

The Goa Control of Industrial Major Accident Hazards Rules, 1993

The Goa Control of Industrial Major Accident Hazards Rules, 1993, published in the Official Gazette, Sr. I No. 7 dated 13.07.1993 and came into force at once.

The Goa Control of Industrial Major Accident Hazards (Amendment) Rules, 1999, published in the Official Gazette, Sr. I No. 11 dated 10.06.1999.

The Goa Control of Industrial Major Accident Hazards (Second Amendment) Rules, 2015, published in the Official Gazette, Sr. I No. 28 dated 08.10.2015.

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1. Short title and commencement.- (1) These rules may be called “The Goa Control of Industrial Major Accident Hazards Rules, 1993”.

(2) They shall come into force at once.

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

(a) “hazardous chemical” means,-

(i) any chemical which satisfies any of the criteria laid down in Part I of Schedule 1 and is listed in Column 2 of Part II of that Schedule;

(ii) any chemical listed in Column 2 of Schedule 2; or

(iii) any chemical listed in Column 2 of Schedule 3.

(b) “industrial activity” means- an operation or process carried out in a factory referred to in Schedule 4 involving or likely to involve one or more hazardous chemicals and includes on-site storage or on-site transport which is associated with that operation or process, as the case may be;

(c) “isolated storage” means storage where no other manufacturing process other than pumping of hazardous chemical is carried out and that storage involves at least a quantity of that chemical set out in Schedule 2 but does not include storage associated with a “factory “specified in Schedule 4 on the same site.

(d) “major accident” means an incident involving loss of life inside or outside the site or 10 or more injuries inside and/or one or more injuries outside or release of toxic chemical or explosion or fire or spillage of hazardous chemical resulting in “on-site” or “off-site” emergencies or damage to equipments leading to stoppage of process or adverse effects to the environment

(da) Major Accident Hazards (MAH) installations” means isolated storage and an industrial activity at a site handling, including transport through carrier or pipeline, hazardous chemicals equal to or, in excess of the threshold quantities specified in column (3) of the Table of Schedule - 2 and in column (3) of the Table in Part – I and II of Schedule -3 of these Rules.

(e) “pipeline” means a pipe (together with any apparatus and works associated therewith) or system of pipes (together with any apparatus and works associated therewith), for the conveyance of a hazardous chemical, other than a flammable gas as set out in Column 2 of Part II of Schedule 3 at a pressure of less than 8 bars absolute;

(f) “Schedule” means Schedule appended to these rules;

(g) Words and expression not defined in these rules but defined or used in the Factories Act, 1948 and the rules made thereunder shall have the same meaning as assigned therein.

3. Collection, development and dissemination of information .-(1) This rule shall apply to an industrial activity or isolated storage in which a hazardous chemical which satisfies any of the criteria laid down in Part I of Schedule 1 or is listed in Column 2 of Part II of that Schedule is or may be involved.

(2) An occupier, of an industrial activity or isolated storage in terms of sub rule (1) of this rule, shall arrange to obtain or develop information on hazardous chemicals in the form of a

material safety data sheet as specified.

(3) The occupier while obtaining or developing a safety data sheet as specified in Schedule 5 in respect of hazardous chemical handled by him shall ensure that the information is recorded accurately and reflects the scientific evidence used in making the hazard determination. In case, any significant information regarding hazard of a chemical is available, it shall be added to the safety data sheet as specified in Schedule 5 as soon as practicable.

(4) Every container of a hazardous chemical shall be clearly labelled or marked to identify-

- (a) the contents of the container;
- (b) the name and address of the manufacturer or importer of the hazardous chemical; and
- (c) the physical, chemical and toxicological data of the hazardous chemical.

(5) In terms of sub-rule (4) of this rule where it is impractical to label a chemical in view of the size of the container or the nature of the package, provision shall be made for other effective means like tagging or accompanying documents.

