids, based on salts or metals such chromium, nickel.

(iii)Manufacture and repair of electric accumulations.

(iv)Glass manufacture.

(v)Grinding or glazing of metals

(vi)Manufacture and treatment of lead and certain compounds of lead.

(vii)Generating petrol gas form petrol.

(viii)Cleaning or smoothing roughening etc.., of articles, by a jet of sand, metal short, or grit, or other abrasive propelled by a blast of compressed air or stream.

(ix)Limiting and tanning of raw hides and skins and processes incidental thereto.

(x)Certain lead process carried on in printing presses and type foundries.

(xi)Manufacture of pottery.

(xii)Chemical works.

(xiii)Manipulation of stone or any other material containing free silica.

(xiv)Handling and processing of asbestos, manufacture of any articles of Asbestos and any other process of manufacture or otherwise in which Asbestos is used in any form.

(xv)Handling and manipulation of corrosive substances.

(xvi)Processing of cashew nut.

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

(xviii)Process of Extracting Oils and Fats from vegetable and Animal Sources insolvent Extraction Plants.

(xix)Manufacture or Manipulation or Manganese and its compounds.

(xx)Manufacture and Manipulation of dangerous pesticides.

(xxi)Manufacture handling and usage of benzene and substance containing benzene.

(xxii)Manufacturing process or operation in carbon disulphide plants.

(xxiii)Manufacture or Manipulation of Carcinogenic Dye Intermediates.

(xxiv)Operation Involving High Noise Levels.

(xxv)Manufacture of Rayon by Viscose process.

(xxvi)Highly flammable liquids and flammable compressed gases.

(xxvii)Operation in Foundries.

PART B
Schedules

(i)Dyeing, stenciling and painting of mats, matting and carpets in coir and fibre factories.

(ii)Cellulose Spraying.

(iii)Graphite powdering and incidental processes

(iv)Curing, Canning or other processing of fish.

(2)"First employment" means employment for the first time in a hazardous process of operation so notified under section 87, or reemployment therein after cessation of employment in such process or operation for a period exceeding three calendar months.

(3)The provision specified in the scheduled shall apply to any class or description of factories wherein dangerous manufacturing process or operation are carried on.

(4)(a) For the medical examination of workers to be carried out by the Certifying Surgeon as required by the Schedules annexed to this rule, the occupier of the factory shall pay fees at the rate shown in Appendix-II per examination of each worker every time he is examined.
(b)The fees prescribed in sub-rule (4) (a) shall be exclusive of any charges for biological, radiological or other tests which may have to be carried out in connection with the medical examination. Such charges shall be paid by the occupier.
(c)The fees to be paid for the medical examinations shall be paid into the local Treasury under the appropriate head of account.

(4)Notwithstanding the provision specified in the schedules annexed to this rule, the inspector may by issue of orders in writing to the manager or occupier or both, direct them to carry out such measures and within such time as may be specified in such order with a view to removing conditions dangerous to the health of the workers or to suspend any process, where such process constitutes, in the opinion of the inspector imminent danger of poisoning or toxicity.

(5)Any register or record of medical examinations and tests connected therewith required to be carried out under any of the Schedules annexed hereto in respect of any worker shall be kept readily available to the inspector and shall be preserved till the expiry of the year after the worker ceases to be in employment of the factory.

PART A

Schedule 1

Manufacture of aerated waters and Processes incidental thereto

1.Fencing of machines – All machines for filling bottles or siphons shall be so constructed, placed or fenced as to prevent, as far as may be practicable, a fragment of a bursting bottle or siphon from striking any person employed in the factory.

2.Face guards and gauntlets

(1)The occupier shall provide and maintain in good condition for the use of all persons engaged in filling bottles or siphons –

(a)Suitable face-guards to protect the face, neck and throat, and

(b)Suitable gauntlets for both arms to protect the whole hand and arms:

Provided that Paragraph 2 (1) shall not apply where bottles are filled by means of an automatic machine so constructed that no fragment of a bursting bottle can escape:

Provided further that a where a machine so constructed that only one arm of the bottler at work upon it is exposed to danger, a gauntlet need not be provided for the arm which is not exposed to danger.

(2)The occupier shall provide and maintain in good condition for the use of all persons engaged in corking, crowning, screwing, wiring, foiling, capsuling, sighting or labeling bottles or syphons.

(a) suitable face-guards to protect the face, neck and throat, and

(b) suitable gauntlets for both arms to protect the arm and at least half of the palm and the space between the thumb and forefinger.

(3)**Wearing of face-guards and gauntlets** – All persons engaged in any of the processes specified in paragraph 2 of this schedule shall, while at work in such processes, wear the face-guard and gauntlets provided under the provisions of the said paragraph..

Schedule II

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

1.Definitions- For the purpose of this schedule –

(a)“Electrolytic process” means the electrolytic plating or oxidation of metal articles by the use of an electrolyte containing acid, basis or salts of metal such as chromium, nickel, cadmium, zinc, copper, silver, gold etc.

(b)“Bath” means any vessel used for an electrolytic process 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 any electrolytic process is carried on. Such draught shall be provided by mechanical means and shall operate on the vapour or spray given off in the process as near as may be at the point of origin. The

exhaust draught appliance shall be so constructed, arranged and maintained as to prevent the vapour or spray entering into any room or place in which work is carried on.

3.Prohibition relating to women and young persons – No woman, adolescent or child shall be employed or permitted to work at a bath.

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

5.Protective devices

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

(a)Water-proof aprons and bibs, and

(b) For persons actually working at a bath loose fitting rubber gloves and rubber boots or other water-proof footwear.

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

6.Water facilities

(1)They shall be provided and maintained in good repairs for the use of all persons employed in electrolytic process and processes incidental to it-

(a)A wash base under cover, with either-

(i)a trough with is smooth impervious surface fitted with a waste pipe, and of sufficient length to allow at least 60cms. For every five persons employed at any one time and having a constant supply of water from taps or jets above the trough at intervals of not more than 60cms., or

(ii) At least one wash basin for every 5 such persons employed at any one time, fitted with a waste pipe and having a constant supply of water laid on.

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

(2) In addition to the facilities in sub-paragraph 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 liters capacity shall be provided as source of clean water for emergency use.

7. Cautionary Placard – A cautionary placard in the form specified below and printed in the language of 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 the plant are corrosive and poisonous.

(2) Smoking, chewing, tobacco, eating and food or drinking, in this area is prohibited. No food stuff or dink 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 examination and tests.-

(1) The occupier of the every factory in which electrolytic processes are carried on shall-

(a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the chief inspector of factories.

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

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

(2) The medical practitioner shall examine all workers before the employed in electrolytic processes. Such examination in case of chrome plating shall include inspection of hands, fore ears and nose and will be carried out once at least in every fortnight.

(3) The record of the examinations referred to in sub-paragraph shall be maintained in a separate register approved by the chief inspector of factories which shall be kept readily available for inspection by the inspector.

9. Medical Examination by the certifying surgeon.

(1) Every worker employed in the electrolytic process, shall be examined by a certifying Surgeon before his first employment. Such examination shall include X-ray of the chest and-–

(a) in case of chromium plating, include examination for nasal septum perforation and test for chromium in urine;

(b) in case of nickel plating, test of nickel in urine; and

(c) in case of cadmium plating, test for cadmium in urine and- 2 microglobulin in urine.

(2) No worker shall be employed in electrolytic process unless certified fit for such employment by the Certifying Surgeon.

(3) Every worker employed in the electrolytic process shall be re-examined by a Certifying Surgeon at least once in every year, except in case of the workers employed in cadmium, chromium and nickel plating processes for whom this examination shall be carried out once in every six months. Such reexamination shall, wherever the certifying surgeon considers appropriate, include testes specified under sub-paragraph (10) excluding the X-ray of the chest which shall not be required normally to be carried out earlier than in once in three years.

(4) The certifying surgeon after examining a worker shall issue a certificate of Fitness in Form 27. The record of examination and reexaminations carried out shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2) including the nature and the results of the tests, shall also be entered by the certifying surgeon in health register in Form 17.

(5) The certificate of Fitness and the health register shall be kept readily available for inspection by the Inspector.

(6) If at any time the certifying surgeon is of the opinion that a worker is no longer fit for employment in the electrolytic processes on the ground that continuance therein would involve danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person declared unfit in such circumstances shall be provided with alternate placement facility unless he is fully in capacitated in the opinion of the certifying surgeon, in which case the person affected shall be suitably rehabilitated.

(7) No person who has been found unfit to work as said in sub-paragraph (6) shall be reemployed or permitted to work in the said processes unless the certifying surgeon, after further examination, again certified him fit for employment in those processes.

Schedule III

Manufacture and Repair of Electric Accumulators

1. Savings – This schedule shall not apply to the manufacture or repair of electric accumulators or parts thereof not containing lead or any compound of lead, or to the repair, on the premises, of any accumulator forming part of a stationery battery.

2. Definitions – For the purposes of this Schedule-

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

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

3.Prohibition relating to women and young persons – No women or young person shall be employed or permitted to work in any lead process or in any room in which the manipulation of raw oxide of lead or pasting is carried on.

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

(a) Manipulation of raw oxide of lead;
(b) Pasting;
(c) Drying of pasted plates;
(d) Formation with lead burning ("tacking") necessarily carried on in connection therewith; and
(e) Melting down of pasted plates.

5.Air space – In every room in which a lead process is carried on, there shall be at least 14.2 cubic meters of air space for each person employed therein, and in computing this air space no height over 3.65meters shall be taken into account.

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

7.Distance between workers in pasting room – In every pasting room the distance between the centre of the working position of any paster and that of the paster working nearest to him shall not be less than 1.5 meters.

8.Floor of work- rooms

(1) The floor of every room in which a lead process is carried on shall be-

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

(2) In all such rooms other than grid casting shops the floor shall be cleaned daily after being thoroughly sprayed with water at a time when another work is being carried on in the room.

(3)In grid casting shops the floor shall be cleaned daily.

(4)Without prejudice to the requirements of sub-paragraphs (1), (2) and (3) where manipulation of raw oxide of lead or pasting is carried on, the floor shall also be-

(a)Kept constantly moist while work is being done;
(b)Provided with suitable and adequate arrangements for drainage;
(c)Thoroughly washed daily by means of hose pipe.

9.Work benches – The work benches at which any lead process is carried on shall –

(a)Have a smooth surface and be maintained in sound condition.
(b)Be kept free from all materials or plant not required for, or produced in the process carried on threat; and all such work benches other than those in grid casting shops shall-

(c)Be cleaned daily either after being thoroughly damped or by means of a suction cleaning apparatus at a time when no other work is being carried on threat; and all such work benches in grid casting shops shall –

(d)Be cleaned daily; and every work-bench used for pasting shall –

(e)Be covered throughout with sheet lead or other impervious material;

(f)Be provide with raised edges; and

(g)Be kept constantly moist while pasting is being carried on.

10.Exhaust draught – The following processes shall not be carried on without the use of an efficient exhaust draught:-

(a)Melting of lead or materials containing lead.

(b)Manipulation of raw oxide of lead, unless done in an enclosed apparatus so as to prevent the escape of dust into the work-room;

(c)Pasting;

(d)Trimming, brushing, filing or any other abrading or cutting of pasted plates giving rise to dust; and

(e)Lead burning, other than-

(i)"Tracking" in the formation room; and

(ii)Chemical burning for the making of lead lining for cell cases necessarily carried on in such manner that the application of efficient exhaust is impracticable.

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

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

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

13.Container for lead waste – A suitable receptacle shall be provided in every work room in which old plates and waste materials which may give rise to dust shall be deposited.

14. Racks and shelves in drying room

(1) The racks or shelves provided in any drying room shall not be more than 2.4 meters from the floor not more than 60centimetres in width:

Provided that as regards racks or shelves set or drawn from both sides the total width shall not exceed 120centimetres.

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

15. Protective clothing –(1) Protective clothing shall be provided and maintained in good repair for all persons employed in -

(a) Manipulation of raw oxide of lead;

(b) Pasting; and

(c) The formation room;

and such clothing shall be worn by the person concerned.

16. Mess-room - There shall be provided and maintained for the use of all persons employed in a lead process and remaining on the premises during the meal intervals, a suitable mess-room, which shall be furnished with sufficient tables and benches, and adequate means for warming food. The mess-room shall be placed under the charge of a responsible person and shall be kept clean.

17. Cloak-room – There shall be provided and maintained for the use of all persons employed in a lead process-

(a) A cloak room for clothing put off during working hours with adequate arrangements for drying the clothing if wet. Such accommodation shall be separated from any mess-room; and

(b)Separate and suitable arrangements for the storage of protective clothing provided under paragraph 15.

18.Washing facilities

(1) There shall be provided and maintained in a clean state and in good repair for the use of all persons employed in a lead process-

(a)A wash place under covers with either:-

(i)a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow of at least 60centimetres for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60centimetres; or

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

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

(c)A sufficient supply of soap or other suitable cleaning material and of nail brushes.

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

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

Provided that if there be one basin or 60centimetres of trough for each such person this paragraph shall not apply.

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

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

22.Medical facilities and records of examination and tests.-

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

(a) employed a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

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

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

23.Medical Examination by the certifying surgeon.

(1)Every worker employed in lead process, shall be examined by a certifying surgeon within 15 days of his first employment. Such examination shall include test for lead in urine and blood, ALA in urine, hemoglobin, content, stippling of cell and steadiness test. No worker shall be allowed to work after 15 days of his employment in the factory unless certified fit for such employment by the certifying surgeon.

(2)Every worker employed in the said processes shall be reexamined by a certifying surgeon at least once in every three calendar months. Such reexamination shall, wherever the certifying surgeon considers appropriate, include test specified under sub-paragraph (1).

(3)The certifying surgeon after examining a worker, shall issue a certificate of Fitness in Form 27. The record of examination and 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-paragraph (1) and (2) including the nature and the results tests, shall all so be entered by the certifying surgeon in a health register in Form 17.

(4) Certificate of Fitness and the health register shall be kept readily available for inspection by the inspector.

(5) If at any time the certifying surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker he shall make a record of his findings in the said certificate and the health register. The entry of his findings in these documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternative placement facilities unless he is fully in capacitated in the opinion of the certifying surgeon in which case the person affected shall be suitably rehabilitated.

(6)No person who has been found unfit to work as said in sub-paragraph (5) above shall be reemployed or permitted to work in the said processes unless the certifying surgeon, after further examination, again certifies him fit for employment in these processes.

Schedule IV
Glass Manufacture

1.Definitions – For the purpose of this Schedule -

(a)"Efficient exhaust draught" means localized ventilation, effected by mechanical means for the removal of gas, vapour, dust or fumes so as to prevent them (as far as practicable under the atmospheric conditions usually prevailing) from escaping into the air of any place in which work is carried on. No draught shall be deemed efficient, which fails to remove smoke generated at the point where such gas, vapour, fumes, or dusts originate.

(b)"Lead compound" means any compound of lead other than galena which, when treated in the manner described below, yields to an aqueous solution of hydrochloric acid a quantity of soluble lead compound exceeding, when calculated as lead monoxide, five percent of the dry weight of the portion taken for analysis.

The method of treatment shall be as follows:

A weighted quantity of the materials which has been dried at 100 degree C. and thoroughly mixed shall be continuously shaken for one hour, at the common temperature with 1,000 times its weight of an aqueous solution of hydrochloric acid containing 0.25 per cent by weight of hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt contained in the clear filtrate shall then be precipitated as lead sulphide and weighed as lead sulphate.

2.Exhaust draught – The following process shall not be carried on except under an efficient exhaust draught or such other conditions as may be approved by the Chief Inspector:-

(a)The mixing of raw materials to form a "batch";

(b)The dry grinding, glazing and polishing of glass or any article of glass;

(c)All processes in which hydrofluoric acid fumes or ammoniacal vapours are given off;

(d)All processes in the making of furnace moulds or "pots" including the grinding or crushing of used "pots"; and

(e)All processes involving the use of dry lead compound.

3.Prohibitions relating to women and young persons – No women or young person shall be employed or permitted to work in any of the operations specified in paragraph 2 or at any place where such operations are carried on.

4.Floors and work benches – The floor and work-benches of every room in which a dry compound of lead is manipulated or in which any process is carried on giving off silica dust shall be kept moist and shall comply with the following requirements.-

a. The floors shall be –

(i) of cement or similar materials so as to be smooth and impervious to water;

(ii)maintained in sound condition; and

(iii) cleansed daily after being thoroughly sprayed with water at a time when no other work is being carried on in the room; and

b. the work benches shall-

(i)have smooth surface and be maintained sound condition ; and

(ii) cleansed daily either after being thoroughly damped or by means of a suction cleaning apparatus at a time when no other work is being carried on thereat.

5.Use of hydrofluoric acid – The following provisions shall apply to rooms in which glass is treated with hydrofluoric acid:-

(a) There shall be inlets and outlets of adequate size so as to secure and maintain efficient ventilation in all parts of the room;.

(b) The floor shall be covered with gutta-percha and be tight and shall slope gently down to a covered drain;

(c) The work-place shall be so enclosed in projecting hoods that openings required for bringing in the objects to be treated shall be as small as practicable; and

(d) The efficient exhaust draught shall be so contrived that the gases are exhausted downwards.

6.Storage and transport of hydrofluoric acid. – Hydrofluoric acid shall not be stored or transported except in cylinders or receptacles made of lead or rubber.

7.Blow pipes.– Every glass glower shall be provide with a separate glow pipe bearing the distinguishing mark of the person to whom it is issued and suitable facilities shall be readily available to every glass blower for sterilizing his blow pipe.

8.Food, drink, etc., prohibited in work-rooms.– No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any room or work-place wherein any process specified in paragraph 3 is carried on.

9.Protective clothing- The occupier shall provide, maintain in good repair and keep in a clean condition for the use of all persons employed in the processes specified in paragraph 2 suitable protective clothing, foot-wear and goggles according to the nature of the work and such clothing, footwear, etc., shall be worn by the persons concerned.

10.Washing facilities.– There shall be provided and maintained in a cleanly state and in good repair for the use of the all persons employed in the processes specified in paragraph 2-

(a) a wash place with either-

(i)a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow of at least 60centimetres for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60centimetres.; or

(ii)at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having an adequate supply of water laid on or always readily available; and

(b)a sufficient supply of clean towels made of suitable materials renewed daily with a sufficient supply of soap or other suitable cleaning materials and of nail brushes; and

(c)a sufficient number of stand pipes, with taps, the number and location of which shall be to the satisfaction of the Chief Inspector.

11.Medical facilities and records of examination and tests.-

(1) The occupier of the every factory in which glass manufacturing process are carried out, shall

(a)employee a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the chief inspector of factories; and

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

(2)The record of medical examination and appropriate test carried out by the said medical practitioners shall be maintain in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

12.Medical Examination by the certifying surgeon.-

(1)Every worker employed in process, specified in paragraph 2 shall be examined by a certifying surgeon within 15 days of his first employment. Such examination shall include pulmonary function test and in suspected cases chests X-ray as well as test for lead and urine. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the certifying surgeon.

(2)Every worker employed in the said processes shall be reexamined by a certifying surgeon at least once in every 12 calendar months. Such reexamination shall, whenever the certifying surgeon considers appropriate, include test as specified under sub-paragraph (1).

(3)The certifying surgeon after examine a worker, shall issue a certificate of Fitness in Form 27. The record of examination and re-examinations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the certifying surgeon in health register in Form 17.

(4)The certificate of Fitness and the health register shall be kept readily available for inspection by the inspector.

(5)If at any time the certifying surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his finding in the said certificate and the health register. The entry of his findings in these documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternative placement facility unless he is fully in capacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

(6)No person who has been found unfit to work as said in sub-paragraph (5) above shall be reemployed or permitted to work in the said processes unless the Certifying Surgeon, after further examinations, again certifies him fit for employment in these processes.

13.Exemption .- If the Chief Inspector is satisfied in respect of any factory or any class of process that, owing to the special method of work or the special conditions in a factory or otherwise, any of the requirements of this schedule can be suspended or relaxed without danger to the persons employed therein, or that the application of this schedule or any part thereof is for any reason in practicable, he may by certificate in writing authorize such suspension or relaxation as may be indicated in the certificate for such period and on such conditions as he may think fit.

Schedule V

Grinding or glazing of metals and Processes incidental thereto

1.Exceptions – (1) Nothing in this Schedule shall apply to any factory in which only repairs are carried on except any part thereof in which one or more persons are wholly or mainly employed in the grinding or glazing of metals.

(2)Nothing in this Schedule except paragraph 4 shall apply to any grinding or glazing of metals carried on intermittently and at which no person is employed for more than 12 hours in any week.

2.Definitions – For the purpose of the Schedule -

(a)"Grindstone" means a grindstone composed of natural or manufactured sandstone but does not include a metal wheel or cylinder into which blocks of natural or manufactured sandstone are fitted;

(b)"Abrasive wheel" means a wheel manufactured of bonded emery or similar abrasive;

(c)"Grinding" means the abrasion, by aid of mechanical power, of metal, by means of a grindstone or abrasive wheel;

(d)"Glazing" means the abrading, polishing or finishing by aid of mechanical power or manual by means of any wheel, buff, mop or similar appliance to which any abrading or polishing substance is attached or applied.

(e)"Racing" means the turning up, cutting or dressing or a revolving grindstone before it is brought into use for the first time.

(f)"Hacking" means the chipping of the surface of a grindstone by a hack or similar tool.

(g)"Rodding" means the dressing of the surface of a revolving grindstone by the application of a rod, bar or strip of metal to such surface.

3.Equipment for removal of dust - No racing, dry grinding or glazing shall be performed without: -

(a) a hood or other appliances so constructed, arranged, placed and maintained as substantially to intercept the dust thrown off; and

(b) a duct of adequate size, air-tight and so arranged as to be capable of carrying away the dust, which duct shall be kept free from obstruction and shall be provided with proper means of access for inspection and cleaning, and where practicable, with a connection at the end remote from the fan to enable the Inspector to attach thereto any instrument necessary for ascertaining the pressure of air in the said duct; and

(c) a fan or other efficient means of producing a draught sufficient to extract the dust:

Provided that the Chief Inspector may accept any other appliance, that is, in his opinion, as effectual for the interception, removal and disposal of dust thrown off as a hood, duct and fan would be.

4.Restriction on employment on grinding operation – Not more than one person shall at any time perform the actual process of grinding or glazing upon a grindstone, abrasive wheel or glazing appliance;

Provided that this paragraph shall not prohibit the employment of persons to assist in the manipulation of heavy or bulky articles at any such grindstone, abrasive wheel or glazing appliance.

5.Glazing – Glazing or other processes, except processes incidental to wet grinding upon a grindstone, shall not be carried on in any room in which wet grinding up on a grindstone is done.

6.Hacking and rodding – Hacking and rodding shall not be done unless during the process either an adequate supply of water is laid on at the upper surface of the grindstone or adequate appliances for the interception of dust are provided in accordance with the requirements of paragraph 3.

7.Examination of dust equipment

(a)All equipment for the extraction or suppression of dust shall at least once in every six months be examined and tested by a competent person and any defect disclosed by such examination and test shall be rectified as soon as practicable.

(b)A register containing particulars of such examination and test shall be kept in Form No. 40.

8.Medical facilities and records of examination and tests.-

(1) The occupier of the every factory in which grinding or glazing of metals are carried out, shall-

(a)employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

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

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

9.Medical Examination by Certifying Surgeon.-

(1)Every worker employed in grinding or glazing or metal and processes incidental thereto shall be examined by a Certifying Surgeon within 15 days of his first employment such examination shall include pulmonary function test and in suspected cases chests X-rays. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

(2)Every worker employed in the said processes shall be reexamined by a Certifying Surgeon at least once in every 12 calendar months. Such reexamination shall, whenever the Certifying Surgeon considers appropriate, include testes specified under sub-paragraph (1).

(3)The certifying surgeon after examine a worker, shall issue a certificate of Fitness in Form 27. 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-paragraph (1) and (2), including the nature and the results tests, shall all so be entered by the Certifying Surgeon in health register in Form 17.

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

(5)If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternative placement facilities unless he is fully in capacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

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

10.Exemption .- The Chief Inspector may be certificate in writing, subject to such conditions as he may specify therein, relax or suspend any of the provisions of this schedule in respect of any factory if owing to the special methods of work or otherwise such relaxation or suspension is practicable without danger to the health or safety of the persons employed.

Schedule VI

Manufacture and treatment of lead and certain compounds of lead

1.Application – This schedule shall apply to all factories or parts of factories in which any of the following operations are carried on:-

(a) work at a furnace where the reduction or treatment of zinc or lead ores is carried on;

(b)the manipulation, treatment or reduction of ashes containing lead, the de-silverising of lead or the melting of scarp lead or zinc.

(c)the manufacture of solder or alloys containing more than ten per cent of lead.

(d)the manufacture of any oxide, carbonate, sulphate, chromate, acetate, nitrate or silicate of lead.

(e) handling or mixing of lead tetra-ethyl.

(f)any other operation involving the use of a lead compound; and

(g) the cleaning of work-rooms where any of the operations aforesaid are carried on.

2.Definitions – For the purposes of this schedule -

(a) "Lead Compound" means any compound of lead other than galena, which when treated in the manner described below, yields to an aqueous solution of hydrochloric acid, a quantity of soluble lead compound exceeding, when calculated as lead monoxide five per cent of the "dry weight" of the portion taken for analysis. In the case of paints and similar products and other mixtures containing oil or fat the "dry weight" means the dry weight of the material remaining after the substances has been thoroughly mixed and treated with suitable solvents to remove oil, fats, varnish or other media.

The method of treatment shall be as follows:-

A weighed quantity of the material which has been dried at 100C and thoroughly mixed shall be continuously shaken for one hour, at the common temperature with 1000times its weight of an aqueous solution of hydrochloric acid containing 0.24 per cent by weight of hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt contained in the clear filtrate shall then be precipitated as lead sulphide and weighed as lead sulphate.

(b)"Efficient Exhaust Draught" means localized ventilation effected by heat or mechanical means, for the removal of gas, vapour, dust or fumes so as to prevent them (as far as practicable under the atmospheric conditions usually prevailing) from escaping into the air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove smoke generated at the point where such gas, vapour, fumes or dust originate.

3.Prohibition relating to women and young persons – No woman or young person shall be employed or permitted to work in any of the operations specified in paragraph 1.

4.Requirements to be observed – No person shall be employed or permitted to work in any process involving the use of lead compound if the process is such that dust or fume from a lead compound is produced therein, or the persons employed therein are liable to be splashed with any lead compound in the course of their employment unless the provisions of paragraphs 5 to 13 are complied with.

5.Exhaust draught.– Where dust, fume, gas or vapour is produced in the process, provision shall be made for removing them by means of an efficient exhaust draught to contrived as to operate on the dust, fume, gas or vapour as closely as possible to the point of origin

6.Food, drinks, etc. prohibited in work rooms.- No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any work-room in which the process is carried on and no person shall remain in any such room during intervals for meals or rest.

7.Protective clothing.- Suitable protective overalls and head covered shall be provided, maintained and kept clean by the occupier and such overalls and head coverings shall be worn by the persons employed.

8.Cleanliness of work-room, tools, etc.- The rooms in which the persons are employed and all tools and apparatus use by them shall be kept in a clean state.