3(A) Duties of Inspector.- The inspector shall –

- (a) inspect the industrial activity or isolated storage at least once in a calendar year.
- (b) omitted;
- (c) Enforce directions and procedures in respect of industrial activities or isolated storages covered under the Factories Act 1948 (Central Act 63 of 1948), and in respect of pipelines upto a distance of 500m from the outside of the perimeter of a factory regarding-
 - (i) Notification of major accidents as per rule 5
 - (ii) Notification of sites as per rules 7 and 8
 - (iii) Safety reports and further information in terms of rules 10 to 12
 - (iv) Preparation of on-site emergency plans as per rule 13 and involvement in the preparation of off-site emergency plans in consultation with District Collector or District Emergency Authority” in terms of rule 14.
 - (v) submission of hazard identification and risk analysis as per IS 15656-2006 (i.e. Indian Standard on Hazard Identification and Risk Analysis - Code of Practice published by Bureau of Indian Standards)as specified in sub rule (1) of rule 14.

4. General responsibility of the occupier.- (1)This rule shall apply to –

- (a) an industrial activity, in which a hazardous chemical which satisfies any of the criteria laid in Part I of Schedule I or is listed in Column 2 of Part II of that Schedule is or may be involved; and
- (b) isolated storage in which there is involved a threshold quantity of a hazardous chemical listed in Column 2 of Schedule 2 which is equal to or more than the threshold quantity specified in the Schedule for that chemical in Column 3 thereof.

(2) An occupier in terms of schedule of sub rule (1) shall provide information on demand to show that he has-

- (a) identified the major accident hazards; and
- (b) taken adequate steps to-
 - (i) prevent such major accidents and to limit their consequences to persons and to environment; and
 - (ii) provide the persons working on the site with the information, training and equipment including antidotes necessary to ensure their safety and health.

5. Notification of major accidents.- (1) Where a major accident occurs on a site, or in a pipe line, the occupier shall, within 48 hours, notify the inspector and Chief Inspector of that accident and furnish thereafter to the inspector and the Chief Inspector a report relating to the accident in installments, if necessary, in Schedule 6.

(2) The Inspector and Chief Inspector shall, on receipt of the report in accordance with sub rule (i) of this rule undertake a full analysis of the major accident and send the requisite information to the Ministry of Environment Forest through the Directorate General Factory Advice Service & Labour Institutes and Ministry of Labour, Government of India

(3) An occupier shall notify to the Inspector steps taken to avoid any repetition of such occurrence on a site.

(4) The Inspector and the Chief Inspector shall compile information regarding major accidents and make available a copy of the same to the Ministry of Environment and Forests through the Directorate General Factory Advice and Labour Institutes and Ministry of Labour, Government of India.

(5) The Inspector and the Chief Inspector shall inform the occupier in writing of any lacunae which in their opinion needs to be rectified to avoid major accidents”

6. Industrial activities or isolated storages to which rules 7 to15 apply.- (1) (a) Rules 5, 7, 8, 13 to15 shall apply to an industrial activity, other than isolated storage, in which there is involved a threshold quantity of a hazardous chemical listed in Column 2 of Schedule 3 which is equal to or more than the threshold quantity specified In the entry for that chemical in Column 3;

(b) Rules 10 to 12 shall apply to an industrial activity, other than isolated storage, in which there is involved a quantity of a hazardous chemical listed in Column 2 of Schedule 3 which is equal to or more than the threshold quantity specified in the entry for that chemical in Column 4;

(c) 5, 7, 8, 13 to 15 shall apply to an isolated storage, in which there is involved a quantity of a hazardous chemical listed in Column 2 of Schedule 2 which is equal to or more than the threshold quantity specified in the entry for that chemical in Column 3; and

(d) Rules 10 to 12 shall apply to an isolated storage, in which there is involved a quantity of a hazardous chemical listed in Column 2 of Schedule 2 which is equal to or more than the threshold quantity specified in the entry for that chemical in Column 4.

(2) omitted

7. Notification of site.- (1) An occupier shall not undertake any industrial activity or isolated storage unless he has submitted a written report to the Chief Inspector containing the particulars

specified in Schedule 7 at least 90 days before commencing that activity or before such shorter time as the Chief Inspector may agree and for the purpose of this sub-rule, an activity in which subsequently there is or is liable to be a threshold quantity given in Column 3 of Schedules 2 and 3 or more of an additional hazardous chemicals shall be deemed to be a different activity and shall be notified accordingly.

(2) The Chief Inspector shall, within 60 days from the date of receipt of the report in accordance with sub rule (1) of this rule, examine the report and if on such examination, he is of the opinion that the contravention of the provisions of the act or the rules made thereunder has taken place, he may issue notice for obtaining compliance

8. Updating of the site Notification.- Where an activity has been reported in accordance with rule 7(1) and the occupier makes a change in it (including an increase or decrease in the maximum quantity of a hazardous chemical to which this rule applies which is or is liable to be at the site or at the cessation of the activity) which affects the particulars specified in that report or any subsequent report made under this rule, the occupier shall forthwith furnish a further report to the Inspector and the Chief Inspector.

9. Transitional provision: Omitted

10. Safety Reports and Safety Audit Reports.- (1) Subject to the following sub-rules of this rule, an occupier shall not undertake any industrial activity or isolated storage to which these rules apply, unless he has prepared a safety report on that industrial activity containing the information specified in Schedule 8 has sent a copy of that report to the Chief Inspector at least 90 days before commencing that activity.

(2) After the commencement of these rules, the occupiers of both the new, and the existing industrial activities or isolated storages shall arrange to carry out safety audit by Occupational Safety and Health Auditor recognized by the Chief Inspector of Factories under the Goa Factories (Occupational Safety and Health Audit) Rules, 2014.

Further, such auditing shall be carried out as under:-

- (a) Internally once in a year by a team of suitable plant personnel;
- (b) Externally once in two years by Occupational Safety and Health Auditor approved in this behalf by the Chief Inspector;
- (c) In the year; when an external audit is carried out, internal audit need not be carried out.

(3) The Occupier shall within 30 days of the completion of the audit, send an audit report to the Chief Inspector along with action taken report with respect to the implementation of the audit recommendations.

11. Updating of safety reports under rule 10.- (1) Where an occupier has made a safety report in accordance with sub-rule (1) of rule 10, he shall not make any modification to the industrial activity or isolated storage to which that safety report relates which could materially affect the particulars in that report, unless he has made a further report to take account of these modifications and has sent copy of that report to the Inspector and the Chief Inspector at least 90 days before making those modification.

(2) Where an occupier has made a report in accordance with rule 10 and sub-rule (1) of

this rule and that industrial activity or isolated storage is continuing, the occupier shall within three years of the date of last such report, make a further report which shall have regard in particular to new technical knowledge which has affected the particulars in the previous report relating to safety and hazard assessment, and shall within 30 days send a copy of the report to the Chief Inspector.

12. Requirement for further information to be sent to the Inspector and the Chief Inspector.- Where in accordance with rules 10 and 11, an occupier has sent a safety report and safety audit report relating to an industrial activity or isolated storage to the Inspector and the Chief Inspector, the Inspector and the Chief Inspector may, by a notice served on the occupier require him to provide such additional information as may be specified in the notice and the occupier shall send that information to the Inspector and the Chief Inspector within 90 days.

13. Preparation of on-site emergency plan by the occupier.- (1) The occupier shall prepare, keep up-to-date and furnish to the Inspector and the Chief Inspector an on-site emergency plan containing details specified in schedule 8A and detailing how major accidents will be dealt with on the site on which the industrial activity or isolated storage is carried on and that plans shall include the name of person who is responsible for safety on the site and the names of those who are authorised to take the action in accordance with the plan in case of an emergency

(2) The occupier shall ensure that the emergency plan prepared in accordance with sub-rule (1) of this rule, takes into account any modification made in the industrial activity or isolated storage and that every person on the site who is concerned with the plan is informed of its relevant provisions.

(3) The occupier shall prepare the emergency plan required under sub-rule (1) of this rule.-

(a) Before the commencement of industrial activity or isolated storage;

(b) Within 90 days of coming into operation of these rules, in case of an existing industrial activity or isolated storage.

(4) The occupier shall ensure that a mock drill of the on-site emergency is conducted at least once in every six months.

(5) A detailed report of the mock drill conducted under sub rule (4) shall be immediately made available to the Inspector and the Chief Inspector.

14. Hazard identification and risk analysis. – (1). The occupiers of all major accident hazard installations shall carryout hazard identification and risk analysis and consequence analysis for storage of hazardous chemicals by any of the appropriate and suitable methodologies as per IS 15656-2006 (i.e. Indian Standard on Hazard Identification and Risk Analysis - Code of Practice published by Bureau of Indian Standards) and shall submit the risk analysis report to the Chief Inspector of Factories as per Annexure B to the said Code of Practice.