9.Washing facilities

(1) The occupier shall provide and maintain for the use of all persons employed suitable washing facilities consisting of-

(a)a trough with a smooth impervious surface fitted with a waste pipe without plug and of sufficient length to allow at least 60centimetres for every ten persons employed at any one time and having a constant supply of clean water from taps or jets above the trough at intervals of not more than 60centimetres; or

(b)at least one wash-basin for every ten persons employed at any one time, fitted with a waste pipe and plug and having constant supply of clean water; together with, in either case, a sufficient supply of nail brushes, soap or other suitable cleaning materials and clean towels.

(2)The facilities so provided shall be placed under the charge of responsible person and shall be kept clean.

10.Mess room or canteen.– The occupier shall provide and maintain for the use of the persons employed suitable and adequate arrangements for taking their meals. The arrangements shall consist

of the use of a room separate from any work-room which shall be furnished with sufficient tables and benches, and unless a canteen serving hot meals is provided, adequate means of warming the food. The room shall be adequately ventilated by the circulation of fresh air, shall be placed under the charge of a responsible person and shall be kept clean.

11.Cloak room.– The occupier shall provide and maintain for the use of persons employed, suitable accommodation for clothing not worn during working hours, and for the drying of wet clothing.

12. Medical facilities and records of examination and tests.-(1) The occupier of the every factory in which the schedule applies shall-

(a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector of Factories, and

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

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

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

(2)Every worker employed in the said processes shall be reexamined by a Certifying Surgeon at least once in every 3 calendar months. Such re-examination shall, wherever the Certifying Surgeon considers appropriate, include testes specified in sub-paragraph (1).

(3)The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 27. The record or examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2) including the nature and the results of the tests, shall all so be entered by the Certifying Surgeon in health register in Form 17.

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

(5)If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said Certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said persons is unfit for work in the said processes. The person so suspended from the process shall be provided with alternative placement facilities unless he is fully in capacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

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

14.Exemption .- If the Chief Inspector is satisfied that all or any of the provisions of this schedule are not necessary for the protection of the persons employed, he may by certificate in writing exempt any factory from all or any of such provisions, subject to such conditions as he may specify.

Schedule VII

Generating Petrol Gas from Petrol

1.Prohibition relating to women and young persons – No women or young person shall be employed or permitted to work in or shall be allowed to enter of any building in which the generation of gas from dangerous petroleum is carried on.

2. Flame traps – The plant for generation of gas from dangerous petroleum and associated piping and fittings shall be fitted with at least two efficient flame traps so designed and maintained as to prevent a flash back from any burner to the plant. One of these traps shall be fitted as close to the plant as possible. The plant and all pipes and valves shall be installed and maintained free from leaks.

3.Generating building or room.– All plants for generation of gas from dangerous petroleum, erected after coming into force of the provisions specified in this schedule, shall be erected outside the factory building proper in a separate well ventilated building (hereinafter referred to as the "generating building"). In the case of such plants erected before the coming into force of the provisions specified in this schedule there shall be no direct communications between the room where such plants are erected (hereinafter referred to as "the generating room") and reminder of the factory building. So far as practicable, all such generating rooms shall be constructed of fire resting materials.

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

5.Plan to be approved by Chief Inspector – Petrol Gas shall not be manufactured except in a plant for generating Petrol Gas, the design and construction of which has been approved by the Chief Inspector.

6. Escape of petrol – Effective steps shall be taken to prevent petrol from escaping into any drain or sewer.

7.Prohibition relating to smoking etc. – No person shall smoke or carry matches, fire or naked light or other means of producing naked light or spark in the generating room or building or in the vicinity thereof and a warning notice in the language understood by the majority of the workers shall be pasted in the factory prohibiting smoking and the carrying of matches, fire or naked light or other means of producing a naked light or spark into such room or building.

8.Access to petrol or container – No unauthorized person shall have access to any petrol or to a vessel containing or having actually contained petrol.

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

10.Construction of doors – All doors in the generating room or building shall be constructed to open outwards or to slide and no door shall be locked or obstructed or fastened in such manner that it cannot be easily and immediately opened from the inside while gas is being generated and any person is working in the generating room or building.

11.Repair of containers – No vessel that has contained petrol shall be repaired on a generating room or building and no repairs to any such vessel shall be undertaken unless lie steam has been blown into the vessel and until the interior is thoroughly steamed out or other equally effective steps have been taken to ensure that it has been rendered free from petrol or inflammable vapour.

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.Definitions – For the purpose of this schedule -

(a) "blasting" means cleaning, smoothing, roughening, or removing of any part of the surface of any article by use as an abrasive of a jet of sand, metal shot or grit or other material, propelled by a blast of compressed air or steam.

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

(c)"blasting chamber" means a blasting enclosure in which any person may enter at any time in connection with any work or otherwise, and

(d)"Cleaning of Casting" where done as an incidental or supplemental process in connection with the making of metal casting, means the freeing of the casting from adherent sand or other substance and includes the removal of cores and the general smoothing of a casting, but does not include the free treatment.

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 further 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 (1) Blasting shall not be done except in a blasting enclosure and no work other than blasting and any work immediately incidental thereto and cleaning and repairing of the enclosure including the plants and appliances situated therein, shall be performed in a blasting enclosure. The enclosure shall be kept closed and air tight while blasting is being done therein.

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

(3) There shall be provided and maintained for and in connection with every blasting enclosure, efficient apparatus for separating, so far as practicable, abrasive which has been used for blasting and which is to be used again as an abrasive, from dust or particles of other materials arising from blasting, and no such abrasive shall be introduced into any blasting apparatus and used for blasting until it has been so separated:

Provided that this clause shall not apply, except in the case of blasting chambers, to blasting enclosures, constructed or installed before the coming into force of this schedule, if the Chief Inspector is of opinion that it is not reasonably practicable to provide such separating apparatus.

(4) 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.

(5) The ventilation plant provided for the purpose of sub-paragraph (4) shall be kept in continuous operation whenever the blasting enclosure is in use whether or not blasting is actually taking place therein, and in the case of a blasting chamber, it shall be in operative even when any person is inside the chamber for the purpose of cleaning.

4.Inspection and Examination.- (1) Every blasting enclosure shall be specially inspected by a competent person at least once in every week in which it is used for blasting. Every blasting enclosure, the apparatus connected there with and the ventilating plant, shall be thoroughly examined and in the case ventilating plant, tested by a competent person at least once, in every month.

(2) Particulars of the result of every such inspection, examination and test shall forth with be entered in a register which shall be kept in a form approved by the Chief Inspector and shall be available for inspection by any workman, employed in or in connection with blasting in the factory. Any defect found on any such inspection, examination or test shall be immediately reported

by the person carrying out the inspection, examination or test to the occupier, manager or other appropriate person and without prejudice to the forgoing requirements of this schedule, shall be removed without delay.

5.Provision of protecting helmets, gauntlets and overalls.- (1) There shall provided and maintained for the use of all persons who are employed in a blasting chamber, whether in blasting or in any work connected therewith or in cleaning such a chamber, protective helmets of a type approved by a certificate of the Chief Inspector and every such persons shall wear the helmet provided for this use while he is in the chamber and shall not remove it until he is outside the chamber.

(2) Each protective helmet shall carrying a distinguishing mark indicating the persons by whom it is intended to be used and no person shall be allowed or required to wear a helmet not carrying his mark or a helmet which has been worn by another person and has not since been thoroughly disinfected.

(3)Each protective helmet when in use shall be supplied with clean and not unreasonably cold air at a rate of not less than 170 liters per minute.

(4)Suitable gauntlets and overalls shall be provided for the use of all persons while performing blasting or assisting at blasting, and every such person shall while so engaged, wear the gauntlet and overall provided

6. Precautions in connection with cleaning and other work.- (1)Where any person is engaged upon cleaning of any blasting apparatus or blasting enclosure or any apparatus or ventilating plant connected therewith or the surroundings thereof or upon any other work in connection with any blasting enclosure or with any apparatus or ventilating plant connected therewith so that he is exposed to the risk or inhaling dust which has arisen from blasting, all practicable measures shall be taken to prevent such inhalation.

(2) In connection with any cleaning operation referred to in 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 and suitable storage accommodation for the helmets, gauntlets and overalls required to be provided by paragraph 5 shall be provided outside and conveniently near to every blasting enclosure and such accommodation shall be kept clean. Helmets, gauntlets and overalls when not in actual use shall be kept in this accommodation.

8.Maintenance and cleaning of protective wear.- All helmets, gauntlets, overalls and other protective devices or clothings provided and worn for the purpose of this schedule, shall be kept in good condition and so far as is reasonably practicable shall be cleaned on every 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 be taken to prevent such inhalation. Vacuum cleaners shall, wherever practicable, be used for removing dust from such clothing and compressed air shall not be used for removing dust from any clothing.

9. Maintenance vacuum cleaning plant.- Vacuum cleaning plant used for the purpose of this schedule shall be properly maintained.

10.Medical facilities and records of examinations and tests.- (1)The occupier of every factory to which the schedule applies shall-

(a)employ a qualified medical practitioner for medical surveillance of the workers employed therein whose appointment shall be subject to the approval of the Chief Inspector of Factories;

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

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

11.Medical Examination by the certifying surgeon.-(1)Every worker employed in any of the processes to which this schedule applies shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function test and chest X-ray. No worker shall be allowed to work after 15 days of his employment in the factory unless certified fit for such employment by the certifying surgeon.

(2) Every worker employed in the said processes shall be re-examined by Certifying Surgeon at least once in every 12 Calendar months and such re-examination shall, whenever the Certifying Surgeon considers appropriate include pulmonary function tests and chest X-ray once in every three years.

(3) The certifying surgeon after examining a worker, shall issue a Certificate of Fitness in Form 27. The record or examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2) including the nature and the results tests, shall all so be entered by the Certifying Surgeon in health register in Form 17.

(4) The certificate of Fitness and the health register shall be kept readily available for inspection by the inspector.

(5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said persons is unfit for work in the said process. The person so suspended from the process shall be provided with alternative placement facilities unless he is fully in capacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

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

12.Restrictions in employment of young persons.- (1)No person under 18 years of age shall be employed in blasting or assisting at blasting or in any blasting chamber or in the cleaning of any blasting apparatus or any blasting enclosure or any apparatus or ventilating plant connected therewith or be employed on maintenance or repair work at such apparatus, enclosure or plant.

(2)No person under 18 years of age shall be employed to work regularly within 20 feet of any blasting enclosures 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.- (1)If the Chief Inspector is satisfied that in any factory or any class of factory, the use of sand or other substance containing free silica as an abrasive in blasting is necessary for a particular manufacture or process (other than the process incidental or supplemental to making of metal castings) and that the manufacture or process cannot be carried on without the use of such abrasive or that owing to the special conditions or special method of work or otherwise any requirement of this schedule can be suspended either temporarily or permanently, or can be relaxed without endangering the health of the persons employed or that application of any of such requirements is for any reason impracticable or inappropriate, he may, with the previous sanction of the State Government by an order in writing exempt the said factory or class of 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.

(2)Where an exemption has been granted under sub-paragraph (1), a copy of the order shall be displayed at a notice at a prominent place at the main entrance or entrances to the factory and also at the place where the blasting is carried on.

Schedule IX

Liming and Tanning of Raw Hides and Skins and Process Incidental Thereto

1. Cautionary notices.- (1) Cautionary notices as to anthrax in the form specified by the Chief Inspector shall the affixed in prominent positions in the factory where they may be easily and conveniently read by the persons employed.

(2) A copy of warning notice as to anthrax in the form specified by the Chief Inspector shall be given to each person employed when he is engaged, and subsequently if still employed, on the first day of each calendar year.

(3) Cautionary notice as to the effects of chrome on the skin shall be affixed in prominent positions in every factory in which chrome solutions are used and such notices shall be so placed as to be easily and conveniently read by the persons employed.

(4)Notices shall be affixed in prominent places in the factory stating the position of the first aid box or cupboard and the name of the person in charge of such box or cupboard.

(5)If any person employed in the factory is illiterate effective steps shall be taken to explain carefully to such illiterate person the contents of the notice specified in sub-paragraphs (1), (2) and (4) and if chrome solutions are used in the factory the contents of the notice specified in sub-paragraph (3).

2.Protective clothing - The occupier shall provide and maintain in good condition the following articles of protective clothing:-

(a) waterproof footwear, leg coverings, aprons and gloves for person employed in processes involving contact with chrome solutions, including the preparation of such solutions;

(b)gloves and boots for persons employed in lime yard; and

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

Provided that the gloves, aprons, leg coverings or boots, may be of rubber or leather, if the gloves and boots to be provided under sub-paragraph (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 liquor.

3.Washing facilities, mess room and cloak room. – There shall be provided and maintained in a clean state and in good repair for the use of all persons employed -

(a)a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow of at least 60centimetres for every ten persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 60centimetres; or at least one wash basin for every ten such persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of water; together within either case, a sufficient supply of nail brushes, soap or other suitable cleansing materials, and clean towels;

(b)a suitable mess-room, adequate for the number remaining on the premises during the meal intervals, which shall be furnished with sufficient tables and benches and adequate means for warming food and boiling water. The mess-room shall,-

(i) be separate from any room or shed in which hides or skins are stored, treated or manipulated;

(ii) be separate from the cloak-room and (3) be placed under the charge of a responsible person;

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

(c) suitable accommodation so for clothing put off during working hours and another accommodation for protective clothing and also adequate arrangements for drying up the clothing in both the cases, if wet.

The accommodation so provided shall be kept clean at all times and placed under the charge of a responsible person.

4.Food, drinks, etc., prohibited in work rooms – No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any work room or shed in which hides or skins are stored, treated or manipulated.

5.Medical facilities and records of examinations and tests.-(1) The occupier of the every factory to which the schedule applies shall-

(a)employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories;

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

(c) arrange for inspection of the hands of all the persons keeping in contact with chromium substances to be made twice a week; and

(d) 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.

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

6.Medical Examination by the certifying surgeon.- (1)Every worker employed in any of the processes to which this schedule applies shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include skin test for dermatoses and detection of anthrax bacillus from local lesion by gram stain. No worker shall be allowed to work after 15 days of his employment in the factory unless certified fit for such employment by the Certifying Surgeon.

(2) Every worker employed in the said processes shall be reexamined by Certifying Surgeon at least once in every 12 calendar months. Such re-examination shall, whenever the Certifying Surgeon considers appropriate, include testes specified in sub-paragraph (1).

(3)The Certifying Surgeon after examining a worker, shall issue a Certificate of fitness in Form 27. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results tests, shall all so be entered by the Certifying Surgeon in Health register in Form 17.

(4)The Certificate of Fitness and the Health register shall be kept readily available for inspection by the inspector.

(5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said process on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said persons is unfit for work in the said processes. The persons so suspended from the process shall be provided with alternative placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

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

Schedule X

Printing press and type foundries and certain lead process carried on therein

1.Definition – For the purpose of this schedule.-

(a)"lead material" means material containing not less than five percent of lead;

(b) "lead process" means –

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

(ii) the re-charging of machines with used lead material; or

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

(iv) manipulation movement or other treatment of lead material.

(c) "Efficient exhaust draught" means localised ventilation effected by heat or mechanical means for the removal of gas, vapour, dust or fumes so as to prevent them from escaping into the air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove gas, vapour, fume or dust at the point where they originate.

2.Exhaust draught.-(1) None of the following process shall be carried on except with an efficient exhaust draught, unless carried on in such a manner as to prevent free escape of gas, vapour, fumes or dust into any place in which work is carried on, or unless carried on in electrically heated and thermostatically controlled melting pots:-

(a) melting lead material or slugs; and

(b) heating lead material so that vapour containing lead is given off.

(2) Such exhaust draught shall be effected by mechanical means and so contrived as to operate on the dust, fumes, gas or vapour given off as closely as may be at its point of origin.

3.Prohibition relating to women and young persons – No women or young person shall be employed or permitted to work in any lead process.

4.Separation of certain process .– Each of the following process shall be carried on in such a manner and under such conditions as to secure effectual separation from one another and from any other process –

(a) melting of lead or any lead material;

(b) casting of lead ingots; and

(c) mechanical composing.

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

6.Floor of work-room – The floor of every work-room where lead process is carried on shall be –

(a) of cement or similar material so as to be smooth and impervious to water;

(b) maintained in sound condition; and

(c) shall be cleansed throughout daily after being thoroughly damped with water at a time when no other work is being carried on at the place.

7. Mess-room – There shall be provided and maintained for the use of all persons employed in a lead process and remaining on the premised during the meal intervals, a suitable mess room which shall be furnished with sufficient tables and benches.

8.Washing facilities. – There shall be provided and, maintained in a clean state and in good repair for the use of all persons employed on a lead process –

(a) a wash place with either -

(i) a trough with smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 60centimetres for every five such persons employed at any one time and having a constant supply of water from taps or jets above the trough at intervals of not more than 60centimetres; or

(ii) at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having an adequate supply of water laid on or always readily available; and

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

9.Food, drinks, etc., prohibited in work rooms. – No food, drink, pan and supari or tobacco shall be consumed or brought by any worker into any work room in which any lead process is carried on.

10.Medical facilities and records of examination and tests.-(1) The occupier of every factory to which the schedule applies shall-

(a) employ a qualified medical practitioner for medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories. ;

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

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

11.Medical Examination by the Certifying Surgeon.-(1)Every worker employed in a lead process shall be examined by the 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 allowed to work after 15 days of his employment in the factory unless certified fit for such employment by the Certifying Surgeon.

(2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every 6 calendar months. Such re-examination shall, whenever the Certifying Surgeon considers appropriate, include tests as specified in sub-paragraph (1).

(3)The Certifying Surgeon after examining a worker, shall issue a Certificate of fitness in Form 27. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

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

(5)If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternative placement facilities unless he is fully in capacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

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

12.Exemption.- Where the Chief Inspector is satisfied that all or any of the provisions of this schedule are not necessary for protection of persons employed, he may by certificate in writing exempt any factory from all or any of such provisions subject to such conditions as he may specify therein. Such certificate may at any time be revoked by the Chief Inspector.

Schedule XI

Manufacture of Pottery

1.Savings.- These provisions shall not apply to a factory in which any of the following articles, but no other pottery, are made:-

(a) unglazed or salt glazed bricks and tiles; and

(b) architectural terra-cotta made from plastic clay and either unglazed or glazed with a leadless glaze only.

2.Definitions. – For the purpose of this schedule-

(a)"pottery" includes earthenware, stoneware, porcelain, china tiles and any other articles made from clay or from mixture containing clay and other materials such as quartz, flint, feldspar and gypsum;

(b) "efficient exhaust draught" means localized ventilation effected by mechanical or other means for the removal of dust or fume so as to prevent from escaping into air of any place in which work is carried on. No draught shall be deemed efficient which fails to remove effectively dust or fume generated at the point where dust or fume originates;

(c) "fettling" includes scalping, towing, sand papering, sand sticking, brushing or any other process of cleaning or pottery ware in which dust is given off;

(d) "leadless glaze" means a glaze which does not contain more than one per cent of its dry weight, of a lead compound calculated as lead monoxide;

(e)"low solubility glaze" means a glaze which does not yield to dilute hydrochloric acid more than five percent of its dry weight of a soluble lead compound calculated as lead monoxide when determined in the manner described below:

A weighed quantity of the material which has been dried at 100 degree centigrade and thoroughly mixed shall be continuously shaken for one hour, at the common temperature with 1000 times its weight of an aqueous solution of hydrochloric acid containing 0.25 percent by weight hydrogen chloride. This solution shall thereafter be allowed to stand for one hour and then filtered. The lead salt contained in the clear filtrate shall then be precipitated as lead sulphide and weighed as lead sulphate;

(f) "ground or powered flint or quartz" does not include natural sands; and

(g) "potter's shop" includes all places where pottery is formed by pressing or by any other process and all places where shaping, fettling or other treatment of pottery articles prior to placing for the biscuit fire is carried on.

3.Efficient exhaust draught. – The following processes shall not be carried on without the use of an efficient draught: –

(a) all processes involving the manipulation or use of a dry and unfritted lead compound:

(b)fettling operations of any kind, whether on greenware or biscuit, provided that this shall not apply to the wet fettling, and to the occasional finishing of pottery articles without the aid of mechanical power;

(c) shifting of clay dust or any other material for making tiles or other articles by pressure, except where -

(i)this is done in a machine so enclosed as to effectually prevent the escape of dust; or

(ii) the material to be sifted is so damp that no dust can be given off.

(d)pressing of tiles from clay dust, an exhaust opening being connected with each press, and pressing from clay dust of articles other than tiles; unless the materials is so damp that no dust is given off:

(e) the fettling of tiles made from clay dust by pressure, except where the fettling is down wholly on, or with, damp material, and fettling of other articles made from clay dust, unless the materials is so damp that no dust is given off;

(f) process of loading and unloading of saggars were handling and manipulation of ground and powered flint, quartz alumina or other materials are involved;

(g)brushing of earthenware biscuit, unless the process is carried on in a room provided with efficient general mechanical ventilation or other ventilation which is certified by the Inspector of Factories as adequate, having regard to all the circumstances of the case;

(h) fettling of biscuitware which had been fires in powered flint or quartz except where this is done in machines so enclosed as to effectually prevent the escape of dust;

(i)ware cleaning after the application of glaze by dipping or other process;

(j)crushing and dry grinding of materials for pottery bodies, and saggars, unless carried on in machines so enclosed as to effectually prevent the escape of dust or is so damp that no dust can be given off.;

(k)sieving or manipulation of powered flint, quartz, clay, grog or mixture of these materials unless it is so damp that no dust can be given off;

(l)grinding of tiles on a power driven wheel unless an efficient water spray is used on the wheel;

(m)lifting and conveying of materials by elevators and conveyors unless they are effectively enclosed and so arranged as to prevent escape of dust into air in or near to any place on which persons are employed.

(n)preparation or weighing out of flow material, lawning of dry colours, colour dusting and colour blowing.

(o)mould making unless the bins or similar receptacles used for holding plaster of paris are provided with suitable covers; and

(p)manipulation of calcined material unless the material has been made and remains so wet that no dust is given off.

4.Separation of processes- Each of the following processes shall be carried on in such a manner and under such conditions so as to secure effectual separation from one another, and from other wet processes: -

(a)crushing and dry grinding or sieving of materials, fettling, pressing of tiles, drying of clay and greenware, loading and unloading of saggars; and

(b)all processes involving the use of a dry lead compound.

5.Prohibition on use of glaze.- No glaze which not a leadless glaze or a low solubility glaze shall be used in factory in which pottery is manufactured.

6.Prohibition relating to women and young persons.- No woman or young person shall be employed or permitted to work in any of the operations specified in paragraph 4, or at any place where such operations are carried on.

7.Provision of screen to potter's wheel.- The potter's wheel (Jolly and Jigger) shall be provided with screens or so constructed as to prevent clay scrapings being thrown off beyond the wheel.

8.Control of dust during cleaning.-(1) All practical measures shall be taken by damping or otherwise to prevent dust arising during cleaning of floors.

(2) Damp Saw-dust or other suitable material shall be used to render the moist method effective in preventing dust rising into the air during the cleaning process which shall be carried out after work has ceased.

9.Floor or certain works rooms.- The floors of potter's shops, slips houses, dipping houses and ware cleaning rooms shall be hard, smooth and impervious and shall be thoroughly cleaned daily by a adult male using a moist method.

10.Protective equipment.-(1)The occupier shall provide and maintain suitable overalls and head covering for all persons employed in process employed in process included under paragraph 3.

(2)The occupier shall provide and maintain suitable aprons of water proof or similar material, which can be sponged daily, for the use of the dippers, dippers' assistants, throwers, jolly workers, casters, would makers and filter press and pug mill workers.

(3)Aprons provided in pursuance of paragraph 10 (2) shall be thoroughly cleaned daily by the wearers by sponging or other wet process. All overalls and head coverings shall be washed, cleaned and mended at least once a week, and this washing, cleaning or mending shall be provided for by the occupier.

(4)No person shall be allowed to work in emptying sacks of dusty materials, weighing out and mixing of dusty materials and charging of ball mills and plungers without wearing a suitable and efficient dusk respirator.

11.Washing facilities - The occupier shall provide and maintain, in a clean state and in good repair for the use of all persons employed in any of the processes specified in paragraph 3.

(a) a wash place under cover, with either-

(i)a trough with smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow at least 60centimetres for every 5such persons employed at any one time, and having a constant supply of clean water from taps or jets above the trough at intervals of not more than 60centimetres; or

(ii)at least one tap or stand pipe for every five such persons employed at any one time, and having a constant supply of clean water, the tap or stand pipe being spaced not less than 120 centimetres apart; and

(b)a sufficient supply of clean towels made of suitable material charged daily, with sufficient supply of nail brushes and soap.

12.Time allowed for washing - Before each meal and before the end of the day's work, at least ten minutes, in addition to the regular meal times, shall be allowed for washing to each person employed in any of the processes mentioned in paragraph 3.

13.Mess room.- (1) There shall be provided and maintained for use of all persons remaining within the premises during the rest interval, a suitable mess room providing accommodation of 0.93 square meter per head and furnished with-

(a) a sufficient number of tables and chairs or benches with back rest;

(b) arrangement for washing utensils;

(c) adequate means for warming food; and

(d) adequate quantity of drinking water.

(2)The room shall be adequately ventilated by the circulation of fresh air and placed under the charge of a responsible person and shall be kept clean.

14.Food, drinks etc., prohibited in work-rooms- No food, drink, pan and supari or tobacco shall be brought into, or consumed by any worker in any work room in which any of the processes mentioned in paragraph 3 are carries on and no person shall remain in any such room during intervals for meals or rest.

15. Cloak room, etc.- There shall be provided and maintained for the use of all persons employed in any of the processes mentioned in paragraph 3-

(a) a cloak-room for clothing put off during working hours and such accommodation shall be separated from any mess room; and

(b) separate and suitable arrangements for the storage of protective equipment provided under paragraph 10.

16.Medical facilities and records of examination and tests.-(1)The occupier of the every factory to which the manufacture or pottery is carried, on shall-

(a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories.

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

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

17.Medical Examination by the Certifying Surgeon.-(1) Every worker employed in any process mentioned under paragraph 3, shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for lead in urine and blood. ALA in urine, haemoglobin content, stippling of cells and pulmonary function tests and chest X-ray for workers engaged in process mentioned in clauses 9(a) and (n) of paragraph 3 and pulmonary function tests and chest X-rays for the others. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

(2) All persons employed in any of the process, include under sub-paragraphs 3 (a) and 3 (n) shall be examined by a Certifying Surgeon once in every calendar months. Those employed in any other process mentioned in the remaining sub-paragraphs of paragraph 3 shall be examined by a Certifying Surgeon once in every 12 calendar months. Such examinations in respect of all the workers shall include all the test as specified sub-paragraph (1) except chest X-ray which will be once in 3 years.

(3) The Certifying Surgeon after examining a worker, shall issue Certificate of Fitness in Form 27. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

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

(5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said process on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said persons is unfit for work in the said processes. The person so suspended from the process shall be provided with alternative placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

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

18.Exemption – If in respect of any factory the Chief Inspector of Factories is satisfied that all or any of the provisions of this Schedule are not necessary for the protection of the persons employed in such factory, he may by a certificate in writing exempt such factory from all or any of such provisions, subject to such conditions as he may specify therein. Such certificate may at any time be revoked by the Chief Inspector without assigning any reasons.

Schedule XII

PART 1

Chemical Works

1.Application.- This schedule shall apply to all manufacture and process incidental thereto carried on 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 works is carried on.
(c) "bleaching powder" means the bleaching powder commonly called chloride of lime;
(d) "chlorate" means chlorate or perchlorate.
(e) "caustic" means hydroxide of potassium or sodium.
(f) "chrome process" means the manufacture of chromate or bichromate of potassium or sodium, or the manipulation, movement or other treatment of these substances;
(g)"nitro or amino process" means the manufacture of nitro or amino derivatives of phenol and of benzene or its homologues, and the making or explosives with the use of any of these substances.
(h) the term "permit to work system" means the compliance with the procedures laid down under para 20 of part II. .
(i) "toxic substances" means all those substances which when they enter into the human body, through inhalation or ingestion or absorption through skin in sufficient quantities cause fatality exert serious affliction of health or chromic harmful effects on the health of persons exposed to it due its inherent chemical or biological effects. In respect to substances whose TLV is specified in Rule 129A, exceeding the concentration specified therein wood made the substance toxic;
(j) "emergency" means a situation or condition leading to a circumstance or set of circumstances in which there is danger to the life or health of persons or could result in big fire or explosion or pollution to the work and outside environment, affecting the workers or neighborhood in a series manner, demanding immediate action;
(k) "dangerous chemical reactions" means high speed reactions, run-away reactions, delayed reactions, etc., and are characterised by evolution of large quantities of heat, intense, release of toxic or flammable gases or vapours, sudden pressure build-up etc.,
(l) "manipulation" means mixing, blending, filling, emptying, grinding, sieving, drying, packing, sweeping, handling, using etc.,

(m) "appropriate personal protective equipment" means items of personal protective equipment conforming to the relevant ISI specifications or in the absence of it, personal protective equipment approved by the Chief Inspector of factories;

(n) "appropriate personal protective equipment" means that when the protective equipment is used by the worker he shall have no risk to his life or health or body; and

(o)"confined space" means any space by reason of its construction as well as in relation to the nature of the work carried on therein and where hazards to the persons entering into or working inside exist or are likely to develop during working.

PART II

General Requirements

Applying to all the works in Appendix "A"

1.House keeping.
(1)Any spillage of materials shall be claimed up before further processing.
(2) Floors, platforms, stairways, passages and gangways shall be kept free of any obstructions.
(3)They 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 chemical 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 edible item shall be stored or heated or consumed or on nearby part of the plant or equipment.

4.Cautionary Notices and Instructions

(1)Cautionary notices in a language understood by the majority of the workers shall be prominently displayed in all hazardous areas drawing the attention of all workers about the hazards to health, hazards involving fire and explosion and any other hazards such as consequencesor testing of material of substances used in the process or using any contaminated container for drinking or eating, to which the workers attention should be drawn for ensuring the safety and health.

(2)In addition to the above cautionary notice, arrangement shall be made to instruct educate are 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 their work. Such instructions and education should also deal with the hazards involved in authorized and unsafe practices including the properties of substances used in the process under normal conditions as well as abnormal conditions and the precaution to be observed against each and every hazard. Further an undertaking from the workers shall be obtained within one month of their employment and for old workers employed within one month of coming in to operation of the rules, to the effect that they have read the contents of the cautionary notice and instructions, understood them and would abide 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 label struck or painted on the various types containers and pipe lines.

5.Evaluation and provision of safe guards for the commencement of process

(1)Before commencing any process or any experimental work, or any manufacture covered under Appendix "A", the occupier shall take all possible steps to ascertain definitely all the hazards involved both from the actual operations and the chemical reactions including the dangerous chemical reactions. The properties of the raw materials used, the final products to be made and any by-products derived during manufacture, shall be carefully studied and provisions shall be made for dealing with any hazards including effects on workers which may occur during manufacture.

(2)Information in writing, giving details of the process its hazards and the steps taken or proposed to be taken from the design stage to disposal stage for ensuring the safety as in sub-paragraph (1) above should be sent to the Chief Inspector at the earliest but in no case less than 15 days before commencing manufacture, handling or storage of any of items covered under Appendix "A", whether on experimental basis, or as pilot plant or as trail production or as large scale manufacture.

(3)The design, Construction, installation, operator maintenance and disposal of the buildings, plant and facilities shall take into consideration effective safe guards against all the safety and health hazards so evaluated.

(4)The requirements under sub-paragraph (1) to 3 shall not act in lieu of or in derogation to any other provisions, contain in any act governing the work.

6.Authorised entry.- Authorized persons only shall be permitted to enter any section of the factory or plant were any dangerous operations or processes are being carried on or where dangerous chemical reaction are taking place or were hazards chemicals are store.

7.Examination of instruments and safety devices. (1) All instruments safety devices use in the process shall be tested before taking into use and after carried out any repair to them and examined once in a month, by a competent person. Records of such tests and examinations shall be maintained in a register.

(2) All instruments and safety devices used in the process shall be operated daily or as often as it is necessary to ensure its effective and efficient working all times.

8.Electrical installation- All electrical installations used in the process covered in Appendix "A" shall be of an appropriate type to ensure safety against the hazard prevalent in that area such as suitability against dust, dampness, corrosion, flammability and explosivity etc., and shall conform to the relevant ISI specifications governing the construction and use for that area.

9.Handling and storage of chemicals. (1)The containers for handling and storage of chemicals shall be of adequate strength taking into consideration the hazardous nature of the contents. They shall also be provided with adequate labelling and colour coding arrangements to enable identification of the containers and their contents indicating the hazards and safe handling methods and shall conform to the respective ISI standards. The instructions given in the label shall be strictly adhered to. Damaged containers shall be handled only under supervisions of a knowledgeable and responsible person and spillage shall be rendered innocuous in a safe manner using appropriate means.

(2) The arrangements for the storage of chemicals including charging of chemicals in reaction vessels and containers shall be such as to prevent any risk of fire or explosion or formation of toxic concentration of substances above the limits specified in rule 129 A.

(3)Without prejudice to the generality of the requirements in sub paragraph (2) above, the arrangement shall have suitable ventilation facilities and shall enable the maintenance of safe levels in vessels and containers. Such arrangement shall also take into consideration, the type of flooring and the capacity of flooring and the compatibility requirements of substance with other chemical stored nearby.

(4)(a) Storage of chemicals and intermediate products which are highly unstable or reactive or explosive shall be limited to the quantities required for two months used.

(b)Whenever the quantities laid down in the above clause (a) are to be exceeded, the permission of the Chief Inspector shall be obtained.

(c) Notwithstanding anything contained in clause 9 (a) and (b) above the Chief Inspector of Factories may direct any factory carrying out process covered in Appendix "A" to further limit the storage of hazardous substances to quantity less than two months of consideration of safety.

(5)Standby arrangements equal to the biggest container shall always be available to transfer the toxic substances quickly into the stand by storage facility in any defect develops in any of container resulting in the release of toxic substance.

(6)Any storage facility constructed using non-metallic material such as Fiber Glass Reinforced plastics (FRP) all glasses vessels, etc., shall have adequate strength to withstand the stress, if any, exerted by the contents and shall be properly anchored, working platform, access ladders, pipe line etc. used in such storage facility shall not have any support on the structure of storage facility and shall be independently supported.

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

11.Personnel protective equipment

(1)All workers exposed to the hazards in the process 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.

(2)The occupier shall arrange to inform, educate and supervise all the workers in the use of personnel protective equipment while carrying out the job.

3)As regards any doubt regarding appropriateness of any personnel protective equipment, the decision of the Chief Inspector will be final.

12.Alarm System.

(1)Suitable and effective alarm systems giving audible and visible indications, shall be installed at the control room as well as in all strategic locations were process control arrangements are available so as to enable corrective action to be taken before the operational parameters exceed the predetermined safe levels or lead to conditions conductive for an outbreak of fire or explosion to occur. Such alarm system shall be checked daily and tested every month at least once to ensure its performance efficiency at all times.

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

13. Control of escape of substance in to the work atmosphere

(1) Effective arrangements such as, enclosure or by-pass, or efficient exhaust drought, maintained 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.

(2) In the event of the failure of the arrangements for control resulting in the escape of substance in the work atmosphere immediate steps shall be taken to control the process in such a manner, that further escape is brought down to the safe level.

(3) The substances that would have escaped into the work atmosphere before taking immediate steps as required in sub-paragraph (2), shall be rendered innocuous by diluting with air or water or any other suitable agent or by suitably treating the substances.

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

15. Testing, examination and repair of plant and equipment.

(1) All parts of plant, equipment and machinery use in the process which in the likely event of their failure may give rise to an emergent situation shall be tested by a competent person before commencing process and retested at an interval of two years or after carrying out repairs to it. The competent person shall identify the parts of the plant, equipment and machinery required to be tested as aforesaid and evolve a suitable testing procedure. In carrying out the test as mentioned above in respect of pressure vessels or reaction vessels the following precautions shall be observed, namely:-

(a) before the test is carried out, each vessel shall be thoroughly cleaned and examined externally, and as far as practicable, internally also for surface defects, corrosion and foreign matter. During the process of cleaning and removal of sludge, if any, all due precautions shall be taken against fire or explosion, of such sludge is of pyroheric nature or contains spontaneous combustible chemicals;
(b) as soon as the test is completed, the vessel shall be thoroughly dried internally and shall be clearly stamped with the marks and figures indicating the person by whom testing has been done and the date of test; and
(c) any vessel which fails to pass the test or which for any other reason is found to be unsafe for use shall be destroyed or rendered unusable under intimation to the Chief Inspector.

(2) All parts of plant, equipment, machinery which in the likely event of failure may give rise to an emergent situation shall be examined once in a month by the competent person.
(3) Records of testing and examination referred to in paragraph (1) and (2) shall be maintained as long as that part of the plant, equipment and machinery are in use.

(4) All repair work including alteration, modification and addition to be carried out to the plant equipment and machinery shall be done under the supervision of a responsible person who shall evolve a procedure to ensure safety and health of persons doing the work. When repair or modification is done on pipe lines, and joints are required to be welded, but welding joints shall be preferred. Wherever necessary the responsible person shall regulate the aforesaid work through a “permit to work system”.

16. Staging.

(1) All staging that is created for the purpose of maintenance work or repair work or for work connected with entry into confined spaces and used in the processes included in Appendix "A" shall be stable rigid and constructed out of substantial material of adequate strength. Such staging shall conform to the respective Indian Standard Specifications.

(2) Staging shall not be erected over any closed or open vessel unless the vessel is so constructed and ventilated to prevent exposure of persons working on the stage

(3) All the staging constructed for the purpose of this para shall have appropriate access which are safe and shall be fitted with proper hand rails to a height of 1metre and to be board.

17.Seating arrangements.- The seating arrangements provided for the operating personal working in process covered in Appendix "A" shall be located in the safe manner as to prevent the risk of exposure to toxic, flammable and explosive substances evolved in the work environment in the course of manufacture or repair or maintenance, either due to failure of plant and equipment or due to the substances which are under pressure, escaping into the atmosphere.

18.Entry into or working confined spaces

(1)The occupier of every factory to which the provisions of this schedule apply, shall ensure the observance of the following precautions before permitting any person to enter or work inside the confined spaces.

(a)identify all confined spaces and the nature of hazards that are encountered in such spaces, normally or abnormally, and arrange to develop the most appropriate safeguards for ensuring the safety and the health of persons entering into or working inside, the confined spaces;

(b)regulate the entry or work inside the confined spaces through a "permit to work system" which should include the safeguard to developed as required under sub clause (a) above;

(c)before testing the confined space for entry into or work, the place shall be rendered safe by washing or cleaning with neutralizing agents; or purging with steam inert gases and making adequate forced ventilation arrangements or such measure which will render the confined space safe;

(d)shall arrange to carry out such test as are necessary for the purpose by a competent person and ensure that the confined space is safe for the persons to enter or work. Such testing shall be carried out as often as is necessary during the course of work to ensure its continued safety;

(e)shall arrange to educate and train the personnel who would be required to work in confined spaces about the hazards involved in the work. He shall also keep in readiness the appropriate and approved personal protective equipment including arrangements for rescue, resurrection and first-aid, and shall arrange supervision of the work at all times by a responsible and knowledgeable persons.

(2)The manager shall maintain a log of all entry into or work in confined spaces and such record shall contain the details of persons assigned for the work, the locations of the work and such other details would have a bearing on the safety and health of the persons assigned for this work. The law book so maintain shall be retained as long as the concerned workers are in service and produced to the Inspector when demand.

19. Maintenance works etc.,

(1) All the work connected with the maintenance of plants and equipment including cleaning of empty containers which have held hazardous substances used in the process 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 precaution required to deal with them.

(2)Maintenance work shall be carried out in such manner that there is risk to persons in the vicinity or to persons who pass by. If necessary, the place of such work shall be condoned off or the presence of unconnected persons effectively controlled.

20.Permit to work system.- The permit to work system shall inter-alia include the observance of the following precautions while carrying out any specified work to be subjected to the permit to work system-

(a) all work subject to the permit to work system shall be carried out under the super vision of a knowledgeable and responsible person.

(b)all parts of plant or machinery or equipment on which permit to work system is carried out shall remain isolated from other parts throughout the period of permit to work and the place of work including the parts of plant may, machinery shall be rendered safe by cleaning, purging, washing etc,

(c) all work subject to the permit to the work system shall have predetermined work procedures which integrate safety with the work. Such procedure shall be reviewed whenever any change occurs in material or equipment so that continued safety is ensured;

(d) persons who are assigned to carry out the permit to work system shall be physically fit in all respect taking into consideration the demand and nature of the work before entering into the confined space. Such person shall be adequately informed about the correct work procedures as well as the precautions to be observed while carrying out the permit to work system;

(e) adequate rescue arrangements wherever considers necessary and adequate first-aid, rescue and resurrection arrangements shall be available in good working condition near the place of work while carrying out the permit to work system, for use in emergency.

(f) appropriate and approved personal protective equipment shall be used while carrying out the "permit to work system".

(g)after completion of work subject to the "permit to work system", the person responsible shall remove all the equipment and tools and restore to the original condition so as to prevent any danger while carrying out regular process.

21.Safety sampling personnel.- The occupier shall ensure the safety of persons assigned for collecting sample by instructing them on the safe procedures. Such personnel shall be provided with proper and approved personnel protective equipment, if required.

22.Ventilation.- Adequate ventilation arrangements shall be provided and maintained at all times in the process area where dangerous or toxic or flammable or explosive substances could be evolved. These arrangements shall ensure that concentrations, which are either harmful or could result in explosion, are not permitted to be build up in the work environment.

23.Procedure for meeting emergencies

(1) The occupier for every factory carrying out the works covered in Appendix "A" shall arrange to identify all types of possible emergencies that could occur in the process during the course of work or while carrying out maintenance work or repair work. The emergency is so identified shall be reviewed every year.

(2) The occupier shall formulate a detailed plan to meet all such identified emergencies including arrangements for summoning outside help for rescue and fire fighting arrangements for making available urgent medical facilities.

(3) The occupier shall send the list of emergencies and the details of procedures and plants formulated to meet the emergencies to the Chief Inspector of Factories.

(4) The occupier shall arrange to install distinctive and recognizable warning arrangements to caution all persons inside the plant as well as the neighboring community, if necessary, to enable evacuation of persons and to enable the observance of emergency procedures by the persons who are assigned emergency duties. All concerned must well informed about the warning arrangements and there meaning. The arrangements must be checked for its effectiveness every month.

(5) Alternate power supply arrangements shall be made and interlocked with the normal power supply system so as to ensure constant supply of power to the facilities and equipment meant for compliance with requirements of paragraph 10, 11,12,13,14,18,22 and this paragraph of part II, part III, part IV and Part V of this schedule.

(6)The occupier shall arrange to suspend further process work in a place where emergency is established and shall forthwith evacuate all persons in that area except workers who have been assigned emergency duties.

(7)All the employees of the factory shall be trained about the action to be taken by them including evacuation procedures during emergencies.

(8)All emergency procedures must be rehearsed every three months and deficiencies, if any, in the achievement of the objectives shall suitably be corrected.

(9)The occupier shall arrange to have ten percent of the workers trained in the use of First Aid Fire Fighting appliances and in the rendering of specific First Air measures taking in to consideration the special hazards of the particular process.

(10)The occupier shall furnish immediately on request the specific chemical identity of the hazardous substances to the treating physician when the information is needed to administer proper emergency or first aid treatment to exposed persons.

24.Danger due to effluent.

(1)Adequate precautions shall be taken to prevent the mixing of effluents from different processes and operations which may case may dangerous or poisonous gases to be evolved.

(2)Effluents which contain or give rice in the presence of other effluents to poisonous gases shall be provided with independent drainage systems to ensure that they may be trapped and rendered shape.

PART- III

Fire and Explosion risks

1.Source of ignition including lighting installation

(1)No internal combustion engine and no electric motor or other electric equipment and fitting mixtures capable of generating sparks or otherwise causing combustion or any other sources of ignition or any naked light shall be installed or permitted to be used in the process area where there could be fire and explosion hazards.

(2)All hot exhaust pipes shall be installed outside a building and other hot pipes or hot surface or surfaces likely to become hot shall be suitably protected.

(3)The classification of work area in terms of its hazard potential and the selection of electrical equipment or other equipment that could constitute a source of ignition shall be in accordance with the respective Indian standard.

(4)Where a flammable atmosphere may be prevalent or could occur, the soles of food wear worn by workers shall have no metal on them, and the wheels of trucks or conveyors shall be conductive type.

(5)All tools and appliances used for work in this area shall be of non sparking type.

(6)Smoking in processes areas where there are risks of fire and explosion shall be prohibited and warning notices in the language understood by majority of workers shall be pasted in the factory prohibiting, smoking into specified areas.

2.Static Electricity.

(1)All machinery and plant, particularly, pipe lines and belt drives, on which static charge is likely to accumulate, shall be effectively earthed. Receptacles for inflammable liquid shall have metallic connections to the earthed supply tanks to prevent static sparking. Where necessary, humidity shall be regulated.

(2)Mobile tanker wagons shall be earthed during filling and discharge, and precautions shall be taken to ensure that earthing is effective before such filling or discharge takes place.

3.Lighting protection- Lighting protection arrangement shall be fitted where necessary, and shall be maintained.

4.Process heating.- The method of providing heat for a process likely to result in fire and explosion shall be as safe as possible and where the use of naked flame is necessary, the plant shall be so constructed as to prevent any escaping flammable gas, vapour or dust from coming into contact with the flame, or exhaust gases, or other sources likely to cause ignition. Wherever possible, the heating arrangement shall be automatically controlled at a predetermined temperature below the danger temperature.

5.Leakage of flammable liquids

(1)Provision shall be made to confine by means of bund walls, dykes, sumps etc., possible leakages from storage vessels containing flammable liquids.

(2)Waste material in contact with flammable substances shall be disposed off suitably under the supervision of knowledgeable and responsible person.

(3)Adequate and suitable fire –fighting appliances shall be installed in the vicinity of such vessels.

6.Safety Valves.- Every still and every closed vessel in which gas is evolved or in to which gas is passed and in which the pressure is liable to rise above the atmospheric pressure, shall have attached to it a pressure gauge, and a proper safety valve or other equally efficient means to relive the pressure. These appliances shall be maintained in good condition.

7.Installation of pipe line etc.- All pipe lines carrying flammable or explosive substances shall be protected from mechanical damage and shall be examined by a responsible person once in week to detect any deterioration or defects, or accumulation of flammable or explosive substances, and record kept of any defects found and repairs made.

8.Fire fighting system.

(1)Every factory employee 500 or more persons and carrying out process listed in Appendix "A" shall provide.

(a)trained and responsible fire fighting squad 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 will necessarily depend up on the side of risk involved, but no case shall be less than eight such trained persons to be available at any time. The squad shall consist of watch and ward personnel, fire pumpman and departmental supervisors and operators trained in the operation of fire and emergency services.

(b)Squad leaders shall preferably be trained in a recognised government institution and their usefulness enhanced by providing residence on the premises.

(c) Squad personnel shall be provided with clothing and equipment including helmets, boots and belts.

(2)A muster roll showing the duties allocated to each member of the squad shall be prepared and copies supplied to each leader as well as displayed in prominent places so as to be easily available for reference in case of emergency.

(3)The pumpman shall be thoroughly conversant with the location of all appliances. He shall be responsible for maintaining all fire fighting equipment in proper working order. Any defect coming to his notice shall be immediately be brought to the notice of squad leader.

(4)As far as is practicable, the fire pump from the main gate(s) of the factory shall be connected to all manufacturing or storing areas through telephone, interlinked and placed in a convenient location near such area.

PART IV

Risks of Toxic Substances.

1. Leakage. (1) All plants shall be so designed and constructed as to prevent the escape of toxic substance. Where necessary, separate building rooms or protective structures shall be used for the dangerous stages of the process and the building shall be so designed as to localise any escape of toxic substances.

(2) Catch pits, bunt walls, dykes, or other suitable safe guards shall be provided to restrict the serious effects in such leakages. Catch puts shall be placed below joints in pipelines where there is danger involved to maintenance and other workers from such leakage.

2.Drainage .- Adequate drainage shall be provided and shall lead to collection tanks specifically provided for this purpose where in deleterious material shall be neutralised, treated or otherwise rendered safe before it is discharged into public drains or sewers.

3.Covering of vessels.-(1) Every fixed vessels or structure containing any toxic substances and not so covered as to eliminate all reasonable risk of accidental contact of any portion of the body of a worker, shall be so constructed as to avoid physical contact.

(2)Such vessel shall, unless its edge is atleast 90centimeters above the adjoining ground or platform, be securely fenced to a height of atleast 90centimeters above such adjoining ground or platform.

(3)Where such vessels adjoin and the space between them clear of any surrounding brick or other work is either less than 45centimeters in width or 45 or more centimeters in width, but is not securely fenced on both sides to a height of at least 90centimeters, secure barriers shall be so placed as to prevent passage between them.

Provided that sub-paragraph 92 of this paragraph shall not apply to –

(a)saturators used in the manufacture of sulphate of ammonia; and

(b)that part of the sides of brine evaporating pans which require raking, drawing or filling.

4.Continuous exhaust arrangement.- (1)Any process evolving toxic vapour, gas, fume and substance shall have efficient continuous exhaust draught, such arrangement, shall be interlocked in the process control wherever possible.

(2) In the event of failure of continuous exhaust arrangement means shall be provided to automatically stop the process.

5. Work bench.- All the work benches used in process involving the manipulation of toxic substances, shall be graded properly and shall be made of smooth impervious surface which shall be washed daily after the completion of work.

6.Waste disposal.- (1)There shall be provided in suitable receptacle made of non-absorbable material with a tightly fitting cover for depositing waste material soiled with toxic substances and the contents of such receptacle shall be destroyed by burning or using other suitable methods under the supervision of a responsible person.

(2) During the course of manufacture, whenever any batch or intermediate products having toxicity is rejected on considerations of quality, sufficient precautions shall be taken to render them innocuous or otherwise treat them or inactive them, before disposal.

(3)The empty containers of toxic substances shall be cleaned thoroughly before disposal under the supervision of a responsible person.

PART V

Special Provisions

1.Special precautions for Nitro or Amino processes.- (1) Unless the crystallised nitro or amino substances or any of its liquor is broken or agitated in a completely enclosed process so as not to give rise of dust or fume, such process shall be carried on under an efficient exhaust draught or by adopting any other suitable means in such manner as to prevent the escape of dust or fume in the working atmosphere.

(2)No part of the plant or equipment or implements which was in contact with nitro or amino compounds shall be repaired or handled unless they have been emptied and thoroughly cleaned and decontaminated.

(3)Filling of containers with nitro or amino compounds shall be done only by using a suitable scoop or avid physical contact and the drying of the containers in the stove shall be done in such a manner that the hot and contaminated air from the stove is not drawn into the work room.

(4)Processes involving the steaming into or around any vessel containing nitro or amino compounds or its raw materials shall be carried out in such a manner that the steam or vapour is effectively prevented to be blown back into the working atmosphere.

(5)Suitable antidotes such as methylene blue injections shall always be available at designated places of work for use during emergency involving the poisoning with nitro or amino compounds.

2.Special precaution for "Chrome processes".

(1)Grinding and sieving of raw materials in chrome process shall be carried on such a manner and under such condition as to secure effective separation from any other processes and under an efficient exhaust draught.

(2)There shall be washing facilities located very near to places where wet chrome processes such as leaching, acidification, sulphate settling, evaporation, crystallisation, centrifugation or packing are carried out, to enable quick washing of affected parts of body with running water.

(3)Weekly inspection of hand and feet of all persons employed in chrome process shall be done by a qualified nurse and record of such inspection shall be maintained in a form approved by the Chief Inspector of Factories.

(4)There shall be always available at designated places of work suitable ointment such as glycerin, Vaseline etc., and water proof plaster in a separate box readily accessible to the workers so as to protect against perforation of nasal septum.

3.Special precautions for processes carried out in all glass vessels.

(1)Processes and chemical reactions such as manufacture of vinyl chloride, benzyl chloride etc., which are required to be carried out in all glass vessels shall have suitable means like substantial wire mesh covering to protect persons working nearby in the event of breakage of glass vessel.

(2)Any spillage or emission of vapour form the all glass vessel due to breakage, shall be immediately inactivated or rendered innocuous by suitable means such as dilution with water or suitable solvents so as to provide the risks of fire or explosion or health hazards.

4.Special precaution for processes involving chloride manufacture

(1)Crystallisation, grinding or packing of chlorite shall not be done in a place used for any other purpose and such places shall have hard, smooth and impervious surface made of non-combustible material. The place shall be thoroughly cleaned daily.

(2)The personal protective equipment like overall, etc., provided for the chlorate workers shall not be taken from the place of work and they shall be thoroughly cleaned daily.

(3)Adequate quantity of water shall be available near the place of chlorate process for use during fire emergency.

(4)Wooden vessels shall not be used for the crystallization of chlorite or to contain crystallized ground chlorite.

5.Special precautions in the use of plant and equipments made from reinforced plastics

(1)All plant and equipments shall confirm to appropriate Indian or any other National Standard.

(2)Care shall be taken during storage, transport, handling and installation of plant and equipments to avoid accidental damage.

(3)All plant and equipments shall be installed in such a way as to ensure that loads are distributed as intended in design or as per the recommendations of the manufacturers.

(4)All pipe work shall be supported so that total loads local to the branches on the vessel or tank do not exceed the design values.

(5)After erection all plant and equipments shall be subjected to a pressure test followed by a thorough examination by a competent person. The test and examination shall be as per relevant standards. A Certificate of test and examination by competent person shall be obtained and kept available at site.

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

PART VI
Medical Requirements

1.Decontainination Facilities- In all the places where toxic substances are used in processes listed in Appendix "A' the following provisions shall be made to meet an emergency.