(2). The occupiers shall carry out the hazard identification and risk analysis required under sub-rule (1), -

(a) In case of a new major accident hazard installation, before the commencement of the industrial activity;

(b) In case of an existing major accident hazard installation, within 90 days of coming into force of these rules.

(3) The occupiers shall ensure that hazard identification and risk analysis and consequence analysis as required under sub-rule (1) is carried out at least ninety days before making any modification, either partial or total to the existing major accident hazard installation, by introducing a new product / process in an industrial activity or increasing capacity of hazardous chemical, or increasing the number of hazardous chemicals in the major accident hazard installation, as the case may be.

15. Information to be given to persons liable to be affected by major accidents.- (1) The occupier shall take appropriate steps to inform persons outside the site who are likely to be in an area which may be affected by a major accident about –

- (a) the nature of the major accident hazard; and
- (b) the safety measures and the Dos' and Don'ts which should be adopted in the event of a major accident

(2) The occupier shall take appropriate steps specified in sub rule (1) of this rule to inform persons about, an industrial activity or isolated storage before that activity is commenced, except that in respect of an existing industrial activity or isolated storage, the occupier shall comply with the requirements of sub rule (1) of this rule within 90 days of coming into operation of these rules.

16. Disclosure of Information.- Where for the purpose of evaluating information notified under rule 5 or rules 7 to 15, the Inspector or the Chief Inspector discloses that information to some other person, that other person shall not use that information for any purpose except for the purpose of the Inspector or the Chief Inspector disclosing it as the case may be and before disclosing that information the Inspector or the Chief Inspector as the case may be, shall inform that other person of his obligations under this rule.

17. Improvement notice; Omitted

18. Power of the State Government to modify the Schedules.- The state government may, at any time, by notification in the Official Gazette make suitable changes in the Schedules.

SCHEDULE- 1

(See rules 2(a) (i), 3(1), 4(1) (a))

PART - I

(a) **Toxic Chemicals:** Chemicals having the following values of acute toxicity and which owing to their physical and chemical properties are capable of producing major accident hazards:

Sr. No	Toxicity	Oral toxicity LD50(mg/kg)	Dermal toxicity LD50(mg/kg)	Inhalation toxicity LC50(mg/l)
(1)	Extremely toxic	> 5	<40	< 0.5
(2)	Highly toxic	>5-50	>40-200	< 0.5 - 2.0
(3)	Toxic	>50-200	> 200-1000	>2-10

(b) Flammable Chemicals:

(i) Flammable gases: Gases which at 20⁰C and at standard pressure of 101.3 KPa are:-

(a) ignitable when in a mixture of 13 percent or less by volume with air, or

(b) have a flammable range with air of at least 12 percentage points regardless of the lower flammable limits.

Note: - The flammability shall be determined by tests or by calculation in accordance with methods adopted by International Standards Organization ISO Number 10156 of 1990 or by Bureau of Indian Standards ISI Number 1446 of 1985.

(ii) Extremely flammable liquids: chemicals which have flash point lower than or equal to 23°C and boiling point less than 35°C

(iii) Very highly flammable liquids: chemicals which have a flash point lower than or equal to 23°C and initial boiling point higher than 35°C.

(iv) Highly flammable liquids: chemicals which have a flash point lower than or equal to 60°C but higher than 23°C.

(v) Flammable liquids: chemicals which have a flash point higher than 60°C but lower than 90°C.

(c) Explosives: explosives means a solid or liquid or pyrotechnic substance (or a mixture of substances) or an article.

- (a) Which is in itself capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings;
- (b) Which is designed to produce an effect by heat, light, sound, gas or smoke or a combination of these as the result of non-detonative self sustaining exothermic chemical reaction.