(a)fully equipped first aid box,

(b)readily accessible means of drenching with water person, part of body of persons, and clothing or persons who have been contaminated with such toxic and corrosive substances, and such means shall be as shown in the Table below :

No. of person employed at any time	**No. of drenching showers**
Up to 50 persons	2
Between 51 to 100	3
101 to 200	3 + 1 for every 50 persons thereafter
201 to 400	5 + 1 for every 100 persons thereafter
401 and above	7 + 1 for every 200 persons thereafter

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

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

(1) For factories employing up to 50 workers.-

(a)the services of qualified medical practitioner hereinafter known as Factory Medical Officer, available on a retainership basis in his notified clinic near to the factory for seeking medical help during emergency. He will also carry out the pre-employment and periodical medical examinations as stipulated in paragraph 4 of this part.

(b)A minimum of 5 persons trained in first aid procedures, amongst whom at least one shall always be available during the working period.

(c)A fully equipped first-aid box.

(2)For factories employing 51 to 200 workers.-

(a)The Occupational Health Centre shall have a room having a minimum floor area of 15sq.m. with floors and walls made of smooth hard and impervious surface and shall be adequately illuminated, ventilated and equipped.

(b)A part-time Factory Medical Officer will be in overall charges of the centre who shall visit the Factory minimum twice in a week and whose services shall be readily available during emergencies.

(c)There shall be one qualified and trained dresser-cum-compounder on duty throughout the working period.

(d)A fully equipped first-aid box.

(3)Factories employing above 200 workers.-

(a)There shall be one Full-time Factory Medical Officer for factories employing up to 500 workers and one more medical officer for every 1000 workers or part thereof.

(b)The Occupational health centre in this case shall have a minimum of two rooms each having a minimum floor area of 15sq.m. with floors and walls made of smooth, hard and impervious surface and shall be adequately illuminated, ventilated and equipped.

(c)There shall be one trained nurse, or dresser-cum-compounder and one sweeper-cum ward boy throughout the working period.

(d)The Occupational Health Centre in this case shall be suitably equipped to manage medical emergencies.

3.Ambulance van.

(1)In every factory carrying out processes carried 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 helper, trained in first-aid for the purpose of transportation of serious cases of accidents or sickness unless arrangements for procuring such facility at short notice during emergencies have been made with the nearby hospital or other places, the ambulance van shall not been used for any purpose other than the purpose stipulated herein and always be available near the Occupational Health Centre.

(2)The relaxation to procure ambulance van from nearby place provided for in sub-paragraph (1) above will not be applicable to factories employing more than 500 workers.

4.Medical Examination

(1)Workers employed in processes covered in Appendix "A' shall be medically examined by a Factory Medical Officer in the following manner.

(a)Once before employment, to ascertain physical suitability of the person to do the particular job;

(b)Once in a period of six months, to ascertain the health status of the worker; and

(c)The details of pre-employment and periodical medical examination carried out as aforesaid shall be recorded in the prescribed form.

(2)Any finding of the Factory Medical Officer revealing any abnormality or unsuitability of any person employed in the process shall immediately be reported to the Certifying Surgeon who shall in turn, examine the concerned workers and communicate his findings within 30 days. If the Certifying Surgeon is of the opinion that the person so examined is required to be suspended from the process for health protection he will direct the occupier accordingly who shall not employ the said worker 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 way examine any other worker whom he feels necessary to be examined for ascertaining the suitability of his employment in the process covered in Appendix "A" or for ascertaining the health status of any other worker and his opinion shall be final.

(3)No person shall be newly appointed without the Certificate of fitness granted by the Factory Medical Officer. If the factory Medical Officer declared a person unfit for being appointed to work in the process covered in Appendix "A", such person shall have a right of appeal to the Certifying Surgeon, whose opinion shall be final in this regard.

(4)The worker suspended from the process owing to the circumstances covered in sub-paragraph (2) shall be employed again in the same process only after obtaining the fitness certificate from the Certifying Surgeon and after making entries to that effect in the health register.

PART VII

Additional Welfare Amenities

1.Washing facilities.

(1)There shall be provided and maintained in every factory for the use of all the workers taps for washing, at the rate of one tap for every 15 persons including liquid soap in a container with

tilting arrangements and nail brushes or other suitable means for effective cleaning. Such facilities shall be conveniently accessible and shall be kept in a clean and hygienic condition.
(2)If washing facilities as required above area provided for women, such facilities shall be separate for them and adequate privacy at all times shall be ensured in such facilities.

2.Mess room facilities

(1)The occupier of all the factories carrying out processes covered in Appendix "A" and employing 50 workers or more, shall provided for all the workers working in a shift mess facilities which are well ventilated and provided with tables and sitting facilities along with the provision of clod and hygienic drinking water facilities.
(2)Such facilities shall include suitable arrangements for cleaning and washing and shall be maintained in a clean and hygienic condition.

3.Cloak room facilities

(1)The occupier of every factory carrying out any process covered in Appendix "A" shall provide for all the workers employed in the process cloak room facilities with lockers. Each worker shall be provided with two lockers, one for work clothing and another separately for personal clothing and the lockers should be such as to enable the keeping in the clothing in a hanging position.
(2)The cloak room facilities so provided in pursuance of sub-paragraph (1) shall be located as far as possible near to the facilities provided for washing in pursuance of para (191). If it is not possible to locate the washing facilities, the cloak room facilities shall have adequate and suitable arrangements for cleaning & washing.

4.Special bathing facilities

(1)The occupier of any factory carrying 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 workers and part thereof, and shall be maintained in a clean and hygienic condition.
(2)The occupier shall insist all the workers employed in the processes covered in Appendix "B" to take bath after the completion of the days or shift work using the bathing facilities so provided and shall also effectively prevent such of those workers taking bath in any place other than the bathing facilities.
(3)Notwithstanding anything contained in sub- paragraph (1) above, the Chief Inspector may require in writing the occupier of any factory carrying out any other process for which in his opinion bathing facilities are essential from the health point of view, to provide special bathing facilities.

PART VIII

Duties of workers.

(1)Every worker employed in the processes covered in Appendix "A" and Appendix "B' shall not make any safety device appliances or any guarding or fencing arrangement inoperative or defective and shall report that defective condition of the aforesaid arrangements as soon as is aware of any such defect.

(2)Before commencing any work, all workers employed in processes, covered in Appendix "A" shall check their work place as well as the machinery equipment or appliance used in the processes and report any mal-functions or defect immediately to the supervisors or any responsible person of the management.

(3)All workers shall co-operative in all respect 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" to Appendix "B" shall not smoke in the process area or storage area if special facilities are provided by the management only such facilities should be used.

(5)All workers employed in the process covered in Appendix "A" shall not remain in unauthorized place or carry out unauthorized work or improvise any arrangements or adopt short out method or misuse any of the facilities provided in pursuance of the Schedule, in such a manner as to cause risk to themselves as well as or to others employed.
(6)The workers shall not refuse undergoing medical examination as required under these rules.

PART IX

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

(1)The Chief Inspector of Factories may by an order in writing, restrict or prohibit the employment of women and young persons under the age of 18, in any of the processes covered in Appendix "A" of this schedule on consideration of health and safety of women and young persons.
(2)Such persons who are restricted or prohibited from working in the process due to the order issued in pursuance of sub- paragraph (1) above shall be provided with alternative work which is not detrimental to their health or safety.

PART X

Exemption

1.Power of exemption.- The State Government or subject to the control of the State Government, the Chief Inspector may exempt from the compliance with any of the requirements of this Schedule partly or fully, any factory carrying out processes covered in Appendix "A", if it is clearly and satisfactorily established by the occupier that the compliance with any of the requirements is not necessary to ensure the safety and health of persons employed suitably and effective alternate arrangements are available to any of the requirements covered in this schedule.

Appendix 'A'

Any works of that part of works in which-

(a) the manufacture, manipulation or recovery of any of the following is carried on;

(i)Sodium, potassium, iron, aluminium, cobalt, nickel, copper, arsenic, antimony, chromium, zinc, selenium, magnesium, cadmium, mercury, beryllium and their organic and inorganic salts, alloys, oxides and hydroxides;.
(ii)Ammonia, ammonium hydroxide and salts of ammonium;
(iii)the organic or inorganic compounds of sulphurous, sulphuric, nitric, nitrous, hydrochloric, hydrofluoric, hydroiodic, hydrosulphuric, hydrobromic, boric;
(iv)Cyanogen compounds, cyanide compounds, cyanate compounds;
(v)Phosphorous and its compounds other than organophosphorous insecticides ;
(vi)Chlorine

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

(c)bleaching power is manufactured or chlorine gas is produced in chlor-alkali plants;

(d)(i) gas tar or coal tar or bitumen or shale oil asphalt or any residue of such tar is distilled or used in any process of chemical manufacture;
(ii)tar based synthetic coloring matters or their intermediate 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 IV

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

APPENDIX 'C'

Ambulance

Ambulance should have the following equipments;

General:

A wheeled stretcher with folding and adjusting devices;
Head of the stretcher must be capable of being titled upward;
Fixed suction unit with equipments;
Fixed oxygen supply with equipments;
Pillow with case;
Sheets;
Blankets;
Towels;
Emesis bag;
Bed pan;
Urinal;
Glass.

Safety equipments

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 gage;
Tracheotomy adaptors;
Short spine board;
I.V. Fluids with administration Unit;
B.P. Manometer;

Gugg; Stethoscope.

Immobilization

Long & Short padded boards;
Wire ladder splints;
Triangular bandage;
Long and short spine boards'

Dressings

Guaze pads 4" x 4"
Universal dressing 10" x 36";
Roll of aluminium foils;
Soft roller bandages 6" x 5" yards;
Adhesive tape in 3" roll;
Safety pins;
Bandage sheets;
Burn sheet.

Poisoning

Syrup of Ipecac;
Activated Charcoal; Prepacketed in doses
Snake bite kit;
Drinking Water;

Emergency Medicines

As per requirements (Under the advice of Medical Officer only)

Schedule XIII

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 or stone or any other material containing free silica is carried on.

2.Definitions. – For the purpose of this schedule.-

(a)"manipulation" means crushing, breaking, chipping, dressing, grinding, sieving, mixing, grading, or handing of stone or any other material containing free silica or any other operation involving such stone or material;

(b)"Stone or any other material containing free silica" means a stone or any other solid material containing not less than 5 % by weight of free silica.

3.Precautions in Manipulation.- No manipulation shall be carried out in a factory or part of factory unless one or more of the following measures namely;

(a)damping the stone, or other material being processed,
(b)providing water spray,
(c)enclosing the process,
(d)isolating the process, and
(e)providing localized exhaust ventilation, are adopted so as to effectively control the dust in any place in the factory where any person is employed, at a level equal to or below the maximum permissible level for silica dust as laid down in Table 2 appended to rule 129 A:

Provided that such measures as above said are not necessary if the processes or operation itself in such that the level of dust created and prevailing does not exceeded the permissible level referred to.

4.Maintenance of floors.

(1) All floors or places where fine dust is likely to settle or and where on any person has to work or pass shall be of impervious material and maintained in such condition that they can be thoroughly

cleaned by a moist method or any other method which would prevent dust being air borne in the process of cleaning.

(2)The surface of every floor of every work room or place where any worker carried on or where any person has to pass during the course of his work shall be cleansed of dust once at least during each shift after being sprayed with water or any other suitable method prevent dust being air borne in the process of cleaning.

5.Prohibition relating young persons.- No young person shall be employed or permitted to work in any of the operations involving manipulating or at any place where such operations are carried out.

6.Medical facilities and records of examination and tests.-

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

(a)employ a qualified Medical Officer for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

(b)provided to the said Medical Officer all the necessary facilities for the purpose referred to in clause (1).

(2)The record of medical examination and appropriate test carried out by the said medical officer shall be maintain in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

7.Medical Examination by certifying surgeon.

(1)Every worker employed in processes specified in a paragraph 1, shall be examined by a Certifying Surgeon within 15 days of his first employment. Such medical examination shall include pulmonary function tests and chest X-ray, No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

(2)Every worker employed in the said process shall be reexamined by a Certifying Surgeon at least once in every 12 months. Such reexamination shall, wherever the Certifying Surgeon considers appropriate include all the tests as specified in sub-paragraph (1) except chest X-ray which will be once in three years.

(3)The Certifying Surgeon after examining a worker, shall issue a Certificate of Fitness in Form 27. The record or examination and reexamination carried out shall be entered in the Certificates and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2) including the nature and the results of the tests, shall all so be entered by the Certifying Surgeon in health register in Form 17.

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

(5)If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which have considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternative placement facilities unless he is fully in capacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

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

8.Exemptions- If in respect of any factory the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for protection of the workers in the factory, the Chief Inspector may by a Certificate in writing, which he may in his discretion revoke at any time, exempt such factory from all or any such provisions subject to such conditions, if any as, he may specify therein.

Schedule XIV

Handling and processing of Asbestos, manufacture of any article of Asbestos and any other processes of manufacture or otherwise in which Asbestos is used in any form

1.Application.- This schedule shall apply to all factories or part of factories in which any of the following process is carried on:-

(a)breaking, crushing, disintegrating, opening, grinding, mixing or sieving of asbestos and any other processes involving handling and manipulation of asbestos incidental thereto;

(b)all processes in the manufacture of asbestos textiles including preparatory and finishing processes;

(c) making insulation slabs or sections, composed wholly or partly of asbestos and processes incidental thereto;

(d)making or repairing of insulating mattresses, composed wholly or partly of asbestos and processes incidental thereto;

(e)manufacture of asbestos cardboard and paper;

(f)manufacture of asbestos cement goods;

(g)application of asbestos by spray method;

(h)sawing, grinding, turning, abrading and polishing in dry state of articles composed wholly or partly of asbestos;

(i)cleaning of any room, vessel, chamber, fixture or appliances for the collection of asbestos dust; and

(j)any other processes in which asbestos dust is given off into the work environment.

2.Definition - For the purpose of this schedule:-

(a)"asbestos" means any fibrous silicate mineral and any admixture containing antionlite; amosite, anthophylite, dhrysotile, crocidolite, tremolite or any mixture, thereof, whether crude, crushed or opened;

(b)"approved" means approved for the time being in writing by the Chief Inspector,

(c)"asbestos textiles" means yarn or cloth composed of asbestos or asbestos mixed with any other material;

(d)"breathing apparatus" means a helmet or face piece with necessary connection by means of which a person using it breathes air free from dust, or any other approved apparatus;

(e)"efficient exhaust draught" means localized ventilation by mechanical means for the removal of dust so as to prevent dust from escaping into air of any place in which work is carried on. No draught shall be deemed to be efficient which fails to control dust produced at the point where such dust originates;

(f)"preparing" means crushing, disintegrating and any other processes in or incidental to the opening of asbestos;

(g)"protective clothing" means overalls and head covering, which (in either case) will when worn exclude asbestos dust.

3.Tools and equipments – Any tools or equipment used in processes to which this schedule applies shall be such that they do not create asbestos dust above the permissible limit or are equipped with efficient exhaust draught.

4.Exhaust draught

(1) An efficient exhaust draught shall be provided and maintained to control dust from the following processes and machines:-

(a) manufacture and conveying machinery, namely:-

(i)preparing, grinding or dry mixing machines;

(ii)carding, card waste and ring spinning machines and looms;

(iii)machines or other plant red with asbestos; and

(iv)machines used for the sawing, grinding, turning, drilling, abrasing or polishing in the dry state, or articles composed wholly or partly of asbestos;
(b)cleaning, and grinding of the cylinders or other parts of a carding machine;
(c)chambers, hoppers or other structures into which loose asbestos is delivered or passes;
(d)work benches for asbestos waste sorting or for other manipulation of asbestos by hand;
(e)work places at which the filling or emptying of sacks, skips or other portable containers, weighing or other processes incidental thereto which is effected by hand, is carried;
(f)sack cleaning machine;
(g)mixing and blending of asbestos by hand; and
(h)any other processes in which dust is given off into the work environment.

(2)Exhaust ventilation equipment provided in accordance with sub-paragraph (1) shall while any work of maintenance or repair to the machinery, apparatus or other plant or equipment in connection with which it is provided is being carried or, be kept in use so as to produce an exhaust draught which prevents the entry of asbestos dust into the air of any workplace.

(3)Arrangements shall be made to prevent asbestos dust discharged from exhaust apparatus being drawn into the air of any work-room.
(4)The asbestos bearing dust removed from any work-room by the exhaust system shall be collected in suitable receptacles or filter bags which shall be isolated from all work areas.

5.Testing and examination of ventilating systems

(1)All ventilating system used for the purpose of extracting or suppressing dust as required by this schedule shall be examined and inspected once in every week by a responsible person. It shall be thoroughly examined and tested by a competent person once in every period of 12 months. Any defects found by such examinations or test shall be rectified forthwith;
(2)A register containing particulars of such examination and tests and the state of the plant and the repairs or alterations (if any) found to be necessary shall be kept and shall be available for inspection by an Inspector.

6.Segregation in case of certain process – Mixing or blending of asbestos by the hand or making or repairing of insulating mattresses composed wholly or partly of asbestos shall not be carried on in any room in which any other work is done.

7.Storage and distribution of loose asbestos – All loose asbestos shall, while no in use, be kept in suitable closed receptacles which prevent the escape of asbestos dust there from such asbestos shall not be distributed with in a factory excepting closed receptacles or in a totally enclosed system of conveyance.

8.Asbestos sacks

(1)All sacks used as receptacles for the purpose of transport of asbestos within the factory shall be constructed of impermeable materials and shall be kept in good repair.
(2)A sack which has contained asbestos shall not be cleaned by hand beatings but by a machine, complying with paragraph 4.

9.Maintenance of floors and work places

(1)In every room in which any of the requirements of this schedule apply : -
(a)the floors, work –benches, machinery and plant shall be kept in a clean state and free from asbestos debris and suitable arrangements shall be made for the storage of asbestos not immediately required for use; and
(b)the floors shall be kept free from any materials, plant or other articles not immediately required for the work carried on in the room, which would obstruct the proper cleaning of the floor.

(2)The cleaning as mentioned in sub-rule (1) Shall so far as is practicable be carried out by means or vacuum cleaning equipment so designed and constructed and so used that asbestos dust neither escapes nor discharges in to the air of any work place.

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

(4)The vacuum cleaning equipment used in accordance with provisions of sub-paragraph (2), shall be properly maintained and after each cleaning operation, its surfaces kept in a clean state and free from asbestos waste and dust.

(5)Asbestos waste shall not be permitted to remain on the floors or other surfaces at the work place at the end of working shift and shall be transferred without delay to suitable receptacles. Any spillage of asbestos waste occurring during the course of the work at any time shall be removed and transferred to the receptacles maintained for the purpose without delay.

10.Breathing apparatus and protective clothing

An approved breathing apparatus and protective clothing shall be provided and maintained in good conditions for use of every person employed:

(a)in chambers containing loose asbestos;

(b)in cleaning dust settling or filtering chambers of apparatus;

(c)In cleaning the cylinders, including the doffer cylinders or other parts of a carding machines by means of hand-stickles;

(d) in filling beating or leveling in the manufacture or repair of insulating mattresses; and

(e) In any other operation or circumstances in which it is impracticable to adopt technical means to control asbestos dust in the work environment within the permissible limit.

(2)Suitable accommodation inconveniently accessible position shall be provided for the use of persons when putting on or taking off breathing apparatus and protective clothing provided in accordance with this rule and for the storage of such apparatus and clothing when not in use.

(3)All breathing apparatus and protective clothing when not in use shall be stored in the accommodation provided in accordance with sub-rule (2) above.

(4)All protective clothing in use shall be de-dusted under an efficient exhaust draught or by vacuum cleaning and shall be washed at suitable intervals. The cleaning schedule and procedure should be such as to ensure the efficiency in protecting the wearer.

(5)All breathing apparatus shall be cleaned and disinfected at suitable intervals and thoroughly inspected once every month by a responsible person.

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

(7)No person shall be employed to perform any work specified in sub-paragraph(1) for which breathing apparatus is necessary to be provided under that sub-paragraph unless he has been fully instructed in the proper use of that equipment.

(8)No breathing apparatus provided in pursuance of sub-paragraph(1) which has been worn by a person shall be worn by another person unless it has been thoroughly cleaned and disinfected since last being worn and the person has been fully instructed in the proper use of that equipment.

11.Separate accommodation for personal clothing- A separate accommodation shall be provided in a conveniently accessible position for all persons employed in operations to which this schedule applied for storing of personal clothing. This should be separated from the accommodation provided under sub-paragraph (2) of paragraph 10 to prevent contamination of personal clothing.

12.Washing and bathing Facilities

(1)There shall be provided and maintained in clean state and in good repair for the use of all workers employed in the processes covered by the schedule, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 15 persons employed.

(2)The washing places shall have stand pipes placed at intervals of not less than one metre;

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

(4)Sufficient supply of clean towels made of suitable material shall be provided:
Provided that such towels shall be supplied individually for each worker if so ordered by the Inspector.
(5)Sufficient supply of soap and nail brushers shall be provided.

13.Mess room

(1)There shall be provided and maintained for the use of all workers employed in the factory covered by this schedule, remaining on the premises during the rest intervals, suitable mess room which shall be furnished with:-
(a)sufficient tables and benches with back rest ,and
(b)adequate means for warming foods.
(2)The mess room shall be placed under the charge of a responsible person and shall be kept clean.

14.Prohibition of Employment of Young Persons- No young persons shall be employed in any of the process covered by this schedule,.

15.Prohibition Relating to Smoking- No person shall smoke in any area where processes covered by this schedule are carried on. A notice in the language understood by majority of the workers shall be pasted in the plant prohibiting smoking at such areas.

16.Cautionary Notices

(1)Cautionary notices shall be displayed at the approaches and along the perimeter of every asbestos processing area to warn all persons regarding,-
(a)hazards to health from asbestos dust;
(b)need to use appropriate protective equipment;
©prohibition of entry to unauthorized persons, or authorized persons but without protective equipment.
(2)Such notices shall be in the language understood by the majority of the workers.

17.Air Monitoring:- To ensure the effectiveness of the control measures, monitoring of asbestos fibre in air shall be carried out once at least in every shift and the record of the results so obtained shall be entered in a register specially maintained for the purpose.

18.Medical Facilities and Records of Medical Examinations and Tests

(1)The occupier of every factory of part of the factory to which the schedule applies, shall-
(a)employ a qualified medical practitioner for medical surveillance of the workers covered by this schedule whose employment shall be subject to the approval of the Chief Inspector of Factories.
(b)provide to the said medical practitioner all the necessary facilities for the purpose referred to in clause (a).
(2)The record of medical examination and appropriate tests carried out by the said medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspectors.

19.Medical Examination by Certifying Surgeons

(1)Every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include pulmonary function tests, tests for detecting asbestos fibres in sputum and chest X-ray. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.
(2)Every worker employed in the process referred to sub-paragraph (1) shall be re-examined by a Certifying Surgeon at least once in every twelve calendar months. Such examinations shall, wherever the Certifying Surgeon considers appropriate, include all the tests specified in sub-paragraph (1) except chest X-ray which will be carried out once in 3 years.
(3)The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 27. The record of examination and re-examinations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the Manager of the factory. The record of each

examination carried out under sub-paragraphs (1) and (2) including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

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

(5)If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said persons is unfit to work in the said processes. The person so suspended from the processes shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the certifying surgeon, in which case the person affected shall be suitably rehabilitated.

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

20.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 such provisions subject to such conditions, if any, as he may specify therein.

Schedule XV

Handling or Manipulation of Corrosive Substances

1.Definitions – For the purpose of this schedule -

(a)"corrosive operation " means an operation of manufacturing, storing, handing, processing, packing or using any corrosive substance in a factory; and

(b)" corrosive substance" includes sulphuric acid, nitric acid, hydrochloric acid, hydrofluoric acid, carbolic acid, phosphoric liquid chlorine, liquid bromine, ammonia, sodium hydroxide and potassium hydroxide and a mixture thereof, and any other substance which the State Government by notification in the Official Gazette specify to be a corrosive substance.

2.Flooring.- The floor of every 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. The surface of such flooring shall be smooth and cleaned as often as necessary and maintained in a sound condition.

3.Protective equipment

(1) 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.

(2) 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 provide as close to the place of such operation as possible a source of clean water at a height of 210centimetres from a pipe of clean water at 125centimetres diameter and fitted with quick acting valve so that in the case of injury to the worker by any corrosive substance, the injured part can be thoroughly flooded with water. Whenever necessary, in order to ensure continuous water supply a storage tank having a

minimum length, breadth and height of 210centimetres 120centimetres and 60centimetres respectively, or such dimensions, as are approved by the Chief Inspector shall be provided as the sources of clean water.

6.Cautionary Notice – A cautionary notice in the following Form and printed in the language which majority of the workers employed understand, shall be displayed prominently close to the place where 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

(1)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 crates of sound construction and of sufficient strength.

(2)A container with a capacity of 11.5 litres or more of a corrosive substance shall be placed in a receptacle or crate and then carried by more than one person at height below the waist line unless a suitable rubber wheeled truck is used for the purpose.

(3)Containers for corrosive substances shall be plainly labeled.

7.Devices for handling corrosives.-(1) Titling, lifting or pumping arrangements shall be used for the emptying jars, carboys and other containers of corrosives.

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

8.Opening of valves – Valves fitted to containers holding a corrosive substance shall be opened with great care. If they do not work freely, they shall not be forced open. They shall be opened by a worker suitably trained for the purpose.

9.Cleaning tanks, stills etc.-(1)In cleaning out or removing residues from stills or other large chambers used for holding any corrosive substances, suitable implements made of wood or other material shall be used to prevent production of arseniuretted hydrogen (arsine).

(2)Whenever it is necessary for the purpose of cleaning or other maintenance work for any worker to enter chamber, tank, vat, pit or other confined space where a corrosive substance had been stored, all possible precaution required under section 36 of the Act shall be taken to ensure the worker's safety.

(3)Wherever possible, before repairs are undertaken to any part of equipment in which a corrosive substance was handled, such equipment or part thereof shall be freed of any adhering corrosive substance by adopting suitable methods.

10.Storage.- (1)Corrosive substances shall not be stored in the same room with other chemicals, such as turpentine, carbides, metallic powders and combustible materials, the accidental mixing with which may cause a reaction which is either violent or gives rise to toxic fumes and gases.

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

(3)Every container having a capacity of twenty litres or more and every pipeline, valve, and fitting used for storing or carrying corrosive substances shall be thoroughly examined every year for finding out any defects, 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 whenever required.

11.Fire extinguishers and fire fighting equipments.- An adequate number of suitable type fire extinguishers or other fire fighting equipment, depending on the nature of chemical stored, shall be provided. Such extinguishers or other equipment shall be regularly tested and refilled. Clear instructions as to how the extinguishers or other equipment should be used, printed in the language which majority of the workers employed understand, shall be affixed near each extinguisher or other equipment.

12.Exemption- If in respect of any factory on an application made by the Manager, the Chief Inspector is satisfied that owing to the exceptional circumstances, or the infrequency of the process or for any other reason to be recorded by him in writing, all or any of the provisions of this schedule are not necessary for the protection of the person employed therein, he may by a certificate in writing which he may at any time revoke, exempt to the factory from such of the provisions and subject to such condition as he may specify therein.

Schedule XVI
Processing of Cashew nut

1.Application- This schedule shall apply to all factories in which roasting, scrubbing and shelling of cashew nuts or extracting oil from cashew nuts or cashew nut shells are carried on.

2.Prohibition of employment of women and young persons- No woman or young person shall be employed in any of the processes specified in paragraph 1 except in shelling of roasted cashew nuts.

3.Protective clothing and equipment- The occupier shall provide and maintain for the use of all persons employed in roasting and scrubbing of cashew nuts or extracting oil from cashew nuts or cashew nuts shells-

(a) a suitable rubber or washable leather gloves;

(b) suitable type of impervious aprons with sleeves to cover body down to knees and shoulders; and

(c) suitable type of footwear to afford protection to feet and legs against cashew nut oil; and for the workers employed in cashew nut shelling, either-

(d)a protective ointment containing 10% of shellac, 55% of alcohol, 10% of sodium pergorate, 5% of carbitol and 20% talc; or

(e) sufficient quantity of kaolin and coconut oil; and

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

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

5.Disposal of shells, ashes or oil of cashew nut (1) Shells, ashes or oil of cashew nut shall not be stored in any room in which workers are employed and shall be removed at least twice a day to any pit or enclosed place in the case of shells and ashes and to closed containers kept in a separate room in the case of oil.

(2) No worker shall be allowed to handle shells or oil of cashew nuts without using the protective clothing or equipment provided under paragraph 3 above.

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

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

8.Mess room.-(1)There shall be provided and maintained for the use of all persons employed in process specified in paragraph 1, a suitable restroom furnished with sufficient tables and chairs or benches.

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

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

10.Washing facilities- Where roasting, scrubbing and shelling of cashew nuts or extracting oil from cashew nuts or cashew nuts shells is carried on, there shall be provided and maintained in a clean safe and good repair washing facilities with a sufficient supply of soap, coconut oil, nail brushes and towels at the scale of an one tap or stand pipe for every 10 workers, and the taps or stand pipes shall be spaced not less than 1.2 metres apart.

11.Time allowed for washing- Before each meal and before the end of the day's work, atleast ten minutes, in addition to the regular meal times, shall be allowed for washing, to each person employed in processes specified in paragraph 1.

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

13.Storage of protective equipment – A suitable room or a portion of the factory suitably partitioned off, shall be provided exclusively for the storage of all the protective equipment supplied to the workers and no such equipment shall be stored in any place other than the room or places so provided.

14.Medical facilities and records of examinations and tests.-(1)The occupier of every factory to which the schedule applies, shall –

(a)employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

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

(2) The said medical practitioner shall inspect daily the hands and feet of all the persons employed in the process specified in paragraph 1.

(3)The record of such examinations carried out by the medical practitioner shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector.

(4)The first aid box maintained shall also contain burrough solution (1:20) and aqueous solution of tannic acid (10%) for treatment of cases of dermatitis.

15.Medical examinations by certifying Surgeon.-(1) Every worker employed in the processes specified in paragraph 1 shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examinations shall include skin test for dermatitis and no worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

(2)Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every three calendar months. Such examinations shall, wherever the Certifying Surgeon considers appropriate include asking test for dermatitis.

(3)The Certifying Surgeon after examining a worker, shall issue a Certificate of fitness in Form 27. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2), including the nature and the results of these tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

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

(5)If at any time the Certifying Surgeon is of the opinion that a, worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the workers he shall made a record of the findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

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

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

SCHEDULE XVII

Compression of oxygen and hydrogen produced by electrolysis of water.

1.Location of Electrolyser plant. – The room in which electrolyser plant is installed shall be separate from plant for storing and compressing the oxygen and hydrogen and also the electric generator room.

2.Testing of purity.-(1)The purity of oxygen and hydrogen shall be tested by a competent person at least once in every shift at the first posts:

(a) in the electrolysis room;

(b) at the gasholder inlet; and

(c) at the suction end of the compressor.

(2)The purity figures shall be entered in a register and signed by the persons carrying out such test:

Provided, however, that if the electrolyser plant is fitted with automatic recorder of purity of oxygen and hydrogen a with alarm lights, it shall be sufficient if the purity of gases is tested at the suction end of the compressor only.

3.Restriction as to the compression – The oxygen and hydrogen gases shall not be compressed if their purity as determined under paragraph 2 above falls below 98% at any time.

4.Limit switch for gasholder – The bell of any gasholder shall not be permitted to go within 30 centimeters of its lowest position when empty and a limit switch shall be fitted to the gasholder in which a manner as to switch off the compressor motor when the limit is reached.

5.Provision of negative pressure switch – In addition to the limit switch in the gasholder-a sensitive negative pressure switch shall be provided in or adjacent to the suction main for hydrogen close to the gasholder and between gasholder and the hydrogen compressor to switch off the compressor motor in the event of the gasholder being emptied to the extent as to cause vacuum.

6.Purity of caustic soda – The water and caustic soda used for making limit shall be chemically pure within pharmaceutical limits.

7.Precautions against reversal of polarity – Electrical connections at the electrolyser cells and at the electric generator terminals shall be so constructed as to preclude the possibility of wrong connections leading to the reversal of polarity and in addition to automatic device shall be provided to cut off power in the event of reversal of polarity owing to wrong connections either at the switch board at the electric generator terminals.

8.Colouring of gas pipes – Oxygen and hydrogen gas pipes shall be painted with distinguishing colours and in the event of leakage at the joints of the hydrogen gas pipe, the pipe after reconnection shall be purged of all air before drawing in hydrogen gas.

9.Use of flame proof fitting – All electric wiring and apparatus in the electrolyser room shall be of flameproof construction or enclosed in flameproof fitting and no naked light or flame shall be allowed to be taken either in the electrolyser room or where compressor and filling of the gases is carried on and such warning notices shall be exhibited in prominent places.

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

11.Repair, etc. to be done under supervision – No work or operation, repair or maintenance shall be undertaken except under the direct supervision of a person who, by his training, experience and knowledge of the necessary precautions against risk of explosion is competent to supervise such work. No Electric generator after erection or repair shall be switched on to the electrolysers unless the same is certified by the competent persons under whose direct supervision erection or repairs are carried on to be in a safe condition and the terminals have been checked by the polarity as required by paragraph 7.

12. Checking of plant – Every part of the electrolyser plant and the gasholders and compressor shall have a regular schedule of overhaul and checking and every defect noticed shall be rectified forthwith.

SCHEDULE XVIII

Process of Extracting Oils and Fats from Vegetables and Animals Sources in Solvent Extraction Plants

1.Definitions – For the purpose of the schedule –

(a)"Solvent extraction plant" means a plant in which the process of extracting oils and fats from vegetable and animal sources by use of solvents is carried on;

(b)"Solvent" means a flammable liquid such as pentane hexane and heptane used for the recovery of vegetable oils;

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

(d)"Competent person" for the purpose of this schedule shall be at least a Member of the Institution of engineers (India) or an associate member of the said institution with 10 years experience in a responsible position as may be approved by the Chief Inspector.

Provided that graduate in mechanical engineering or chemical technology with specialized knowledge of oils and fats and with a minimum experience of 5 years in a solvent extraction plant shall also be considered to be a competence person:

Provided further that the State Government may accept any other qualification, if in its opinion they are equivalent to the qualifications aforesaid

2.Location and layout

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

(2) A 1.5 metre high continuous wire fencing shall be provided around the solvent extraction plant upto a minimum distance of 15 meters from the plant.

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

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

(5)If godowns and preparatory process are at a distance from of less than 30 meters from the solvent extraction plant, these shall be at least 15 meters distant from the plant, and a continuous barrier wall noncombustible material 1.5 meters high shall be erected at a distance of not less than 15 meters from the solvent extraction plant so that it extends to at least 30 meters of vapour travel around its end from the plant to the possible sources of ignition.

3.Electrical Installations

(1)All electrical motors and wiring and other electrical equipments installed or housed in solvent extraction plant shall be of flame-proof construction.

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

4.Restriction on Smoking.- Smoking shall strictly prohibited within 15 meters distance from solvent extraction plant. For this purpose, “No smoking” signs shall be permanently be displayed in the area.

5.Precautions against friction

(1)All tools and equipment including ladders, chains and other lifting tackle required to be used in solvent extraction plants shall be of non-sparking type.

(2)No machinery or equipment in any solvent extraction plant shall be belt driven, unless the belt used is of such a type that it does not permit accumulation of static electricity to a dangerous level.

(3)No person shall be allowed to enter and work in the solvent extraction plant, If wearing clothes made of nylon or such other fibre that can generate static electrical charge, or wearing footwear which is likely to cause sparks by friction.

6.Fire fighting apparatus

(1)Adequate number of portable fire extinguishers suitable for use against flammable liquid fires shall be provided in the solvent extraction plant.

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

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

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

9.Venting.- (1)Tanks containing solvents shall be protected with emergency venting to relieve excessive internal pressure in the event of fire.

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

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

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

12.House keeping.- (1)Solvent shall not be stored in an area covered by solvent extraction plant except in small quantities which shall be stored in approved safety cans.

(2)Waste material such as oily rags other waste and absorbents used to wipe off solvents and paints and oil shall be deposited in approved containers and removed from the premises at least once a day.

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

13.Examination and Repairs.- (1)The solvent extraction plant shall be examined by the competent person to determine any weakness or corrosion and wear once in every 12 months. Report of such examination shall be supplied to the Inspector with his observation as to whether or not the plant is in safe condition to work.

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

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

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

15.Employment of women and young person – No woman or young person shall be employed in the solvent extraction plant.

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

17. Exception – If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other person, all or any of the provision of this schedule is not necessary for the protection of the workers in the factory, the Chief Inspector may by a Certificate in writing (which he may in his discretion revoke at any time), exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

SCHEDULE XIX

Manufacture or manipulation of manganese and its compounds.

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

2.Definitions – For the purposes of this schedule -

(a)“manganese process” means processing, manufacture or manipulation of manganese or any compound of manganese or any ore or any mixture containing manganese.

(b)“manipulation” means mixing, blinding, filling, emptying grinding, sieving, drying, packing, sweeping, or otherwise handling of manganese, or a compound of manganese, or any one or any mixture containing manganese; and

(c)"efficient exhaust ventilation" means localised ventilation effected by mechanical means for the removal of dust or fume or mist at is source of origin so as to prevent it from escaping in to the atmosphere of any place where any work is carried on. No draught shall be deemed to be efficient which fails to remove the dust or fume or mist at the point where it is generated and fails to prevent it from escaping into and spreading into the atmosphere of a work place.

3. Isolation of a process – Every manganese process which may give rise to dust, vapour or mist containing manganese, shall be carried on in a totally enclosed system or otherwise effectively isolated from other processes so that other plants and processes and other parts of the factory and persons employed on other processes may not be affected by the same.

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

5.Personal protective equipment

(1) The occupier of the factory shall provide and maintain in good and clean condition suitable overalls and head covering and for all persons employed in any manganese process and such overalls and head coverings shall be worn by the persons while working on a manganese process.

(2) The occupier of the factory shall provide suitable respiratory protective equipment for use by workers in emergency to prevent inhalation of dusts, fumes or mists. Sufficient number of complete sets of such equipment shall always be kept near the work place and the same shall be properly maintained and kept always in condition to be used readily.

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

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

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

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

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

(a) a wash place under cover with either –

(i)a trough with smooth impervious surface fitted with a waste pipe without plug and of sufficient length to allow at least 60 centimetres for every ten such persons employed at any one time and having a constant supply of water from taps or jets above the trough at intervals of not more than 60 centimeters; or

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

(b) sufficient supply of soap or other suitable cleaning material and nail brushes and clean towels.

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

11.Cautionary placard and instruction – Cautionary notices in the form specified in appendix and printed in the language of the majority of the workers employed, shall be affixed in prominent places in the factory where they can be easily and conveniently read by the workers and arrangements shall be made of the occupier to instruct periodically all workers employed in a manganese process

regarding the health hazards connected with their duties and the best preventive measures and method to protect themselves. The notices shall always be maintained in a legible condition.

12.Medical facilities and record of examination and tests

(1) The occupier of every factory to which the schedule applies, shall -
(a)employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

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

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

13.Medical examination by Certifying Surgeon.- (1)Every worker employed in any manganese process shall be medically examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for detection of serum calcium, serum phosphate and manganese in blood and urine and also include steadiness tests and other neuro-muscular co-ordination tests. No worker shall be allowed to work after 15 days of his first employment the factory unless certified fit for such employment by the Certifying Surgeon.

(2) Every worker employed in a manganese process shall be re-examined by a Certifying Surgeon at least once in every three calendar months and such examination shall, wherever the certifying Surgeon considers appropriate, include all the tests in sub paragraph (1)

(3)The certifying Surgeon after examining a worker, shall issue a certificate of fitness in Form 27. 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 paragraph (1) and (2) including the nature and the results of these tests shall also be entered by the Certifying Surgeon in a health register in Form 17.

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

(5) If at any time the Certifying Surgeon is of the opinion that the worker is no longer fit for employment in the said process on the ground that continuance therein would involve special danger to the health of the worker, he shall made a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said process. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon in which case the person affected shall be suitably rehabilitated.

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

14.Exemption – If in respect of any factory the Chief Inspector is satisfied that owing to any exceptional circumstances or infrequency of the process, or for any other reason, application of all or any of the provisions of this schedule is not necessary for the protection of the persons employed in such factory he may by an order in writing which he may at his discretion revoke exempt such factory from all or any of the provisions on such conditions and for such period as he may specify in the said order.

APPENDIX
CAUTIONARY NOTICE
Manganese and Manganese Compounds

1. Dust, fumes and mists of manganese and its compound re-toxic when inhaled or when ingested.
2. Do not consume food or drink near the work place.
3. Take a good wash before taking meals.
4. Keep the working area clean
5. Use the protective clothing and equipment provided
6. When required to work in situations where dusts, fumes or mists or likely to be inhaled or respiratory protective equipment provided for the purpose.
7. If you got severe headaches, prolonged sleeplessness or abnormal sensation on the body, report to the manager who would make arrangements for your examination and treatment.

SCHEDULE XX

Manufacture or Manipulation of Dangerous Pesticides

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

2.Definitions – For the purpose of the schedule –

(a)"dangerous pesticides" means any product proposed or used for controlling, destroying or repelling any pest or for preventing growth or mitigating effects of such growth including any of its formulations which is considered toxic under and is covered by the Insecticides Act, 1968 and the rules made there under and any other product as may be notified from time to time by the State Government.

(b)"manipulation" includes mixing, blending, formulating, filling, emptying, packing or otherwise handling;

(c)"efficient exhaust draught" means localized mechanical ventilation for removal of smoke, gas, vapour, dust, fume or mist so as the prevent them from escaping into the air of any workroom in which work is carried on. No exhaust draught shall be considered efficient if it fails to remove smoke generated at the point where such gas, fume, dust, vapour or mist originates from the process.

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

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

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

6.Food, drinks and smoking prohibited- No food, drink, tobacco, pan or supari shall be brought into or consumed by any worker in any work room in which the said manufacturing process is carried out.

7.Protective clothing and protective equipment

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

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

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

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

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

(5)Protective clothing and equipment shall be maintained in good repair;

8.Floors and work benches

(1)Floors in every workroom where dangerous pesticides are manipulated shall be of cement or other impervious material giving a smooth a surface.

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

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

9.Spillage and waste

(1)If a dangerous pesticide during its manipulation splashes or spills on the work bench/floor or on the protective, clothing worn by a worker, immediate action shall be taken for thorough decontamination of such area or articles.

(2)Cloth, rags, paper or other material soaked or soiled with a dangerous pesticide shall be deposited in a suitable receptacle with tight fitting cover. Contaminated waste shall be destroyed by burning least once a week.

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

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

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

11.Manual handling

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

(2)Director contact of any part of the body with dangerous pesticide during its manipulation shall be avoided.

12.Ventilation

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

(2)Unless the process is completely enclosed, the following operations during manipulation of dangerous pesticides shall not be undertaken without an efficient exhaust draught.

(a)emptying a container holding a dangerous pesticides

(b)blending a dangerous pesticide;

(c)preparing a liquid or powder formulation containing a dangerous pesticide; and

(d)changing or filling a dangerous pesticide into a container, tank hoper or machine or small sized containers.

(3)In the event of failure of the exhaust draught provided on the above operation, the said operations shall be stopped forthwith.

13.Time allowed for washing

(1)Before each meal and before the end of the days work at least ten minutes in addition to the regular rest interval shall be allowed for washing to each worker engaged in the manipulation of dangerous pesticide.

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

14.Washing and bathing facilities

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

(2)The washing places shall have stand pipes placed at intervals of not less than one metre.

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

(4)Sufficient supply of clean towels made of suitable material shall be provided:

Provided that such towels shall be supplied individually for each worker if so ordered by the Inspector.

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

15.Cloak room – There shall be provided and maintain for the use of all workers employed in the factory where the said manufacturing process is carried on –

(a) a cloakroom for the clothing put off during working hours with adequate arrangements for drying clothing, if wet; and

(b) separate and suitable arrangements for the storage of protective clothing provided under paragraph 7.

16.Mess room

(1)There shall be provided, and maintained, for the use of all workers employed in the factory in which the said manufacturing process is carried on and reaming on the premises during the rest intervals, a suitable mess room which shall be furnished with –

(a)sufficient tables and benches with back rest, and

(b)adequate means for warming food

(2)The mess room shall be placed under the charge of a responsible person and shall be kept clean.

17.Manipulation not be undertaken – Manufacture or manipulation of a pesticides shall not be undertaken in any factory unless a certificate regarding its dangerous nature or otherwise is obtained from the Chief Inspector.

18.Medical facilities and records of examinations and tests

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

(a)employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the chief Inspector of Factories; and

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

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

19.Medical examination by certifying Surgeon

(1)Every worker employed in the process mentioned in paragraph 1 shall be examined by the certifying Surgeon with 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 organophosphorous compound, such

examinations shall include test for depression of cholinesterase in plasma and red blood cells. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the certifying surgeon.

(2)Every worker employed in the said process shall be re-examined 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 (1). Further every worker employed in the said processes shall also be examined once in very three months by the factory medical officer.

(3)The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 27. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraphs (1) and (2) including the nature and the results of these tests shall also be entered by the Certifying Surgeon in a health register in Form 17.

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

(5)If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said process. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the person affected shall be suitably rehabilitated.

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

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

APPENDIX

CAUTIONARY NOTICE
Insecticides and pesticides

1. Chemical handled in this plant are poisonous substances
2. Smoking, eating food or drinking, chewing tobacco in this area is prohibited. No food stuff or drink shall be brought in this area
3. Some of these chemicals may be absorbed through skin and many cause poisoning
4. A good wash shall be taken before meals.
5. A good bath shall be taken at the end of the shift.
6. Protective clothing and equipment supplied shall be used while working in this area.
7. Containers of pesticides shall be used for keeping food stuffs.
8. Spillage of the chemicals on any part of the body or on the floor or work bench shall be immediately washed away with water.
9. Clothing contaminated due to splashing shall be removed immediately.
10. Scrupulous cleanliness shall be maintained in this area.
11. Do not handle pesticides with bare hands, use scoops provided with handle.

12. In case of sickness like nausea, vomiting, giddiness, the manager should be informed who will make necessary arrangements for treatment.
13. All workers shall report for the prescribed medical tests regularly to protect their own health.

SCHEDULE XXI

Manufacture, handling and usage of benzene and Substances containing benzene

1.Application – This schedule shall apply in respect of factories or parts thereof in which benzene or substances containing benzene are manufactured handled or used.

2.Definitions – For the purpose of this schedule –

(a)'Substances containing benzene' means substances wherein benzene content exceeds 1 per cent by volume;

(b)'Substitute' means a chemical which is harmless or less harmful than, benzene and can be used in place of benzene;

(c) 'Enclosed system' means a system which will not allow escape of benzene vapours to the working atmosphere;

(d) 'Efficient exhaust draught' means localized ventilation effected by mechanical means for the removal of gases, vapours and dusts or fumes so as to prevent them from escaping into the air of any workroom. No draught shall be deemed to be efficient if it fails to remove smoke generated at the point where such gases, vapours, fumes or dusts originate.

3.Prohibition of substitution.-

(1) Use of benzene and substance containing benzene is prohibited in the following process:

(a) manufacture of varnishes, paints and thinners; and

(b) cleaning and degreasing operations.

(2)Benzene or substances containing benzene shall be used as a solvent or diluent unless the process in which it is used is carried on in an enclosed system or unless the process is carried on in a manner which is considered equally safe as if it were carried out in an enclosed system.

(3)Where suitable substitutes are available, they shall be used instead of benzene or substances containing benzene. This provision, however shall not apply to the following process-

(a) production of benzene;

(b) where benzene is used for chemical synthesis.

(c) motor spirits (used as fuel)

(4)The Chief Inspector may, subject to confirmation of by the State Government permit exemptions from the percentage laid down in sub-paragraph 2(a) and also from the provisions of sub-paragraph (2) of this paragraph temporarily under conditions and within limits of time to be determined after consultation with the employers and workers concerned.

4.Protection against inhalation.-

(i) The process involving the use of benzene or substances containing benzene shall as far as practicable be carried out in an enclosed system.

(ii) Where, however, it is not practicable to carry out the process in an enclosed system the work room in which benzene or substances containing benzene are used shall be equipped with an efficient exhaust draught or other means for the removal of benzene vapours to prevent their escape into the air of the work room so that the concentration of benzene in the air does not exceed 10 parts per million by volume or 30 milligrams per cubic metre.

(iii)Air analysis for the measurement of concentration of benzene vapour in air shall be carried out every 8 hours or at such intervals as may be directed by the Chief Inspector at places where process involving use of benzene is carried on and the result of such analysis shall be recorded in a register specially maintained for this purpose. If the concentration of benzene vapours in air as measured by air analysis exceeds 10 parts per million by volume or 30 milligrams per cubic metre, the manager shall forthwith report the concentration to the Chief Inspector stating the reasons for such increase.

(iv)Workers who for special reasons are likely to be exposed to concentration of benzene in the air of the work room exceed the maximum referred to in sub-paragraph (2) shall be provided with suitable respirators or face masks. The duration of such exposure shall be limited as far as possible.

5.Measures against skin contact

(1)Workers who are likely to come into contact with liquid benzene or liquid substance containing benzene shall be provided with suitable gloves, aprons, boots and where necessary vapour tight chemical goggles, made of material not affected by benzene or its vapours.

(2)The protective wear referred to in sub paragraph (1) shall be maintained in good condition and inspected regularly.

6.Prohibition relating to employment of women and young persons – No woman or young person shall be employed or permitted to work in any work room involving exposure to benzene or substances containing benzene.

7.Labeling – Every container holding benzene or substances containing benzene shall have the word 'Benzene' and approved danger symbol clearly visible on it and shall also display information on benzene content, warning about toxicity and warning about inflammability of the chemical.

8.Improper use of benzene.-

(1)The use of benzene or substances containing benzene by workers for cleaning their hands or their work clothing shall be prohibited.

(2)Workers shall be instructed on the possible dangers arising from such misuse.

9.Prohibition of consuming food etc. in workroom – No worker shall be allowed to store or consume food or drink in the workroom in which benzene or substances containing benzene or manufactured, handled or used. Smoking and chewing tobacco or pan shall be prohibited in such workrooms.

10.Instructions as regard risks – Every worker on his first employment shall be fully instructed on the properties of benzene of substances containing benzene which he has to handle and of the dangers involved. Workers shall also be instructed on the measures to be taken to deal with in an emergency.

11.Cautionary notices – Cautionary notices in the form specified in appendix and printed in the language easily read and understood by the majority of the workers shall be displayed in prominent places in the work rooms where benzene of substances containing benzene are manufactured, handled or used.

12.Washing facilities, cloak room and mess room– In factories in which benzene or substance containing benzene are manufactured, handled or used, the occupier shall provide and maintain in clean state and in good repair, -

(a) washing facilities under cover of the standard of at least one tap for every 10 persons having constant supply of water with soap and a clean towel provided individually to each worker if so ordered by the Inspector.

(b) at cloak room with the lockers for each worker, having two compartments one for street clothing and one for work clothing; and

(c) a mess room furnished with tables and benches with means for warming food, provided that where a canteen or other proper arrangements exist for the workers to take their meals, the requirements of mess room shall be dispensed with.

13.Medical facilities and records of examination and tests –

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

(a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

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

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

14.Medical Examination by the Certifying Surgeon

(1)Every worker employed in processes mentioned in paragraph 1, shall be examined by a certifying surgeon within 15 days of his first employment, such examination shall include tests for detection of phenol in urine and determination of urinary sulphide ratio and C.N.S. and hematological tests. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

(2)Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every twelve calendar months and such examination shall, wherever the certifying surgeon considers appropriate; include all the tests specified in sub-paragraph (1). Further, every worker shall also be examined once in every three calendar months by the factory medical officer.

(3)The certifying Surgeon after examining, a worker, shall issue a certificate of fitness in Form 27. The record of examination and re-examinations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (10 and 20), including the nature and the results of these tests shall also be entered by the Certifying Surgeon in a health register in Form 17.
(4)The certificate of fitness and the health register shall be kept readily available for inspection by the inspector.

(5)If at any time the certifying surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said processes. The person so suspended for the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the certifying surgeon, in which case the person affected shall be suitably rehabilitated.

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

APPENDIX
CAUTIONARY NOTICE
Benzene and substances containing benzene

1.Hazards

(a)Benzene and substances containing benzene are harmful.
(b)Prolonged or repeated breathing of benzene vapours may result in acute or chronic poisoning.
(c)Benzene can also be absorbed through skin which may cause skin and other diseases.

2.Preventive measures

(a)Avoid breathing of benzene vapours.
(b)Avoid prolonged or repeated contact of benzene with the skin;
(c)Remove benzene soaked or wet clothing promptly.
(d)If any time you are expose to high concentration of benzene vapours and exhibit signs and symptoms such as dizziness, difficulty in breathing excessive excitation and losing of consciousness, immediately inform your factory manager.

(e) Keep all the containers of benzene closed.

(f) 'Handle', use and process benzene and substances containing benzene carefully in order to prevent their spillage on floor.

(g) Maintain good housekeeping.

3.Protective equipment

(a)Use respiratory protective equipment in place where benzene vapours represent in high concentration.

(b)In emergency use self generating oxygen mask or oxygen or air cylinder masks.

(c) Wear hand gloves, aprons, goggles and gum boots to avoid contact of benzene with your skin and body parts.

4.First-aid measures in case of acute benzene poisoning

(a)Remove the clothing immediately if it is vested with benzene

(b)If liquid benzene enters eyes, flush thoroughly for at least 15 minutes with clean running water and immediately secure medical attention.

(c)In case of unusual exposure to benzene vapour, call a physician immediately. Until he arrives, do the following:

(i)If the exposed person is conscious-

(aa)Move him to fresh air in open

(bb)Lay down without a pillow and keep him quite and warm.

(ii)If the exposed person is unconscious-

(aa)Lay him down preferably on the left side with head low.

(bb)Remove any false teeth, chewing-gum, tobacco or the foreign objects which may be in his mouth.

(cc)Provide him artificial respiration in case difficulty in being experienced in breathing.

(dd)In case of shallow breathing or cyanosis (blueness of skin lips, ears, finger nail beds) he should be provided with medical oxygen or oxygen carbon dioxide mixture. If needed, he should be given artificial respiration. Oxygen should be administered by a trained person only.