PART-II

LIST OF HAZARDOUS CHEMICALS

- (1) Acetaldehyde;
- (2) Acetic Acid;
- (3) Acetic Anhydride;
- (4) Acetone;
- (5) Acetone Cyanohydrin;
- (6) Acetone Thiosemicarbazide;
- (7) Acetonitrile;
- (8) Acetylene;
- (9) Acetylene Tetra Chloride;
- (10) Acrolein;
- (11) Acrylamide;
- (12) Acrylonitrile;
- (13) Adiponitrile;
- (14) Aldicarb;
- (15) Aldrin;
- (16) Allyl Alcohol;
- (17) Allyl Amine;
- (18) Allyl Chloride;
- (19) Aluminium (Powder);
- (20) Aluminium Azide;
- (21) Aluminium Borohydride;
- (22) Aluminium Chloride;
- (23) Aluminium Fluoride;
- (24) Aluminium Phosphide;
- (25) Amino Diphenyl;

- (26) Amino Pyridine;
- (27) Aminophenol-2;
- (28) Aminopterin;
- (29) Amiton;
- (30) Amiton Dialate;
- (31) Ammonia;
- (32) Ammonium Chloro Platinate;
- (33) Ammonium Nitrate;
- (34) Ammonium Nitrite;
- (35) Ammonium Picrate;
- (36) Anabasine;
- (37) Aniline;
- (38) Aniline 2, 4, 6-Trimethyl;
- (39) Anthraquinone;
- (40) Antimony Pentafluoride;
- (41) Antimycin A;
- (42) Antu;
- (43) Arsenic Pentoxide;
- (44) Arsenic Trioxide;
- (45) Arsenous Trichloride;
- (46) Arsine;
- (47) Asphalt;
- (48) Azinpho-Ethyl;
- (49) Azinphos Methyl;
- (50) Bacitracin;
- (51) Barium Azide;
- (52) Barium Nitrate;
- (53) Barium Nitride;
- (54) Benzal Chloride;
- (55) Benzenamine, 3-Trifluoromethyl;
- (56) Benzene;
- (57) Benzene Sulfonyl Chloride;
- (58) Benzene, 1-(Chlormethyl)-4 Nitro;
- (59) Benzene Arsenic Acid;
- (60) Benzidine;
- (61) Benzidine Salts;

- (62) Benzimidazole, 4, 5-Dichloro-2 (Trifluoromethyl);
- (63) Benzoquinone-P;
- (64) Benzotrichloride;
- (65) Benzoyl Chloride;
- (66) Benzoyl Peroxide;
- (67) Benzyl Chloride;
- (68) Beryllium (Powder);
- (69) Bicyclo (2, 2, 1) Heptane-2 -Carbonitrile;
- (70) Biphenyl;
- (71) Bis (2-Chloroethyl) Sulphide;
- (72) Bis (Chloromethyl) Ketone;
- (73) Bis (Tert-Butyl Peroxy) Cyclohexane;
- (74) Bis (Terbutylperoxy) Butane;
- (75) Bis (2,4,6-Trinitrophenylamine);
- (76) Bis (Chloromethyl) Ether;
- (77) Bismuth And Compounds;
- (78) Bisphenol-A;

- (79) Bitoscanate;
- (80) Boron Powder;
- (81) Boron Trichloride;
- (82) Boron Trifluoride;
- (83) Boron Trifluoride Comp. With Methylether, 1:1;
- (84) Bromine;
- (85) Bromine Pentafluoride;
- (86) Bromo Chloro Methane;
- (87) Bromodialone;
- (88) Butadiene;
- (89) Butane;
- (90) Butanone-2;
- (91) Butyl Amine Tert;
- (92) Butyl Glycidal Ether;
- (93) Butyl Isovalarate;
- (94) Butyl Peroxymaleate Tert;
- (95) Butyl Vinyl Ether;
- (96) Butyl-N-Mercaptan;
- (97) C. I. Basic Green;
- (98) Cadmium Oxide;
- (99) Cadmium Stearate;
- (100) Calcium Arsenate;
- (101) Calcium Carbide;
- (102) Calcium Cyanide;
- (103) Camphechlor (Toxaphene);
- (104) Cantharidin;
- (105) Captan;
- (106) Carbachol Chloride;
- (107) Carbaryl;
- (108) Carbofuran (Furadan);
- (109) Carbon Tetrachloride;
- (110) Carbon Disulphide;
- (111) Carbon Monoxide;
- (112) Carbophenothion;
- (113) Carvone;
- (114) Cellulose Nitrate;