SCHEDULE XXII

Manufacturing Process or Operations in Carbon Disulphide plant

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. This scheduled is in addition to and not in derogation of any of the provisions of the Act and Rules made there under.

2.Construction, installation and operation

(1)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 lay out shall be such that only a minimum number of workers are exposed to the risk of any fire or exploration at any one time;

(2)Every electric furnace and every plant in which carbon disulphide is condensed, refined and stored, with all their fittings and attachments shall be of good construction, sound material and of adequate strength to sustain the internal pressure to which the furnace or the plant may be subjected and shall be so designed that carbon disulphide liquid and gas are in closed system during their normal working;

(3)The electric furnace supports shall be firmly grouted in concrete or by other effective means;

(4)Every electric furnace shall be installed and operated according to manufactures instructions and these instructions shall be clearly imparted to the personal incharge of construction and operations;

(5)The instructions regarding observance of correct furnace temperature, sulphur dose, admissible current of power consumption and periodical checking of charcoal level shall be strictly complied with.

3.Electrodes

(1)Where upper ring electrodes made of steel are used in the electric furnace, they shall be of steam less tube construction and shall have arrangement for being connected to cooling water system through a siphon build in the electrodes or through a positive pressure water-pump

(2)The arrangement for cooling water referred to in sub-paragraph (1) shall be connected with automatic alarm system which will actuate in the event of interruption of cooling water in the electrodes and give visible and audible alarm signals in the control room and simultaneously stop power supply for the furnace operation and to stop the further supply of water. The alarm system and the actuating device shall be checked every day.

4.Maintenance of charcoal levels – When any electric furnace is in operation, it shall be ensured that the electrodes are kept covered with charcoal bed.

5.Charcoal separator – A cyclone type of Charcoal separator shall be fitted on the off take pipe between the electric furnace and sulphur separator to prevent entry of pieces of charcoal into the condensers and piping.

6.Repair discs and safety seal

(1)Atleast two rupture disc of adequate size which shall blow of at a pressure twice the maximum operating pressure shall be provided on each furnace and shall either be mounted directly on the top or the furnace of each through an independent pipe as close as possible to the furnace.

(2)A safety water seal shall be provided and tapped from a point between the charcoal separator and the sulphur separator.

7.Pyrometer and manometers

(1)Each electric furnace shall be fitted with adequate number of pyrometers to give an indication of the temperature as correctly as reasonably practicable at various points in the furnace. The dials for Reading temperatures shall be located in the control room.

(2)Manometers or any other suitable devices shall be provided for indicating pressure.

(a)in he off take pipe before and after the sulphur separator; and

(b)in primary and secondary condensers.

8. Check valves – All piping carrying carbon disulphide shall be fitted with check valves at suitable positions so as to prevent gas from slowing back into any electric furnace in the event of its shutdown.

9.Inspection and maintenance of electric furnaces

(1)Every electric furnace shall be inspected internally by a competent person -

(a)before being placed in service after installation;

(b)before being placed in service after reconstruction or repairs; and

(c) periodically every time the furnace is opened for cleaning or de-ashing or for replacing electrodes.

(2)When an electric furnace is shut down for cleaning or de-ashing -

(a) the brick lining shall be checked for continuity and any part found defective removed;

(b)after removal of any part of the lining referred to in (a) the condition of the shell shall be closely inspected; and

(c) any plates forming shell found corroded, to the extent that safety of the furnace is endangered shall be replaced.

10.Maintenance of records – The following hourly records shall be maintained in a log book -

(a) manometer readings at the points specified in sub-paragraph 7(2)

(b) gas temperature indicated by pyrometers and all other vital points near the sulphur and primary and secondary condensers.

(c) water temperature and flow of water through the siphon in the electrodes ; and
(d)Primary and secondary voltages and current and energy consumed.

11.Electrical apparatus, wiring and fittings - All buildings in which carbon disulphide is refined or stored shall be provided with electrical apparatus wiring and fittings which shall afford adequate protection from fire and explosion.

12.Prohibition relating to smoking - No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in buildings in which carbon the disulphide is refined or stored, and a notice in the language understood by a majority of the workers shall be pasted on the plant prohibiting smoking and carrying of matches, fire of naked light or other means of producing naked light of spark in to such rooms.

13.Means of escape - Adequate means of escape shall be provided and maintained to enable persons to move to a safe place as quickly as possible in case of an emergency. At least two independent staircases of adequate width shall be provided in every building housing the furnaces at reasonable intervals at opposite ends. These shall always be kept clear of all obstructions and so designed as to afford easy passage.

14.Warnings in case of file – There shall be adequate arrangements for giving warnings in case of fire or explosion which shall operate on electricity and in case of failure of electricity by some mechanical means.

15.Fire fighting equipments

(1) 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 material stored;
(2) Clear instructions as to how the extinguishes or other equipments should be used printed in the language which the majority of the workers employed understand, shall be affixed to each extinguishers or other equipment and the personal trained in their use.

16.Bulk Sulphur

(1) Open or semi enclosed spaces for storage of bulk sulphur shall be sited with the due regard to the dangers which may arise from sparks given off by nearby locomotive etc., and precautions shall be taken to see that flames, smoking and matches and other sources of ignition do not come in contact with the clouds of dust arising during handling of bulk sulphur.
(2) All enclosures for bulk sulphur shall be of non-combustible construction adequately ventilated and so designed as to provide a minimum of ledges on which dust may lodge;
(3) The bulk sulphur in the enclosures shall be handled in such a manner as to minimize the formation of dust clouds and no flame, smoking and matches or other sources of ignition shall be employed during handling, and non-sparking tools shall be used whenever sulphur is shoveled or otherwise removed by hand;
(4) No repair involving flames heat or use of hand of power tools shall be made in the enclosure where bulk sulphur is stored.

17.Liquid sculpture – Open flames, electric sparks and other sources of ignition, including smoking and matches; shall be excluded from the vicinity of molten sculpture.

18.Training and supervision

(1) All electric furnaces and all plants in which carbon disulphide is condensed, refined or stored shall be under adequate supervision at all times while the furnaces and plant are in operation;
(2) Workers in-charge of operation and maintenance of electric furnaces and the plants shall be properly qualified and adequately trained.

19.Washing facilities

(1) The occupier shall provide and maintain in a clean state and in good repair, for the use of all persons employed wash place under cover with at least one tap or stand-pipe having a constant supply of clean water for every five such persons, the taps or stand-pipes being spaced not less

than 120 centimeters apart with a sufficient supply of soap and clean towels provided that towels shall be supplied individually to each worker if so ordered by the Inspector.

(2)All the workers employed in the sculpture storage, handling and melting operations shall be provided with a nail brush.

20.Personal protective equipment

(1)Suitable goggles and protective clothing consisting of overalls without pockets, gloves and foot-wear shall be provided for the use of operators -

(a)when operating valves or cocks controlling fluids etc.,

(b)drawing off of molten sculpture from sculpture posts; and

(c) handling charcoal or sculpture .

(2)Suitable respiratory protective equipments shall be provided and stored in the appropriate place for use during abnormal conditions or in an emergency.

(3)Arrangements shall be made for the proper and efficient cleaning of all such protective equipments.

21.Cloak rooms – There shall be provided and maintained for the use of all persons employed in the process a suitable clock room for clothing put off during work hours and a suitable place separate from the cloak room for the storage of overalls or working clothes. The accommodation so provided shall be placed in the charge of a responsible person and shall be kept clean.

22.Unauthorized persons – Only maintenance and repair personnel, persons directly connected with the plant operation and those accompanied by authorized persons shall be admitted into the plant.

SCHEDULE XXIII

Manufacture or Manipulation of Carcinogenic Dye Intermediates

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

2.Definitions – For the purpose of this schedule the following definitions shall apply, unless the context otherwise requires, -

(a)“controlled substances” means chemical substances mentioned in paragraph 4 of this schedule;

(b)“efficient exhaust draught” means localized ventilation effected by mechanical means for the removal of gas, vapour, dust or fume so as to prevent them from escaping into the air of any place in which work is carried on. No draught shall be deemed to be efficient which fails to remove smoke generated deemed to be efficient which fails to remove smoke generated at the point where such gas, vapour, fume or dust originates; and

(c)“prohibited substances” means chemical substances mentioned in paragraph 3 of this schedule

3.Prohibited substances – For the purpose of this schedule, the following chemical substances shall be classified as “prohibited substances” except when these substances, are present or are formed as a by-product of a chemical reaction in a total concentration not exceeding one per cent;

(a)beta- naphthylamine and its salts;

(b)Benzidine and its salts;

(c) 4-amino diphenyl and its slats;

(d) 4-nitro diphenyl and its salts; and

(e) any substances containing any of these compounds.

4.Controlled substances – For the purpose of this schedule the following chemical substances shall be classified as controlled substances’.

(a)Alpha-napthylamine or alpha-naphthylamine containing not more than one percent of beta-naphthylamine either as a by-product of chemical reaction or otherwise, and its salts;
(b)Ortho-tolidine and its salts;
(c) Dianisidine and its salts;
(d)Dichlorobenzidine and its salts;
(e) Auramine; and
(f) Magneta

5.Prohibition of employment – No person shall be employed in the said process in any factory in which any prohibited substance is formed, manufactured, processes, handled, or used except as exempted by the Chief Inspector as stipulated in Paragraph 23.

6.Requirements for processing or handling controlled substances

(1) Where ever any of the controlled substances referred to in paragraph 4 are formed manufactured, processed, handled, or used, all practical steps be taken to prevent inhalation, ingestion or absorption of the said controlled substance by the workers while engaged in processing that substance, and its storage or transport within the plant, or in cleaning or maintenance of the concerned equipment, plant, machinery and storage areas.

(2) As far as possible all operations shall be carried out in a totally enclosed system. Wherever such enclosure is not possible, efficient exhaust draught shall be applied at the point where the controlled substances are likely to escape into the atmosphere during the process.

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

7.Personal protective equipment

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

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

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

(a) rubber hand-gloves;
(b) rubber aprons; and
(c) airline respirators or other suitable respiratory protective equipment.

(3) It shall be the responsibility of the manager to maintain all items of personal protective equipment in a clean and hygienic condition and in good repair.

8.Prohibition relating to employment of women and young persons – No women or young person shall be employed or permitted to work in any room in which the said process are carried on.

9.Floors of workroom – The floor of every workroom in which the said process are carried on shall be

(a) smooth and impervious to water provided that asphalt or tar shall not be used in the composition of the floor,
(b) maintained in a state of good repair
(c) with a suitable slope for easy draining and provided with gutters and
(d) thoroughly washed daily with the drain water being led into a sewer through a closed channel.

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

11.Manual handling – Controlled substances shall not be allowed to be mixed, filled, exempted or handled except by means of a scoop with a handle such scoop shall be thoroughly cleaned daily.

12.Instructions regarding risk – Every worker in his first employment in the said processes shall be fully instruction on the properties of the toxic chemicals to which he is likely to be exposed to, of the dangers involved and the precautions to be taken. Workers shall also be instructed on the measures to be taken to deal with an emergency.

13.Cautionary placards – Cautionary placards in the form specified in appendix attached to this schedule and printed in the language of the majority of the workers employed in the said processes shall be affixed in prominent places frequented by them in the factory where the placards can be easily and conveniently read. Arrangements shall be made by the manager to instruct periodically all such workers regarding the precautions contained in the cautionary placards.

14.Obligations of the workers – It shall be the duty of the persons employed in the said processes to submit themselves for the medical examination including exfoliate cytology of urine by the Certifying surgeon or the qualified medical practitioner as provided by under these rules.

15.Washing and bathing facilities

(1)The following washing and bathing facilities shall be provided and maintained in a clean state and in good repair for the use of all workers employed in the said process:-

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

(b)50 percent of the stand pipes provided under clause (a) shall be located in the bathrooms where both hot and cold water shall be made available under the working hours of the factory and for one hour thereafter;

(c) the washing and bathing facilities shall be in close proximity of the area housing and the said process;

(d)clean towels shall be provide individually to each workers; and

(e)in addition to the taps mentioned under clause (a) one stand pipe, in which warm water is made available shall be provided on each floor.

(2)Arrangement shall be made to wash factory uniforms and other work clothes every day.

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

17.Cloakroom – There shall be provided and maintained in a clean state and in good repair for the use of the workers employed in the said processes (a) cloakroom with lockers having two compartments – one for street clothes and the other for work clothes, and (b) a place separate from the locker room and the mess room, for the storage of protective equipment provided under paragraph 7. The accommodation so provided shall be under the case of responsible person and shall be kept clean.

18.Mess room – There shall be provided and maintained for the use of workers employed in the said processes who remain on the premises during the meal intervals, a mess room which shall be furnished with tables and benches and provided with suitable means for warming food.

19.Time allowed for washing – Before the end of each shift 30 minutes shall be allowed for bathing for each worker who is employed in the said process. Further, atleast 10 minutes shall be allowed for washing before each meal in addition to the regular time allowed for meals.

20.Restriction on age of persons employed – No worker under the age of 40 years shall be engaged in the factory in the said processes for the first time after the date on which the schedule comes into force.

21.Medical facilities and records of examinations and tests

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

(a)employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories; and

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

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

22.Medical examination by the Certifying Surgeon

(1)Every workers employed in the said process shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for detection of methemoglobin in food (Hematological tests), paranitrophenol in urine, pulmonary function tests and CNS tests. No worker shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

(2)Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every six calendar months and such reexamination shall, wherever the Certifying Surgeon considers appropriate, include all the tests specified in sub-paragraph (1).

(3)The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 27. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the manager of the factory. The record of each examination carried out under sub-paragraph (1) and (2), including the nature and the results of these tests, shall also be entered by the Certifying Surgeon in a health register in Form 17.

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

(5)If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the certifying surgeon, in which case the person affected shall be suitably rehabilitated.

(6) No person who has been found unfit to work as said in sub paragraph (5) shall be re-employed or permitted to work in the said process unless the certifying surgeon after further examination, a gain certifies him fit for employment in those processes.

23.Exemptions – Prohibited substances (1) The Chief Inspector may by a Certificate in writing which he may at his discretion revoke at any time, subject to such conditions, if any, as may be specified therein, exempt any process in the course of which any of the prohibited substances if formed processes, manufactured, handled, used, from the provisions of paragraph 5 if he is satisfied that the process is carried out in a totally enclosed and hermetically sealed system in such a manner that the prohibited substance is not removed from the system except in quantities no greater than that required for the purpose of control, of the process or such purposes as is necessary to ensure that the product or such purpose is free from any of the prohibited substances.

(2)The Chief Inspector may allow the manufacture, handling or use of Benzidine hydrochloride provided that all the processes in connection with it are carried out in a totally enclosed system in such a manner that no prohibited substance other than Benzidine hydrochloride is removed there from except in quantities no greater than that required for the purpose of control of the processes or such a purposes as is necessary to ensure that the product is free from prohibited substances and that adequate steps are taken to ensure that Benzidine hydrochloride is, except while not in a totally enclosed system, kept with not less than one part of water to two parts of Benzidine hydrochloride at all times.

24Exceptions – General – If in respect of any factory the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for the protection of the workers in the factory, the Chief Inspector may by a Certificate in writing (which he may in his discretion revoke at any time) exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

APPENDIX

CAUTIONARY PLACARD/NOTICE

CARCINOGENIC DYE INTERMEDIATES

1.Dye intermediates which are nitro amino derivates or aromatic hydrocarbons are toxic. You have to handle these chemicals frequently in this factory.

2.Use the various items of protective wear to safeguard your own health.

3.Maintain scrupulous cleanliness at all times. Thoroughly wash hands and feet before taking meals. It is essential to take a bath before leaving the factory.

4.Wash off any chemical falling on your body with soap and water. If splashed with a solution of the chemical, remove the contaminated clothing immediately. These chemicals are known to produce cyanosis. Contact the medial officer or appointed doctor immediately and get his advice.

5.Handle the dye intermediates only with long handled scoops, never with bare hands.

6.Alcoholic drinks should be avoided as they enhance the risk of poisoning by the chemicals.

7.Keep your food and drinks away from work place, consuming food, drinks or tobacco in any form at the place of work is prohibited.

8.Serious effects from work with toxic chemicals may follow after many years. Great care must be taken to maintain absolute cleanliness of body, clothes, machinery and equipment.

SCHEDULE XXIV

Operations involving High Noise Levels.

1.Application – This Schedule shall apply to all operations in any manufacturing process having high noise level.

2.Definitions – For the purpose of this Schedule –

(a)“Noise” means any unwanted sound.

(b)“High noise level” means any noise level measured on the A-weighted scale in 90 dB or above.

(c) “Decibel” means one-tenth of “Bel” which is the fundamental division of a logarithmic scale used to express the ratio of two specified or implied quantities, the number of “Bels” denoting such a ratio being the logarithm to the base of 10 of this ratio. The noise level (or the sound pressure level) corresponds to a reference pressure of 20 X 10-6 newtons per square metre or 0.0002 dynes per square centimetre which is the threshold of hearing, dynes per square centimeter which is threshold of hearing, that is, the lowest sound pressure level necessary to reduce the sensation of hearing healthy listeners. The decibel in abbreviated form is dB.
(d)“Frequency” is the rate of pressure variations expressed in cycles per second or hertz.

(e)“dBA” refers to sound level in decibels as measured on a sound level meter operating on the A-weighting net work with slow metre response.

(f)"A-weighting" means making graded adjustments/in the intensities of sound of various frequencies for the purpose of noise measurement, so that the sound pressure level measured by an instrument reflects the actual response of the human ear to the sound measured.

4.Protection against noise –

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

TABLE 1

PERMISSIBLE EXPOSURE IN CASES OF CONTINOUS NOISE

Total time of exposure (Continuous or a number of short time exposures) per day in hours	Sound pressure level in DBA
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
¾	107
½	110
¼	115

Notes: 1. No exposure in excess of 115 DBA is to be permitted

2.For any period of exposure falling in between any figure and the next higher or lower figure as indicated in column (1), the permissible sound pressure level is to be determined by extrapolation on a proportionate basis.

TABLE 2

PERMISSIBLE EXPOSURE LEVELS OF IMPULSIVE OR IMPACT NOISE

Peak sound pressure level in dB	Permitted number of Impulses or impacts per day
140	100
135	315
130	1000
125	3160
120	10000

Notes: 1. No exposure in excess of 140 dB peak sound pressure level is permitted.

2.For any peak sound pressure level falling in between any figure and the next higher or lower figures as indicated in column (1), the permitted number of impulses or impacts per day is to be determined by extrapolation on a proportionate basis.

(2) For the purposes of this Schedule, if the variations in the noise level involve maximum at intervals of one second or less, the noise is to be considered as a continuous one and the criteria given in Table 1 would apply. In other cases, the noise is to be considered as impulsive or impact noise and the criteria given in Table 2 would apply.

(3)When the daily noise exposure is composed of two or more periods of noise exposure at different levels their combined effect should be considered, rather than the individual effect of each. The mixed exposure should be considered to exceed the limit value if the sum of the fractions

$$\frac{C1}{T1} + \frac{C2}{T2} + \cdots\cdots + \frac{Cn}{Tn}$$

Where the C1, C2, etc., indicate the total time of actual exposure at a specified noise level and T1, T2, etc., denote the time of exposure permissible at that level. Noise exposure of less than 90 dBA may be ignored in the above calculation.

(4)Where it is not possible to reduce the noise exposure to the levels specified in sub-rule (1) by reasonably practicable engineering control or administrative measures, the noise exposure shall be reduced to the greatest extent feasible by such control measures, and each worker so exposed shall be provided with suitable ear protectors so as to reduce the exposure to noise to the levels specified in sub-rule (1).

(5)Where the ear protectors provided in accordance with sub-paragraph (2) and worn by a worker cannot still attenuate the noise reaching near his ear, as determined by subtracting the attention value in dBA of the ear protectors concerned from the measured sound pressure level, to a level permissible under Table 1 or Table II as the case may be the noise exposure period shall be suitably reduced to correspond to the permissible noise exposures specified in sub-paragraph (1).

(6)(a) In all cases where the prevailing sound levels exceed the permissible levels specified in sub-paragraph (1) there shall be administered and effective hearing conservation programme which shall include among other hearing conservation measures, pre-employment and periodical auditory surveys conducted on workers exposed to noise exceeding the permissible levels, and rehabilitation of such workers either by reducing the exposure to the noise levels or by transferring them to places, where noise levels are relatively less or by any other suitable means.

(b)Every worker employed in areas where the noise exceeds the maximum permissible exposure levels specified in sub-rule (1) subjected to an auditory examination by a certifying surgeon within 14 days of his first employment and thereafter, shall be re-examined at least once in every 12 months. Such initial and periodical examinations shall include tests which the certifying surgeon may consider appropriate, and shall include determination of auditory thresholds for pure tones of 125, 250, 500, 1000, 2000, 4000 and 8000 cycles per second.

SCHEDULE XXV

Manufacture of Rayon by Viscose Process

1.Definitions – For the purpose of this schedule

(a)“approved” means approved for the time being in written by the Chief Inspector.

(b)“breathing apparatus” means a helmet of 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 or cellulose xanthate from a dry churn to a dissolver;

(e)“efficient exhaust draught” means localized ventilation by mechanical means for the removal of any gas 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 falls to control effectively any gas or vapour generated at the point where such gas or fume originates;

(f)"fume process" means any process in which carbon disulphide or hydrogen sulphide is produced, used or given off;

(g)"life belt" means 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 –

(1)In all work rooms 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 permissible limits.

(2)Notwithstanding the requirements in sub-paragraph (1) the 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.

(a)dumping hoppers of dry churns;
(b)spinning machines
(c) trio-rollers and cutters used in staple fibre spinning
(d) hydro-extractors for yarn cakes
(e) after treatment processes; and
(f) spin baths.

(3)In so far as the spinning machines and trio rollers and cutter used in staple fibre spinning are concerned, they shall be, for the purpose of ensuring the effectiveness of the exhaust draught to be provided as required in sub paragraph 1, enclose as fully as practicable and provided with suitable shutters in sections to enable the required operations to be carried out without giving rise to undue quantities of carbon-di-sulphide and hydrogen sulphide escaping to the work environment.

(4)No dry churn shall be opened after completion of reaction without initially exhausting the residual vapours of carbon-di-sulphide by operation of suitable and efficient arrangements for exhausting the vapours which shall be continued to be operated as long as the churn is kept opened.

(5) Wherever any ventilation apparatus normally required for the purpose of meeting the requirements in sub-paragraph (2), (3) and (4) is ineffective, fails, or is stopped for any purpose whatsoever, all persons shall be required to leave the work areas where the equipment or processes specified in the above said sub paragraphs are in use, as soon as possible and in any case not alter than 15 minutes after such an occurrence.

(6) (a) All ventilating systems provided for the purposes as required in sub-paragraphs (2), (3) and (4) shall be examined and inspected once in every week by a responsible person. It shall be thoroughly examined and tested by a competent person once in every period of 12 months. Any defects found by such examinations or test shall be rectified forthwith.

(b) A register containing particulars of such examinations and tests, and the state of the systems and the repairs or alterations (if any) found to be necessary shall be kept and shall be available for inspection by an Inspector.

3. Waste from spinning machines – Waste yarn from the spinning machines shall be deposited in suitable containers provided with close fitting covers. Such waste shall be disposed off as quickly as possible after decontamination.

4. Lining of dry churns – The inside surface of all dry churns shall be coated with a non-sticky paint so that cellulose xanthate will not stick to the surface or all churn. Such coating shall be maintained in good condition.

5. Air monitoring.-

(1) 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 purposes.

(2) For the purpose of the requirements in sub-paragraph (1), instaneous gas detector tubes shall not be used. Samples shall be collected over a duration of not less than 10 minutes and analyzed by an approved method. The locations where such monitoring is to be done shall be as directed by the Inspector.

(3) If the concentration of either Carbon disulphide or hydrogen sulphide exceeds the permissible limits for such vapour or gas as laid down in Rule 127.A, suitable steps shall be taken for controlling the concentrations in air of such contaminants. A report of such occurrences shall be sent to the Chief Inspector forthwith.

6. Prohibition to remain in fume process room.- No person during his intervals for meal, or rest shall remain in any room wherein fume process is carried on.

7. Prohibition relating to employment of young person.- No young person shall be employed or permitted to work in any fume processor in any rooms in which any such process is carried on.

8. Protection equipment.-

(1) The occupier shall provide and maintain in good condition protective equipment as specified in the Table for use of persons employed in the process referred to therein.

TABLE

Process	**Protection equipment**
1.Dumping	Overall, face-shields, gloves and foot wear all made of suitable material
2.Spinning	Suitable aprons, gloves and footwear
3.Process involves or likely to involve contact with viscose solution	Suitable gloves and footwear
4.Handing of sculpture	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

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

9.Breathing Apparatus,-

(1)There shall be provided in every factory where fume is carried on, sufficient supply of-

(a)Breathing apparatus.

(b)Oxygen and suitable appliances for its administration, and

(c) Life belts.

(2)(a) The breathing apparatus and other appliances referred to in sub-paragraph (1) shall be maintained in good condition and kept in appropriate locations so as to readily available.

(b)The breathing apparatus and other appliances referred to in clauses (a) and (b) of sub-paragraph (1) shall be– cleaned and disinfected at suitable intervals and thoroughly inspected once in every month by a responsible person.

(c)A record of the maintenance of the condition of the breathing apparatus and other appliances referred to in sub-clause (1) shall be entered in a register provided for that purpose which shall be readily available for inspection by an Inspector

(3)Sufficient number of workers shall be trained and periodically retained in the use of breathing apparatus and administering artificial respiration so that at least 2 such trained persons would be available during all the working hours in each room in which fume process is carried on.

(4)Breathing apparatus shall be kept properly, labeled in clean, dry, tight-proof cabinets and if liable to be affected by fumes, shall be protected by placing them in suitable containers.

(5)No person shall be employed to perform any work for which breathing apparatus is necessary to be provide under sub-paragraph (1) unless he has been fully instructed in the proper use of the equipment.

(6)No breathing apparatus provided in pursuance of sub-paragraph (1) which has been worn by a person shall be worn by another person unless it has been thoroughly cleaned and disinfected since last being worn and the persons has been fully instructed in the proper use of that equipment.

10.Electric fittings – All electric fittings in any room in which carbon disulphide is produced, used or given off or is likely to be given off into the work environment, other than a spinning room, shall be of flame-proof construction and all electric conductors shall either be enclosed in metal conducts or be dead-sheathed.

11.Prohibition relating to smoking etc., - No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in a room in which fume process is carried on. A notice in the language understood by the majority of the workers shall be posted at prominent locations in the plant prohibiting smoking and carrying of matches, fire or naked light or other means of producing naked light or spark into such rooms.

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

12.Washing and bathing facilities –

(1)There shall be provided and maintained in clean state and in good repair for the use of all workers employed in the factory where the said manufacturing process is carried on, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 25 persons employed.

(2)The washing places shall have stand pipes placed at intervals of not less than one metre.

(3)Not less than one half of the total number of washing places shall be provided with bath-rooms.

(4)Sufficient supply of clean towels made of suitable material shall be provided:

provided that such towels shall be supplied individually for each worker if so ordered by the Inspector.

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

13.Rest room –

(1)A rest room shall be provided for the workers engaged in doffing operations of filament yarn spinning process.

(2)Such rest room shall be provided with fresh air supply and adequate seating arrangement.

14.Cautionary notice and instructions –

(1)The following cautionary notice shall be prominently displayed in each fume process room.

Cautionary Notice

1.Carbon disulphide (CS_2) and Hydrogen Sulphide (H_2S) which may be present in this room are hazardous to health.
2.Follow safety instructions
3.Use protective equipment and breathing apparatus as and when required.
4.Smoking is strictly prohibited in this area.

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

(2)Arrangements shall be made to instruct each worker employed in any room in which a fume process is carried on regarding the health hazards connected with their work and the preventive measures and methods to protect themselves. Such instructions shall be given on his first employment and repeated periodically.

(3)Simple and special instructions shall be framed to ensure that effective measures will be carried out in case of emergency involving escape of carbon disulphide and hydrogen sulphide. Those instructions shall be displayed in the concerned area and workers shall be instructed and trained in the action to be taken in such emergencies.

15.Medical facilities and records of examinations and tests –

(1)The occupier of each factory to which this schedule applies shall -

(a)employ a qualified medical officer for medical surveillance of the workers employed in the fume process whose employment shall be subject to the approval of the Chief Inspector of Factories; and

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

16.Medical Examinations by the Certifying Surgeon –

(1)Every worker employed in the fume process shall be examined by a certifying surgeon within 15 days of his first employment. Such examination shall include tests for estimation of exposures co-efficient (iodine-azide test on urine) and cholesterol as well as electrocardiogram (ECG) and Central Nervous System (CNS) Tests. No workers shall be allowed to work after 15 days of his first employment in the factory unless certified fit for such employment by the Certifying Surgeon.

(2)Every workers employed in the fume process shall be re-examined 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 (1)

(3)The Certifying Surgeon after examining a worker shall issue a Certificate of Fitness in Form 27. The record of re-examinations carried out shall be entered in the certificates and 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 Inspectors.

(5)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 would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in these documents should also include the period for which he considers that the said persons are unfit for work in the fume process. The persons 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 suitable rehabilitated

(6)No person who has been found unfit to work as said in sub-paragraph(5) above shall be re-employed or permitted to work in the fume process unless the Certifying Surgeon after further examination again certified 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 process or for any other reason all or any of the

provisions of this schedule is not necessary for protection of the workers in the factory the Chief Inspector may by a certificate in writing, which he may at his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

SCHEDULE XXVI
Highly Flammable Liquids and Flammable Compressed Gases

1.Application - These rules will be applicable to all factories where highly flammable liquids or flammable compressed gases are manufactured, stored, handled or used.

2.Definitions – For the purpose of this schedule:-

(a)"highly flammable liquid" means any liquid including its solution, emulsion or suspension which when tested in a manner specified by sections 14 and 15 of the Petroleum Act, 1934 (30 of 1934) gives of flammable vapours at a temperature less than 32 degree centigrade.

(b)"flammable compressed gases" means flammable compressed gas as defined in section 2 of the Static and Mobile pressure. Vessels (unfired) Rules, 1981 framed under the Explosives Act, 1884.

3.Storage –

(1) Every flammable liquid or flammable compressed gas used in every factory shall be stored in suitable fixed storage tank, or in suitable closed vessel located in a safe position under the ground, in the open or in a store room of adequate fire resistance constructions.

(2) Except as necessary for use; operation or maintenance every vessel or tank which contains or had contained a highly flammable liquid or flammable compressed gas shall be always kept close and all reasonably practicable steps shall be taken to contain or immediately drain off to a suitable container any spill or leak that may occur.

(3) Every container, vessel, tank, cylinder or store room used for storing highly flammable liquid or flammable compressed gas shall be clearly and in bold letters marked "Danger-Highly flammable liquid" or "Danger-flammable compressed gas".

4.Enclosed systems for conveying highly flammable liquids – Wherever it is reasonably practicable, highly flammable liquids shall be conveyed within a factory in totally enclosed systems consisting of pipe lines, pumps and similar appliances from the storage tank or vessel to the point of use. Such enclosed system shall be so designed, installed operated and maintained as to avoid leakage or the risk of spilling.

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

6.Prevention of Ignition – (1) In every room, work place or other location were highly flammable liquid or flammable combustible gas is stored, conveyed, handled or used or where there is danger of fire or explosion from accumulation of highly flammable liquid or flammable compressed gas in air, all practicable measures shall be taken to exclude the sources of ignition. Such precautions shall include the following:

(a) all electrical apparatus shall either be excluded from the area of risk or they shall be of such construction and so installed and maintained as to prevent the danger of their being a source of ignition;

(b)effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent;

(c) No person shall wear or be allowed to wear any foot wear having iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction;

(d)smoking, lighting or carrying of matches, lighters or smoking materials shall be prohibited;

(e) transmission belts with iron fasteners shall not be used; and

(f)all other precautions, as are reasonably practicable, shall be taken to prevent initiation of ignition from all other possible sources such as open flames, frictional sparks, overheated surfaces of machinery or plant, chemical or physical-chemical reaction and radiant heat.

7.Prohibition of smoking – No person shall smoke in any place where highly flammable liquid or flammable compressed gas in present is circumstances that smoking would give rise risk of fire. The occupier shall take all practicable measures to ensure compliance with this requirement including display of bold notice indicating prohibition of smoking at every place where this requirement applies.

8.Fire fighting – In every factory where highly flammable liquid or flammable compressed gas is manufactured, stored, handled or used, appropriate and adequate means of fighting a fire shall be provided. The adequacy and suitability of such means which expression includes the fixed and portable fire extinguishing systems, extinguishing material procedures and the process of 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 79.

9.Exemption – If in respect of any factory, Chief Inspector is satisfied that owing to the exceptional circumstances for infrequency of the processes or for any other reason all or any of the provisions of this schedule in not necessary for protection of the workers in the factory, the Chief Inspector may by a certificate in writing, which he may at his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein.

SCHEDULE XXVII

Operations in Foundries

1.Application – Provisions of this schedule shall apply to all parts of factories where any of the following operations or processes are carried on;

(a)the production of iron castings or, as the case may be, steel castings by casting in 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, moulding composition or other 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; and 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 –

(a)Any process with respect to the smelting and manufacture of lead and the Electric Accumulators;
(b)any process for the purposes of a printing works; or
(c)any smelting process in which metal is obtained by a reducing operation or any process incidental to such operation; or
(d)the production of steel in the form of ingots; or
(e)any process in the course of the manufacture of solder or any process incidental to such manufacture; or
(f)the melting and casting of lead or any lead-based alloy for the production of ingots, billets, slabs or other similar products or the stripping thereof or any process incidental to such melting, casting or stripping.

2.Definitions – For the purpose of this schedule -

(a)“approved respirator” means a respirator of a type approved by the Chief Inspector.
(b)“cupola or furnace” include a receiver associated therewith;

(c)"dressing or fettling operations" includes 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 (a) the removal of metal from a casting when performed incidentally in connection with the machining or assembling of castings after they have been dressed or fettled, or (b) any operation which is knock-out operation within the meaning of this schedule;

(d)"foundry" means those parts of a factory in which the production of iron or steel, or non-ferrous castings (not being the production of pig iron or the production of steel in the form of ingots) is carried on by casting in moulds made of sand, loan-moulding or by centrifugal casting in metal moulds line with sand or die-casting including pressure die-castings together with any part of the factory in which any of the following processes are carried on as incidental processes in connection with and in the course of, such production, namely, the preparation of moulds and cores, knock out operations and dressing or fettling operations;

(e)"knock out operation" means all methods of removing castings from moulds, and the following operations, when done in connection therewith namely stripping coring-out and the removal of runners and risers;

(f)"Pouring aisle" means an aisle leading from a main gangway or directly from a cupola or furnace to where metal is poured into moulds.

3.Prohibition of use of certain materials as parting materials –

(1)A material shall not be used as a parting material if it is a material containing compounds of silicon calculated as silica to the extent more than 5 percent by weight of dry material.

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

(a)Zirconium Silicate (Zircon)
(b)Calcined china clay
(c)Calcined aluminous fire clay
(d)Sillimanite
(e)Calcined or fused alumina
(f)Olivine
(g)Natural sand

(2)Dust or other matter deposited from a fettling or blasting process shall not be used as a parting material or as a constituent in a parting material.

4. Arrangement and storage – For the purposes of promoting safety and cleanliness in workrooms the following requirements shall be observed:-

(a) moulding boxes, loam places, ladles, patterns, pattern plates frames, boards, box weights and other heavy articles shall be so arranged and placed as to enable work to be carried on without unnecessary risk;

(b) suitable and conveniently accessible racks, bins or other receptacles shall be provided and used for the storage of other gear and tools:

(c) where there is bulk storage of sand, fuel, metal scrap or other materials or residues, suitable bins, bunkers or other receptacles shall be provided for the purpose of such storage.

5.Construction of floors –

(1)Floors of indoor work places in which the processes are carried on other than parts which are of sand, shall have an even surface of hard material.

(2)No part of the floor of any such indoor workplace shall be of sand except where this is necessary by reason of the work done.

(3)All parts of the surface of the floor of any such indoor workplace which are of sand shall, so far as practicable be maintained in an even and firm condition.

6.Cleanliness of indoor work places –

(1)All accessible parts of the walls of every indoor work place in which the process are carried on and of everything affixed to those wall shall be effectively cleaned by a suitable method to a height of not less than 4.2 meters from the floor, at least once in every period of 14 months. A record of carrying out of every such effective cleaning in pursuance of this paragraph including the date (which shall be not be less than 5 months or more than 9 months after the last immediately preceding washing, cleaning, or other treatment).

(2)Effective cleaning by a suitable method shall be carried out at least once in every working day of all accessible parts of the floor of every indoor work place in which the process 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 –

(1)There shall be provided and properly maintained for all persons employed on manual operations involving molten metal with which they are liable to be splashed, a working space for that operation:

(a)Which us adequate for the safe performance of the work, and

(b)Which, so far as reasonably practicable, is kept free from obstruction.

(2)Any operation involving the carrying by hand of a container holding molten metal shall be performed on a floor all parts of which, where any person while engaged in the operation shall be in the same level:

Provided that, where necessary to enable the operation to be performed without undue risk, nothing in this paragraph shall prevent the occasional or exceptional use of working space on a different level from the floor, being a space provided with a safe means of access from the floor or any person while engaged in the operation.

8.Gangways and pouring aisles –

(1)In every workroom to which this paragraph applies constructed, reconstructed or converted for the use as such after the making of this schedule and so far as reasonably practicable, in every other workroom to which this paragraph applies, sufficient and clearly defined main gangways shall be provided and properly maintained which -

(a)Shall have an even surface of hard materials and shall, in particular not be of sand or have on them more sand than if necessary to avoid risk of flying metal from accidental spillage;

(b)Shall be kept so far as if reasonably practicable free from obstruction;

(c)If not used for carrying molten metal, shall be at least 920 millimeters in width;

(d)If used for carrying molten metal shall be : -

(i)Where truck ladles are used exclusively at least 600 millimeters wide than the overall width of the ladle;

(ii)Where hand shanks are carried by not more than two men at least 920 millimeters in width.

(iii)Where hand shanks are carried by note more than two men at least 1.2 meters in width and

(iv)Where used for simultaneous travel in both directions by men carrying hand shanks at least 1.8 meters in width.

(2)In work room to which this paragraph applies constructed, reconstructed or converted for use as such after the making of this schedule, sufficient and clearly defined pouring aisles shall be provided and properly maintained which -

(a)Shall have an even surface of hard material and shall, in particular, not be of sand or have on them more sand than is necessary to avoid risk on flying metal from accidental spillage.

(b)Shall be kept so far as reasonably practicable free from obstruction;

(c) If molten metal is carried in hand ladles or bull ladles by not more than two men per ladle, shall be atleast 460 millimeters wide, but where any mold alongside the aisle are more than

510 millimeters above the floor of the aisle the aisle shall be not less than 600 millimeters wide.

(d)If molten metal is carried in hand ladles or bull ladles by more than two men per ladle shall 760 millimeters wide.

(e)Molten metal is carried in crane trolley or truck ladles, shall be of a width adequate for the safe performance of the work.

(3)Requirements of sub-paragraph (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, at the case may be, that part of a workroom has to be of sand.

(4)In this paragraph "workroom to which this paragraph apples means a part of a ferrous or non-ferrous foundry in which molten metal is transported or used and a workroom to which this paragraph applies shall be deemed for the purposes of this paragraph to have been constructed, reconstructed or converted for use as such after the making of this schedule if the construction, reconstruction, or conversion thereof was begun after the making of the schedule.

9.Work near cupolas and furnaces - No person shall carry out any work within a distance of 4 meters from a vertical line passing through the delivery end of any spot of a cupola or furnace, being a spout used for delivering molten metal or within a distance of 2.4 meters from a vertical line passing through the nearest part of any ladle which is in position at the end of such a spout, except in either case where it is necessary for the proper use of maintenance of a cupola or furnace that work should be carried out within that distance of that work is being carried out at such a time and under such conditions that there is no danger to the person carrying it out from molten metal which is being obtained from the cupola or furnace or is in a ladle in position at the end of the spout.

10.Dust and fumes –

(1)Open coal coke or wood fire shall not be used for heating or drying ladles inside a workroom unless adequate measures are taken to prevent so far as practicable fumes or other impurities from entering into or remaining in the atmosphere of the workroom.

(2)No open coal, coke or wood fires shall be used for drying moulds except in circumstances in which the use of such fires is unavoidable.

(3)Mould stoves, core stoves and annealing furnaces shall be so designed constructed, maintained and worked as to prevent so far as practicable, offensive or injurious fumes from entering into any workroom during any period when a person is employed therein.

(4)All knock out operations shall be carried out -

(a)in a separate part of the foundry suitably partitioned off being a room or part in which so far as is 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 reasonably practicable, effective suitable lock exhaust ventilation is provided, or where complaints with this requirement is not reasonably practicable a high standard of general ventilation is provided.

(5)All dressing of fettling operations shall be carried out -

(a)in a separate room or in a separate part of the foundry suitably partitioned of; or

(b)in an area of the foundry set apart for the purpose;

and shall, so far as reasonably practicable be carried out with effective and suitable local exhaust ventilation or other equally effective means of suppressing dust, operating as near as possible to the point of origin of the dust.

11.Maintenance and examination of exhaust plant –

(1)All ventilation plant used for the purpose of extracting, suppression or controlling dust or fumes shall be properly maintained.

(2)All ventilating plant used for the purpose of extracting, suppressing or controlling dust or fumes shall be examined and inspected once in 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 an approved register which shall be available for inspection by an Inspector. Any defect found on any such examination and test shall be immediately reported in writing by the person carrying out the examination and test to the occupier or manager of the factory.

12.Protective equipment –

(1)The occupier shall provide and maintain suitable protective equipment specified for the protection of workers.

(a)Suitable gloves or other protection for the hands for workers engaged in handling any hot material likely to cause damage to the hands by burn, scald or scar or in handling pig iron, rough castings or other articles likely to cause damage to the hands by cut or abrasion.

(b)Approved respirators for workers carrying out any operation creating a heavy dust concentration which cannot be dispelled quickly and effectively by the existing ventilation arrangements.

(2)No respiration provided for the purposes of clause 1 (b) worn by a person shall be worn by another person if it has not since been thoroughly cleaned and disinfected.

(3)Persons who for any of their time:-

(a)work at a spout of or attend to a cupola or furnace in such circumstances that material there from may come into contact with the body, being material at such a temperature 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 contain molten; or

(d)are engaged in knocking out operations involving material at such a temperature that its contact with the body would cause a burn,

shall be provided with suitable footwear and gaiters which worn by them prevent so far as reasonably practicable risk of burn to his feet and ankles.

(4)where appropriate, suitable screens shall be provided for protection against flying material (including splashes of molten metal and sparks and chips thrown off in the course of any process).

(5)The occupier shall provide and maintain suitably accommodation for the storage and take adequate arrangements for cleaning and maintaining of the protective equipment supplied in pursuance of this paragraph.

(6)Every person shall make full and proper use of the equipment provided for his protection in pursuance of sub-paragraph (1) and (4) and shall without delay report to the occupier manager, or other appropriate person any defect in or, loss of, the same.

13.Washing and bathing facilities –

(1)There shall be provided and maintained in clean state and good repair for the use of all workers employed in the foundry-

(a) a wash place under cover with either –

(i)a trough with impervious surface fitted with a waste pipe without plug and of sufficient length to allow at least 60 centimeters for every 10 such persons employed at any one time and having a constant supply of clean water from taps or jets above the trough at intervals of not more than 60 centimeters; or

(ii)atleast one tap or stand pipe for every 10 such persons employed at any one time and having a constant supply of clean water, the tap or stand pipe being spaced not less than 1.2 meters apart; and

(b)not less than one half of the total number of washing placed provided under clause (1) shall be in the form of bath rooms.

(c)a sufficient supply of clean towels made of suitable material changed daily with sufficient supply of nail brushes and soap.

(2)The facilities provided for the purpose of sub-paragraph (1) shall be placed in charge of a responsible person or persons and maintained in a clean and orderly condition.

14.Disposal of dross and skimming – Dross and skimming removed from molten metal or taken from a furnace shall be placed forthwith in suitable receptacles.

15.Disposal of waste – Appropriate measures shall be taken for the disposal of all waste products from shell moulding (including waste burnt sand) as soon as reasonably practicable after the castings have been knocked-out.

16.Material and equipment left out of doors - All material and equipments left out of doors (including material & equipment so left only temporarily or occasionally) shall be so arranged and placed as to avoid unnecessary risk. There shall be safe means of access to all such material and equipment and so far as is reasonably practicable such access so 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 examination and tests.-

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

(a) employ a qualified medical officer for medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the chief inspector of factories; and

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

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

18.Medical Examination by the certifying surgeon.

(1)Every worker employed in a laundry shall be examined by a certifying surgeon within 15 days of his first employment. Such medical examination shall be allowed to work after 15 day 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 reexamined by a certifying surgeon at least once in every 12 months. Such examination shall, wherever the certifying surgeon considers appropriate, include all the testes specified under sub-paragraph (1) except chest X-ray which will be once in three years.

(3)The certifying surgeon after examine a worker, shall issue a certificate of Fitness in Form 27. The record or 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-paragraph (1) and (2) including the nature and the results of the tests shall also be entered by the certifying surgeon in health register in Form 17.

(4)The certificate of Fitness and the health register shall be kept readily available for inspection by the inspector.

(5)If at any time the certifying surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the said processes. The person so suspended from the process shall be provided with alternative placement facility unless he is fully in capacitated in the opinion of the certifying surgeon in which case the person affected shall be suitably rehabilitated.

(6)No person who has been found unfit to work as said in sub-paragraph (5) shall be reemployed or permitted to work in the said processes unless the certifying surgeon, after further examinations, again certified 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 be a certificate in writing, which he may at his discretion revoke at any time, exempt such factory from all or any such provisions subject to such conditions, if any, as he may specify therein.

PART -B

SCHEDULE I

Dyeing, Stenciling and Painting of Mats, Matting's and Carpets in Coir and Fibre Factories

1.Application – These provision shall apply to all coir factories in which stenciling or painting of mats or matting or carpets is carried on, and to all coir and fibre factories in which dyeing of yarns (other than cotton yarns) and fibre is carried on.

2.Declaration of operations as dangerous – Stenciling and painting of mats, matting and carpets and dyeing of yarns (other than cotton yarns) and fibre are declared to be dangerous operations when carried on in any coir factory.

3.Prohibition of employment of women and young persons –No woman or young person shall be employed or permitted to work in any of the operations specified in clause 2.

4.Protective measures – The occupier shall provide free of cost and maintain in good condition for use of all persons engaged in operations specified in clause 2:-

(a)Suitable rubber gloves of durable quality for both hands.

(b)Rubber boots of durable quality for both legs.

(c) Goggles.

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

5. Wearing of gloves, boots and goggles – All persons engaged in any of the operations specified in clause 2, while at work in these processes should make use of the materials and appliances provided under clause 4.

6.Food and drink –

(1) No food or drink shall be brought into any room in which any of the operations specified in clause 2 is carried on.

(2) No food or drink shall be consumed in any room in which any of the operations specified in clause 2 is carried on.

7.Floor of work-rooms - The floor of every room in which any of the operations specified in clause 2 is carried, on shall be

(a)of cement of similar materials so as to be smooth and impervious of water;

(b)maintained in sound condition; and

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

8.Washing facilities –

(1)The occupier shall provide and maintain for the use of all persons employed in operations specified in clause 2, suitable washing facilities consisting of –

(a)A masonry or steel water tank capable of holding sufficient water and having taps at the rate of one tap for every ten persons employed at any one time. The floor around the tank and below the taps shall be cement plastered and maintained in sound and clean condition. Suitable and adequate arrangements for drainage shall be provided around the tanks and taps.

(b)Sufficient supply of nail brushes, soap or other suitable cleaning materials and clean towels.

(2)The facilities so provided shall be placed under the charge of a responsible person and shall be kept clean.

9.Medical Examination –

(1)The person so employed shall be medically examined by a Certifying Surgeon within 14 days of his first employment in such process and thereafter shall be examined by the Certifying Surgeon at intervals of not more than twelve months, and record of such examinations shall the entered by Certifying Surgeon in the Health Register in Form No.17.

(2)A Health Register in Form No.17 containing the names of all persons employed in the processes named in clause 2 shall be kept.

(3)No person after suspension shall be employed unless the Certifying Surgeon after re-examination, again certifies him to be fit for employment.

10.Exemptions - The Chief Inspector may grant exemption from the operation of clause 4, 5, 6, 7 and 8 to the extent to which he deems suitable where he is satisfied that their observance is not necessary for safeguarding the health of the operatives.

SCHEDULE II
Cellulose Spraying

1.Application - The provisions of this schedule shall apply to all factories or parts of factories in which the spraying of cellulose, ester paints or lacquers is carried on.

2.Prohibition of the employment of children and adolescents- No child or adolescents shall be employed in any factory on the operations specified in paragraph 1 above.

3.Exhaust draughts - An efficient exhaust draught shall be provided by mechanical means for the process specified in paragraph 1. The draught shall operate on the vapour given off in the process as near as may be at the point of origin so as to prevent (as far as practicable under the atmospheric conditions usually prevailing) from escaping in to the air of any place in which work is carried on. The draught shall be maintained working for a period of at least five minutes after the cessation of the operation:

Provided that the Chief Inspector may grant exemption from these provisions if he is satisfied that due to the casual nature of the operation they are not necessary to secure the health of the workers.

4.Position of spray operators - Arrangements shall, as far as practicable he made so as to render it unnecessary for the person operating the spray to be in a position between a ventilating outfit and the article being sprayed.

SCHEDULE III
Graphite Powdering and Incidental Processes

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

2.Prohibition of employment of women, children and adolescents - No woman, child or adolescent shall be employed in any factory upon any of the operations specified in paragraph 1 above.

3.Medical Certificate and examinations –

(1)No person shall be employed in any factory for more than fifteen days in the year upon any of the operations specified in paragraph 1 above unless a special certificate of fitness in Form No.27, granted to him by a Certifying Surgeon appointed under Section 10, is in the custody of the manager of the factory.

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

(3)Every person so employed shall be medically examined by a Certifying Surgeon at intervals of not more than 6 months and a record of such examinations shall be entered in the special certificate granted under sub –paragraph (1).

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

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

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

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

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

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

5.Floors and work-benches – (1) The floor of every room in which any person is employed upon any of the operation specified in paragraph above shall be of cement or other impervious material.

SCHEDULE IV

Curing, Canning or Other Processing of Fish

1.Application – This schedule shall apply to all factories or parts of factories in which curing, canning or any other processing of fish including prawns, is carried on.

2.Housekeeping –

(a)Every part of the ways, works, machinery and plant and premises shall be maintained in clean and tidy condition.

(b)Any spillage of materials shall be cleared up without delay.

3.Personal protective equipment –

(a)Suitable protective clothing shall be provided for the use of workers -

(i)when entering the cold storage chamber, and

(ii)when attending to processes which are wet and likely to drench the clothes worn.

(b)The occupier shall provide for the use of all persons employed in or entering the cold storage chamber,

(i)an adequate supply of protective equipment against low temperature, including gloves, overalls and protective footwear's, of types approved in writing by the Inspector;

(ii)an adequate supply of protective footwear of a type approved in writing by the Inspector for the use of all persons employed in wet processes involving standing on wet floor or handling of wet articles, or washing of articles.

(c)Arrangement shall be made for the proper and efficient cleaning of all such protective clothing, Adequate soap, free of cost, shall be made available for this purpose.

(d)The occupier shall provide and maintain for the use of persons employed suitable accommodation for keeping the clothing not worn during working hours, and for the drying of wet clothing. The accommodation so provided shall be placed under the charge of a responsible person.

(e) No person shall wear a protective clothing or protective footwear worn by another person.

4.Washing facilities –

(1)The occupier shall provide and maintain for the use of all persons employed suitable washing facilities consisting of:-

(a)a trough with a smooth impervious surface fitted with a waste pipe without plug and of sufficient length to allow at least 60cm. for every ten persons employed at any one time and having a constant supply of clean water from taps or jets above the trough at intervals of not more than 60cm.; or

(b)at least one wash-basin for every ten persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of clean water, together with, in either case, a sufficient supply of soap or other suitable cleansing material and clean towels.

(2)The facilities so provided shall be placed under the charge of a responsible person and shall be kept clean and in good repair.

5.Time allowed for washing – Before each meal and before the end of the days work, at least ten minutes, in addition to the regular meal times, shall be allowed to each person employed in processes specified in clause 1 for washing.

6.Food, drinks, etc., prohibited in work rooms – No food, drink, pan and supari or tobacco shall be brought into or consumed by any worker in any work room or shed in which any of the operations specified in clause 1 is carried on.

7.Mess-rooms – These shall be provided and maintained for the use of all persons employed in processes specified in clause 1, a suitable mess-room furnished with sufficient tables and chairs or benches.

8.Exemption – Where the Chief Inspector is satisfied that the observance of all or any of the provisions of this schedule are not necessary for safeguarding the health of the persons employed, he may by certificate in writing, exempt any such factory from all or any of such provisions subject to such conditions as may be specified in certificate.

RULES UNDER SECTION 88

[123. Notification of Accidents and Dangerous Occurrences –(Substituted by GO(Rt.)No.769/83/LBR dt.01.07.1983)

(1)When any accident which results in the death of any person or which results in such bodily injury to any person as is likely to cause his death, or any dangerous occurrence specified in the schedule takes places in a factory, the Manager of the factory shall forthwith send a notice thereof by telephone, special messenger or telegram 2[the Inspector, to the Deputy Chief Inspector and the Chief Inspector.] (Substituted by SRO. 827/83 in K.G Ext.No.688 dated 02.07.1983 for the word “Inspector”)

(2)When any accident or any dangerous occurrence specified in the schedule, which results in the death of any person or which results in such bodily injury to any person as is likely to cause his death, takes place in a factory, notice as mentioned in sub-rule (1) shall be sent also to:-

(a)The District Magistrate or Sub divisional Officer

(b)The Officer-in-charge of the nearest police station, and

(c)The relatives of the injured or deceased person.