- (115) Chloroacetic Acid;
- (116) Chlordane;
- (117) Chlorofenvinphos;
- (118) Chlorinated Benzene;
- (119) Chlorine;
- (120) Chlorine Oxide;
- (121) Chlorine Trifluoride;
- (122) Chlormephos;
- (123) Chlormequat Chloride;
- (124) Chloroacetal Chloride;
- (125) Chloroacetaldehyde;
- (126) Chloroaniline-2;
- (127) Chloroaniline-4;
- (128) Chlorobenzene;
- (129) Chloroethyl Chloroformate;
- (130) Chloroform;
- (131) Chloroformyl Morpholine;

- (132) Chloromethane;
- (133) Chloromethyl Methyl Ether;
- (134) Chloronitrobenzene;
- (135) Chlorophacinone;
- (136) Chorosulphonic Acid;
- (137) Chlorothitophos;
- (138) Chloroxuron;
- (139) Chromic Acid;
- (140) Chromic Chloride;
- (141) Chromium Powder;
- (142) Cobalt Carbonyl;
- (143) Cobalt Nitrilmethylidyne Compound;
- (144) Cobalt (Powder);
- (145) Colchicine;
- (146) Copper And Compounds;
- (147) Copperoxychloride;
- (148) Coumafuryl;
- (149) Coumaphos;
- (150) Coumatertrayl;
- (151) Crimidine;
- (152) Crotenaldehyde;
- (153) Crotonaldehyde;
- (154) Cumene;
- (155) Cyanogen Bromide;
- (156) Cyanogen Iodide;
- (157) Cyanophos;
- (158) Cyanthoate;
- (159) Cyanuric Fluoride;
- (160) Cyclo Hexylamine;
- (161) Cyclohexane;
- (162) Cyclohexanone;
- (163) Cycloheximide;
- (164) Cyclopentadiene;
- (165) Cyclopentane;
- (166) Cyclotetramethyl Entetranitramine;
- (167) Cyclotrimethyl Entrinitramine;

- (168) Cypermethrin;
- (169) Ddt;
- (170) Decaborane (1:4);
- (171) Demeton;
- (172) Demeton S-Methyl;
- (173) Di-N-Propyl Peroxydicarbonate (Conc \geq 80%);
- (174) Dialifos;
- (175) Diazodinitrophenol;
- (176) Dibenzyl Peroxydicarbonate (Conc \geq 90%);
- (177) Diborane;
- (178) Dichloroacetylene;
- (179) Dichlorobenzalkonium Chloride;
- (180) Dichloroethyl Ether;
- (181) Dichloromethyl Phenylsilane;
- (182) Dichlorophenol-2, 6;
- (183) Dichlorophenol-2, 4;
- (184) Dichlorophenoxy Acetic Acid;

- (185) Dichloropropane-2,2;
- (186) Dichlorosalicylic Acid-3,5;
- (187) Dichlorvos (Ddvp);
- (188) Dicrotophos;
- (189) Dieldrin;
- (190) Diepoxy Butane;
- (191) Diethyl Carbamazine Citrate;
- (192) Diethyl Chlorophosphate;
- (193) Diethyl Ethanolamine;
- (194) Diethyl Peroxydicarbonate (Conc = 30%);
- (195) Diethyl Phenylene Diamine;
- (196) Diethylamine;
- (197) Diethylene Glycol;
- (198) Diethylene Glycol Dinitrate;
- (199) Diethylene Triamine;
- (200) Diethyleneglycol Butyl Ether;
- (201) Diglycidyl Ether;
- (202) Digitoxin;
- (203) Dihydroperoxypropane (Conc = 30%);
- (204) Disobutyl Peroxide;
- (205) Dimefox;
- (206) Dimethoate;
- (207) Dimethyl Dichlorosilane;
- (208) Dimethyl Hydrazine;
- (209) Dimethyl Nitrosoamine;
- (210) Dimethyl P Phenylene Diamine;
- (211) Dimethyl Phosphoramidi Cyanidic Acid (Tabum);
- (212) Dimethyl Phosphorochloridothioate;
- (213) Dimethyl Sufolane (Dms);
- (214) Dimethyl Sulphide;
- (215) Dimethylamine;
- (216) Dimethylaniline;
- (217) Dimethycarbonyl Chloride;
- (218) Dimethilan;
- (219) Dinitro O-Cresol;
- (220) Dinitrophenol;