(3)Any notice given as required under sub-rule (1) and (2) shall be confirmed by the Manager of the factory to the authorities mentioned in those sub-rules within 12 hours of the accident or the dangerous occurrence by sending them a written report in Form 18 in the case of an accident or dangerous occurrence causing death or bodily injury to any person and Form 18-A in the case of a dangerous occurrence which has not resulted in any bodily injury to any person.

(4)When any accident or dangerous occurrence specified in the schedule takes place in a factory and it causes such bodily injury to any person as prevents the person injured from working for a period of 48 hours or more immediately following the accident or the dangerous occurrence, as the case may be, the manager of the factory shall send a report thereof to the Inspector, the

Deputy Chief Inspector and the Chief Inspector in Form 18 within 24 hours after the expiry of 48 hours from the time of the accident or the dangerous occurrence:

Provided that if in the case of an accident or dangerous occurrence death occurs of any person injured by such accident or dangerous occurrence after the notices and reports referred to in the foregoing sub-rules have been sent, the manager of the factory shall forthwith send a notice thereof by telephone, special messenger or telegram to the authorities and persons mentioned in sub-rules (1) and (2) and also have this information confirmed in writing within 12 hours of the death:

Provided further that, if the period of disability from working for 48 hours or more referred to in sub-rule (4) does not occur immediately following the accident, or the dangerous occurrence, but later or occurs in more than one spell, the report referred to shall be sent to the Inspector, the Deputy Chief Inspector and the Chief Inspector in the prescribed Form 18 within 24 hours immediately following the hour when the actual total period of disability from working resulting from the accident or the dangerous occurrence becomes 48 hours.

SCHEDULE

The following classes of dangerous occurrence whether or not they are attended by personal injury or disablement:-

(a)Bursting of a plant used for containing or supplying steam under pressure greater than atmospheric pressure.

(b)Collapse or failure of a crane, derrick, winch, hoist or other appliances used in raising or lowering persons or goods or any part thereof, or the over-turning of a crane.

(c)Explosion, fire, bursting out, leakage or escape of any molten metal, or hot liquor or gas causing bodily injury to any person or damage to any room or place in which persons are employed, or fire in rooms of cotton-pressing factories when a cotton-opener is in use.

(d)Explosion of a receiver or container used for the storage at a pressure greater than atmospheric pressure of any gas or gases (including air) or any liquid or solid resulting from the compression of gas.

(e)Collapse or subsidence of any floor, gallery, roof, bridge, tunnel, chimney, wall, building or any other structure.]

RULES UNDER SUB-SECTION (1) OF SECTION 89

124.Notice of poisoning or disease- A notice in Form No.19 should be sent forthwith both to the Chief Inspector and to the Certifying Surgeon by the Manager of factory in which there occurs a case of lead, phosphorus, mercury, manganese, arsenic, carbon disulphide, or benzene poisoning or poisoning by nitrous fumes, or by halogens or halogen derivative of the hydro-carbons of the aliphatic series; of chrome ulceration, anthrax, silicosis, toxic anemia, toxic jaundice, primary epitheliomatous cancer of the skin, or pathological manifestations due to radium or other radioactive substance or X-rays.

CHAPTER X

SUPPLEMENTAL

Rule under Sub-Section (1) of Section 107

125.Procedure in appeals–

(1)An appeal presented under section 107 shall lie to the Chief Inspector, or in cases where the order appealed against is an order passed by that officer, to the State Government or to such authority as the State Government may appoint in this behalf and shall be in the form of a memorandum setting forth concisely the grounds of objection to the order and bearing court-fees stamp in accordance with Article VI of the Schedule II to the Travancore-Cochin Court Fees Act, 1125 (Act 11 of 1125) or Article II of Schedule II to the Court fees Act, 1870 as the case may be and shall be accompanied by a copy of the order appealed against.

(2)On receipt of the memorandum of appeal, the appellate authority shall, if it thinks fit or if the appellant has requested that the appeal should be heard with the aid of assessors, call upon the body declared under rule (3) to be representative of the Industry concerned to appoint an assessor within a period of 14 days. If an assessor is nominated by such body, the appellate authority shall appoint a second assessor itself. It shall then fix a date for the hearing of the appeal and shall give due notice of such date to the appellant and to the Inspector whose order is appealed against and shall call upon the two assessors to appear upon such date to assist in the hearing of the appeal.

(3)(i) The appellant shall state in the memorandum presented under sub-rule(i) whether he is a member of one or more of the following bodies :-

1.The Travancore Chamber of Commerce
2.The Alleppey Chamber of Commerce
3.The Trivandrum Chamber of Commerce
4.The Travancore Combined Planters Association.
5.The Central Travancore Planters' Association
6.The India Planters' Association of Kerala.
7.The Kannan Devan Planters'Association
8.The India Tea Planters' Association
9.The Mundakayam Planters' Association
10.The Association of Planters of Travancore
11.South India Cashewnut Manufacturers' Association
12.The Travancore Coir Mats and Matting Manufacturers' Association, Alleppey.
13.The Oil Mill Owners' Association, Alleppey,
14.The Cochin Chamber of Commerce.
15.The India Chamber of Commerce, Mattancherry.
16.The United Planters' Association of Southern India.
17.The Oil Merchants' Association, Cochin
18.The Merchants' Association, Trichur
19.The Calicut Chamber of Commerce
20.The Malabar Chamber of Commerce
21.The West Coast Industrialists Association, Kozhikode.
[22.The India Cashew Exporters Association, Quilon.](Inserted by Notn. Datd. 27.02.1962 in K.G. dtd. 31.07.1962)

(ii)The body empowered to appoint the assessor shall -

(a)if the appellant is a member of one of such bodies, be that body;
(b)if he is a member of two such bodies, be the body which the appellant desires should appoint such assessor; and

(c)if the appellant is not a member of any of the aforesaid bodies or if he does not state in the memorandum which of such bodies he desires should appoint the assessor, be the body which appellate authority considers as the best fitted to represent the industry concerned.

(2)An assessor appointed in accordance with the provisions of sub-rules (2) and (3) shall receive for the hearing of the appeal, a fee to be fixed by the appellate authority, subject to a maximum of fifty rupees per diem. He shall also receive the actual traveling expenses. The fees and traveling expenses shall be paid to the assessors by Government, but where the assessors have been appointed at the request of the appellant and the appeal has been decided wholly or partly against him the appellate authority may direct that the fees and traveling expenses of the assessors shall be paid in whole or in part by the appellant.

Rule under Sub-Section (1) of Section 108

126.Display of notices – The abstract of the Act and of the Rules required to be displayed in every factory shall be in Form No.20

RULE UNDER SECTION 110

127.Returns – The Manager of every factory shall furnish to the Chief Inspector or other officers appointed by the State Government in this behalf the following returns, namely:-

(1)Annual return – On or before the 31st January of each year, in Form No.21 to the Chief Inspector of Factories with a copy to the Director of Statistics.

(2)Half yearly returns – One or before 31st July of each year in Form No.22, with a copy to the Director of Statistics.

(3)Return of closure – Any intended closure of the factory or any section or department thereof immediately it is decided to do so in Form 32 to the Chief Inspector and the Inspector.

[[1]Information as to the particulars and quantity and 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 along with the report of intended closure.] An intimation should also be sent to the Chief Inspector and inspector as soon as the Factory or the section or department of the factory, as the case may be starts working again.

In the case of a factory in which work is carried on only during certain period of periods of the year, the manager shall, if so required by the State Government or if the State Government so directs, through the Chief Inspector, submit the annual or half yearly returns within fifteen days after the close of that period or after the close of the last of those periods in the year as the case may be.

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[1][*Inserted by Kerala Factories (Amendment) Rules, 2001 SRO No. 1149/2001 dated 20.12.2001.*

Rule 127: Merely because the manager of a factory has taken out license under the Act and had purported to conform to the requirements of the Act and the Rules by submission of returns or by putting up a notice as to hours of work or maintenance of registers, would not bring the establishment within the scope of the Act. It has to be established from circumstances and upon evidence that the factory falls within the definition under s. 2(m) of the Act and that the workmen employed in such place come within the definition of Section 2(1). Sheshan v. Inspector of Factories, Cannanore.:1967-11-LLJ423(Ker.) :1966 KLT 951

RULE UNDER SECTION 109

128.Service of notice – The despatch by Post under registered cover of any notice or order shall be deemed sufficient service on the occupier, owner or manager of a factory of such notice or order.

RULES 129 TO 134 UNDER SECTION 112

129.Information required by the Inspector – The occupier, owner or manager of a factory shall furnish any information that an Inspector may require for the purpose of satisfying himself whether any provision of the Act has been complied with or whether any order of an Inspector has been duly carried out. Any demand by an Inspector for any such information, if made during the course of an inspection, shall be complied with forthwith if the information is available in the factory, or, if made in writing shall be complied with within seven days of receipt thereof.

[1][**129A. Permissible levels of certain chemical substance in work environment** (Inserted by SRO No.135/87 dated 22/01/1987 in K.G.cExt. No.83 dated 27/01/1987)–Without prejudice to the requirements in any other provisions in the Act or the rules, the requirements specified in this Schedule shall apply to all factories.

SCHEDULE

1.Definitions – For the purpose of this Schedule -

(a)"mg/m3" means milligrams of a substance per cubic metre of air;

(b)"mppcm" means million particles of a substance per cubic metre of air;

(c)"ppm" means parts of vapour or gas per million parts of air by volume at 25^0C and 760mm 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 weighted to the duration for which each such sample is collected and the concentration prevailing at the time of taking the sample.

$$\text{Time weighted average concentration} = \frac{C_1T_1 + C_2T_2 + \ldots\ldots CnTn}{T_1 + T_2 + \ldots\ldots Tn}$$

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

C_2 represents the concentration of the substance for duration T_2 (in hours); and
Cn represents the concentration of the substance for duration Tn (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 locations –

(1) The time-weighted average concentration of any substance listed in table 1 or 2 of the schedule, at any work location in a factory during any shift on any day shall not exceed the limit of the permissible time-weighted average concentration specified in respect of that substance;

Provided that in the case of a substance mentioned in Table 1 in respect of which a limit in terms of short term maximum concentration is indicated, the concentration of such a substance may exceed the permissible limit of the time-weighted; average concentration for the substance for short periods not exceeding 15 minutes at a time subject to the condition that-

(a)such periods during which the concentration exceeds the prescribed time weighted average concentration are restricted to not more than a 4 per shift;

(b)the time interval between any two such periods of higher exposure shall not be less than 60 minutes; and

(c)at no time the concentration of the substance in the air shall exceed the limit of short term maximum concentration.

(2)In the case of any substance given in Table 3, the concentration of the substance at any work location in a factory at any time during any day shall not exceed the limit of exposure for that substance specified in the Table.

(3)In the cases where the word "Skin" has been indicated against certain substance mentioned in Tables 1 and 3, appropriate measures shall be taken to prevent absorption through cutaneous

routs particularly skin, mucous membranes, and eyes as the limits specified in these Tables are for conditions where the exposure is only through respiratory tract.

(4) (a) In case, the air at any work location contains a mixture of such substances mentioned in Tables 1, 2, or 3, which have similar toxic properties, the time-weighted concentration of each of these substances during the shift should be such, that when these time-weighted concentration divided by the respective permissible time weighted average concentration specified in the above mentioned Tables, and the fractions obtained are added together, the total shall not exceed unity,

i.e. $\frac{C1 + C\,2 + ... + Cn}{L1 + L\,2 + ... + Ln}$ should not exceed unity

When C_1, C_2 ……..C_n are the time-weighted concentration of toxic substances 1,2,……and n respectively, determined after measurement at work location;

And L_1, L_2 …….Ln are the permissible time-weighted average concentration of the toxic substance 1,2,……..and n respectively.

(b)in case the air at any work location contains a mixture of substances, mentioned in Table 1,2, or 3 and these do not have similar toxic properties, then the time weighted concentration of each of these substances shall not exceed the permissible time weighted average concentration specified in the above mentioned Tables, for that particular substance.

(c)The requirement in clauses (a) and (b) shall be in addition to the requirements in paragraphs 2(1) and 2(2).

3.Sampling and evaluation procedures –

(1)Notwithstanding provisions in any other paragraphs, the sampling and evaluation procedures to be adopted for checking compliance with the provisions in the schedule shall be as per standard procedures in vague from time to time.

(2)Notwithstanding the provisions in paragraph 5, the following condition regarding the sampling and evaluation procedures relevant to checking compliance with the provisions in this Schedule are specified :-

(a)For determination of the number of particles per cubic metre in item 1 (a) (i) (1) in Table 2, samples are to be collected by standard or midget impinger and the counts made by light-field technique.

(b)The percentage of quartz in the 3 formulae given in item 1 (a) (i) of Table 2 is to be determined from airborne samples.

(c)For determination of number of fibres as specified in item 2(a) of Table 2, the membrance filter method at 430 x magnification (94mm objective) with phase contrast illumination should be used.

(d)Both for determination of concentration and percentage of quartz for use of the formulae given in item 1(a) (i) (2) of Table 2, the fraction passing through a size selector with the following characteristics should only be considered.

Aerodynamic diameter (Unit density sphere)	Percentage allowed by size-selector
2.0	90
2.5	75
3.5	50
5.0	25
10.0	00

4.Power to require assessment of concentration of substances –

(1)An Inspector may, by an order in writing, direct the occupier or manager of a factory to get before any specified date, the assessment of the time-weighted average concentration at any work location of any of the substances mentioned in Tables 1,2 or 3 carried out.

(2)The results of such assessment as well as the method followed for air sampling and analysis for such assessment shall be sent to the Inspector within 3 days from the date of completion of such assessment and also a record of the same kept readily available for inspection by an Inspector.

5.Exemption – If in respect of any factory or a part of a factory, the Chief Inspector is satisfied that, by virtue of the pattern of working time of the workers at different work locations or on account of other circumstances, no worker is exposed, in the air at the work locations, to a substance or substances specified in Tables, 1,2, or 3 to such an extent as is likely to be injurious to his health, he (the Chief Inspector) may by an order in writing, exempt, the factory or a part of the factory from the requirements in paragraph 2, subject to such conditions, if any, as he may specify therein.

TABLE – 1

Substance	*Permissible limits of exposure*			
	Time-weighted average concentration		*Short-term Maximum concentration*	
	ppm	mg/m^3	ppm	mg/m^3
Acetic acid	10	25	15	37
Acrolein	0.1	0.25	0.3	0.8
Aldrin-sin	--	0.25	--	0.75
Ammonia	25	18	35	27
Aniline-skin	2	10	5	20
Anisidine (O-pisomers)-skin	0.1	0.5	--	--
Arsenic & Compound (as As)	--	0.2	--	--
Benzene	10	30	--	--
Bromine	0.1	0.7	0.3	2
2 Butanone (Methlohyl ketone MEK)	200	590	300	885
n-Butyl acetate	150	710	200	950
Sec/tert. Butyl acetate	200	950	250	1190
Cadmium-dust and salts (as Cd)	--	0.05	00	0.2
Calcium oxide	--	2	--	--
Carbaryl (Sevin)	--	5	--	10
Carbofuran (Furadan)	--	0.1	--	--
Carbon disulfide-skin	20	60	30	90
Carbon Monoxide	50	55	400	440
Carbon tetrachloride-skin	10	65	20	130
Carbonyl chloride(Phosgene)	0.1	0.4	--	--
Chlordane-skin	--	0.5	--	2
Chlorebenzene (Mono chlorbenzene)	75	350	--	--
Chlorine	1	3	3	9
bis-Chloromethy ether	0.001	--	--	--
Chromic acid and chromets (as Cr)	--	0.05	--	--
Chromium Sel. Chromic, Chromous salts (as Cr)	0.5	--	--	--
Copper fume	--	0.2	--	--
Cotton dust, raw	--	0.2	--	0.6

Substance	*Permissible limits of exposure*			
	Time-weighted average concentration		*Short-term Maximum concentration*	
	ppm	mg/m^3	ppm	mg/m^3
Cresol, all isomers-skin	5	22	--	--
Cyanides (as CN)-skin	--	5	--	--
Cyanogen	10	20	--	--
DDT (Dichlorodiphenyl trichloroethane)	--	1	--	3
Demeton-skin	0.01	0.1	0.03	0.3
Diazinon-skin	--	0.1	--	0.3
Dibutyl phthalate	--	5	--	10
Dichlorves (DDVP)-skin	0.1	1	0.3	3
Dieldrin-skin	--	0.25	--	0.75
Dinitrobenzene (all isomers)- skin	0.15	1	0.5	3
Dinitrotoluene-skin	--	1.5	--	5
Diphenyl	0.2	1.5	0.6	4
Endosulfan (Thiodan) – skin	--	0.1	--	0.3
Endrin-skin	--	0.1	--	0.3
Ethyl acetate	400	1000	--	--
Ethyl alcohol	1000	1900	--	--
Ethyl amine	10	18	--	--
Flourides (as F)	--	2.5	--	--
Flourine	1	2	2	4
Hydrogen Cyanide-skin	10	11	15	16
Hydrogen Sulfide	10	15	15	27
Iron Oxide Fume (Fe_2, O_2 as Fe)	--	5	--	10
Isoamyl acetate	100	525	125	655
Isoamyl alcohol	100	360	125	450
Isobutyl alcohol	50	150	75	225
Lead, inorg, fumes and dusts (as pb)	--	0.15	--	0.45
Lundane-skin	--	0.5	--	1.5
Malathion-skin	--	10	--	--
Manganese fume (as Mn)	--	1	--	3
Mercury (as Hg)	--	0.05	--	0.15
Mercury (alkyl compounds) skin (as Hg)	0.001	0.01	0.003	0.03
Methyl alcohol (Methanol)-skin	200	260	250	310
Methyl cellosolve-skin (2-methoxy ethanol)	25	80	35	120
Methyl isobutyl Ketone-skin	100	410	125	510
Napthalene	10	50	15	75
Nickel carbonyl (as Ni)	0.05	0.35	--	--
Nitric acid	2	5	4	10
Nitric Oxide	25	30	35	45
Nitrobenzene-skin	1	5	2	10
Oil mist-mineral	--	5	--	10
Parathion-skin	--	0.1	--	0.3
Phenel-skin	5	19	10	38
Phorate (Thimet)-skin	--	0.05	--	0.2
Phosgene (Carbonyl chloride)	0.1	0.4	--	--
Phosphine	0.3	0.4	1	1

Substance	*Permissible limits of exposure*			
	Time-weighted average concentration		*Short-term Maximum concentration*	
	ppm	mg/m^3	ppm	mg/m^3
Phosphorous (yellow)	--	0.1	--	0.3
Phosphorous pentachloride	--	1	--	3
Phosphorous trichloride	0.5	3	--	--
Picric acid-skin	--	0.1	--	0.3
Pyridine	5	15	10	30
Silane (Silicon tetra hydride)	0.5	0.7	1	1.5
Styrene, monomer (phenylethylene)	100	420	125	525
Sulfur dioxide	5	13	--	--
Sulfuric acid	--	1	--	--
Toluene (toluol)-skin	100	375	150	560
O-Toludine	5	22	10	44
Trichloroethylene	100	535	150	800
Vinyl chloride	5	10	--	--
Welding fumes (Noc)	--	5	--	--
Xylene (o-m-p-isomers)-skin	100	435	150	655

TABLE - 2

Substance	Permissible Time-weighted average concentration
1.Silica	
(a)Crystalline	
(i)Quartz	
(1)In terms of dust count	$\frac{1060}{\%Quartz + 10}$ mppcm
(2)In terms of respirable dust	$\frac{10}{\%\ respirable\ quartz + 2}$ mg/m^2
(3)In terms of total dust	$\frac{30}{quartz + 3}$ mg/m^3
(ii)Cristobalite	Half the limits given against quartz
(iii)Tridymite	Half the limits given against quartz
(iv)Silica fused	Same limit as for quartz
(v)Trippoli	Same limit as in formula in item 2 given against quartz.
(b) Amorphous	705 mppcm
2.Silicate having less than 1% free silica by weight	
[(a)Asbestos (fibre longer than 5microne) 2fibre per cubic centimeter.	
(i)Amosite	0.5 fibre/cubic centimeter
(ii)Chrysotile	2 fibres/cubic centimeter
(iii)Crocidolite	0.2 fibre/cubic centimeter
(iv)Other form	2 fibres/cubic centimeter

(b)	Mica	705 mppcm
(c)	Mineral wool fibre	10 mg/m^3
(d)	Porlite	1060 mppcm
(e)	Portlant cement	1060 mppcm
(f)	Soap stone	705 mppcm
(g)	Talc (monabostiform)	705 mppcm
(h)	Talc (fibrous)	Same limit as for asbestos
(i)	Tromolite	Same limit as for asbestos
3	Coal Dust	
(1)	For airborne dust having less than 5% Silicon dioxide by weight	2 mg/m^3
(2)	For airborne dust over 5% silicon dioxide	Same limit as prescribed by formula in item (2) against quartz

TABLE - 3

Substance	Permissible limit of exposure	
	ppm	mg/m^2
Acetic anhydride	5	20
O-Dichlorobenzene	50	300
Formaldehyde	2	3
Hydrogen Chloride	5	7
Manganese and Compounds (as Mn)	--	5
Nitrogen dioxide	5	9
Nitroglycerin-skin	0.2	2
Potassium hydroxide	--	2
Sodium hydroxide	--	2
2,4,6, Trinitrotoluene (TNT)	--	0.5]

(Inserted by SRO No. 1149/2001 dtd. 20-12.2001)

130. Muster Roll.- The manager of every factory shall maintain a muster roll of the workers employed in the factory in Form No. 25 showing (a) the name of each worker, (b) the nature of his work, (c) the daily attendance of the worker, and (d) date of entry into service:

[Provided that, if the daily attendance is noted in the register of adult workers in Form No. 12, or the particulars required under this rule are noted in any other register, a separate muster roll required under this rule need not be maintained.] (Inserted by Notn. Dated 11-10-1959 in K.G. dtd. 15-12-1959)

131. Register of accidents and dangerous occurrences.- The manager of every factory shall maintain a Register of all accidents and dangerous occurrences which occur in the factory in Form No. 26 showing the-

(a)Name of injured persons (if any),

(b)Date of accident or dangerous occurrence

(c)Date of report on Form No. 18 to Inspector

(d)Nature of accident or dangerous occurrence

(e)Date of return of injured person to work.

(f)Number of days of absence from work of injured person.

132. Maintenance of Inspection Book.- The manager of every factory shall maintain a bound inspection book containing the following particulars and shall produce it when so required by the Inspector or Certifying Surgeon-

(a)The exemptions granted or availed of by the factory in Form No. 33,

(b)The particulars of rooms in the factory in Form No. 35, and

(c)The particulars of lime-washing, colour-washing, painting, varnishing or tarring as the case may be, in Form No.7

133. Particulars of rooms.- The particulars of measurement of each room in the factory in which workers are employed shall be entered in Form No. 35

134. Posting of certain notice in work rooms.-

(1)The Maximum number of workers who may be employed in each work-room or work-hall shall be posted prominently by means of a notice painted on the internal wall in each such room or hall. When determining the maximum number of persons permissible in addition to the breathing space required to be provided by section 16 (2), floor space of 25 square feet in the case of existing factories and 36 square feet in factories built after the commencement of the Act, shall also be provided for each worker working at any one time in the room, but such floor space shall be exclusive of the space occupied by machinery, fixtures and materials in the room.

(2)The Chief Inspector may for reasons to be recorded in writing relax the provisions of this rule to such extent as he may consider necessary wherein his opinion, such relaxation can be made having regard to the health of the persons employed in any room.

Rules 135 to 206 under section 87, relating to Chemical works (Inserted by Notn. Dated 11-10-1959 in K.G. dtd. 15-12-1959)

135. Application.- Rules 135 to 206 shall be in addition to and not in derogation of any provisions of the Factories Act or any other Rule made there under or of any other Act or Rules. Rules 138 to 198 shall apply to all the works in Schedule 1 carried on in chemical works, or as incidental processes to the manufacturing processes in such chemical works, and Rules 199 to 206 shall apply to certain works and parts thereof in chemical works specified in Rule 199.

136. Definitions.- Chemical works means any factory or such parts of any factory as are named in Schedule 1 to these Rules.

"Breathing apparatus" means

(1)a helmet of face piece with necessary connections by means of which a person using it in a poisonous, as phyxiating or irritant atmosphere breathes ordinary air, or

(2)any other suitable apparatus approved in writing by the Chief Inspector.

"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.

"Efficient exhaust draught" means localized ventilation effected by mechanical other means for the removal or gas, vapour, fume or dust to prevent if from escaping into the air of any place in which work is carried on.

"Surgeon" means a Certifying Surgeon appointed under section 10 of the Factories Act, 1948.
"Suspension" means suspension by written certificate in the Health Register, signed by the Surgeon from employment in any process mentioned in the certificate.

"Bleaching powder" means the bleaching powder commonly called chloride of lime.
"Chlorate" means chlorate or perchlorate.

"Caustic" means hydroxide of potassium or sodium.
"Caustic pot" means a metal pot fixed over a furnace or flue and surrounded by brickwork such as is commonly used for concentrating caustic liquor, whether such pot be used for concentrating or boiling caustic or other liquor.
"Chrome process" means the manufacture of chromate or bichromate of potassium or sodium., or the manipulation, movement or other treatment of these substances in connection with their manufacture.
"Nitro or amino process" means the manufacture of nitro or amino derivatives of phenol and of benzene or its homologues, and the making or explosives with the use of any of these substances.

137. Exceptions.- If the Chief Inspector is satisfied in respect of any factory or any process that, owing to the special conditions or special methods of work, or by reasons of the infrequency of the process or for other reasons all or any of the requirements of Rules 138 to 206 are not necessary for the protection of persons employed in any factory or process, he may be order in writing (which he may in his discretion revoke) exempt such factory or process from all or any of the provisions of the said Rules, subject to such conditions as he may be such order prescribe.

General – Rules 138 to 152

138.Housekeeping.-

(a)Every part of the ways, works, machinery and plant shall be maintained in a clean and tidy condition.
(b)Any spillage of materials shall be cleaned up without delay.
(c) Floors, platforms, stairways, passages and gangways shall be kept free or temporary obstructions.
(d)There shall be provided easy means of access to all parts of the plant of facilitate cleaning, maintenance and repairs.

139. Improper use of chemicals.-

(a)No chemicals or solvents shall be used by workers for any purposes apart from the processes for which they are supplied.
(b)Worker shall be instructed on the possible dangers arising from such misuse. These instructions shall further be displayed in bold letter in prominent places in the different sections.

140. Storage of food. - No food, drink, tobacco, pan or similar article shall be stored or consumed on or near any part of the plant.

141.Testing.- Workers shall be instructed on the possible danger arising from the testing of materials or of the use for drinking purposes of any vessel used in, or in connection with the manufacture of chemicals. These instructions shall further be displayed in bold letters in prominent places in the different sections.

142.Process hazards.-

(a)Before commencing any large-scale experimental work, or any new manufacture, all possible steps shall be taken to ascertain definitely all the hazards involved both from the actual operations and the chemical reactions. The properties of the raw materials used, the final products to be made, and any by-products arising during manufacture shall be carefully studied and provisions shall be made for dealing with any hazards including effects on workers which may arise during manufacture.