- (221) Dinitrotoluene;
- (222) Dinoseb;
- (223) Dinoterb;
- (224) Dioxane-P;
- (225) Dioxathion;
- (226) Dioxine N;
- (227) Diphacinone;
- (228) Diphosphoramid Octamethyl;
- (229) Diphenyl Methane Di-Isocyanate (Mdi);
- (230) Dipropylene Glycol Butyl Ether;
- (231) Dipropylene Glycolmethylether;
- (232) Disec-Butyl Peroxydicarbonate (Conc 80%);
- (233) Disufoton;
- (234) Dithiazamine Iodide;
- (235) Dithiobiurate;
- (236) Endosulfan;
- (237) Endothion;

- (238) Endrin;
- (239) Epichlorohydrine;
- (240) Lpn;
- (241) Ergocalciferol;
- (242) Ergotamine Tartarate;
- (243) Ethanesulfonyl Chloride, 2 Chloro;
- (244) Ethanol 1-2 Dichloracetate;
- (245) Ethion;
- (246) Ethoprophos;
- (247) Ethyl Acetate;
- (248) Ethyl Alcohol;
- (249) Ethyl Benzene;
- (250) Ethyl Bis Amine;
- (251) Ethyl-Bromide;
- (252) Ethyl Carbamate;
- (253) Ethyl Ether;
- (254) Ethyl Hexanol-2;
- (255) Ethyl Mercaptan;
- (256) Ethyl Mercuric Phosphate;
- (257) Ethyl Methacrylate;
- (258) Ethyl Nitrate;
- (259) Ethyl Thiocyanate;
- (260) Ethylamine;
- (261) Ethylene;
- (262) Ethylene Chlorohydrine;
- (263) Ethylene Dibromide;
- (264) Ethylene Diamine;
- (265) Ethylene Diamine Hydrochloride;
- (266) Ethylene Flourohydrine;
- (267) Ethylene Oxide;
- (268) Ethylene Glycol Dinitrate;
- (269) Ethylene Glycol;
- (270) Ethylene Amine;
- (271) Ethylene Di Chloride;
- (272) Femamiphos;
- (273) Femitrothion;

- (274) Fensulphothion;
- (275) Pluemetil;
- (276) Fluorine;
- (277) Fluoro 2-Hydroxy Butyric Acid Amid Salt Ester;
- (278) Fluoroacetamide;
- (279) Fluoroacetic Acid Amide Salts And Esters;
- (280) Fluoroacetylchloride;
- (281) Fluorobutyric Acid Amide Salt Esters;
- (282) Fluorocrotonic Acid Amides Salts Esters;
- (283) Fluorouracil;
- (284) Fonofos;
- (285) Formaldehyde;
- (286) Formetanate Hydrochloride;
- (287) Formic Acid;
- (288) Formoparanate;
- (289) Formothion;
- (290) Fosthiotan;
- (291) Fuberidazole;
- (292) Furan;
- (293) Galium Trichloride;
- (294) Glyconitrile (Hydroxyacetonitrile);
- (295) Guanyl-4-Nitrosaminogwynyl- 1-Tetrazene;
- (296) Heptachlor;
- (297) Hexamethyl Terta-Oxyacyclononate (Conc 75%);
- (298) Hexachlorobenzene;
- (299) Hexachlorocyclohexan (Lindane);
- (300) Hexachlorocyclopentadiene;
- (301) Hexachlorodibenzo-P-Dioxin;
- (302) Hexachloronaphthalene;
- (303) Hexafluoropropanone Sesquihydrate;
- (304) Hexamethyl Phosphoroamide;
- (305) Hexamethylene Diamine N N Dibutyl;
- (306) Hexane;
- (307) Hexanitrostilbene 2 2 4 4 6 6;
- (308) Hexene;
- (309) Hydrogen Selenide;

- (310) Hydrogen Sulphide;
- (311) Hydrazine;
- (312) Hydrazine Nitrate;
- (313) Hydrochloric Acid (Gas);
- (314) Hydrogen;
- (315) Hydrogen Bromide;
- (316) Hydrogen Cyanide;
- (317) Hydrogen Fluoride;
- (318) Hydrogen Peroxide;
- (319) Hydroquinone;
- (320) Indene;
- (321) Indium Powder;
- (322) Indomethacin;
- (323) Iodine;
- (324) Iridium Tetrachloride;
- (325) Ironpentacarbonyl;
- (326) Iso Benzan;
- (327) Isomyl Alcohol;
- (328) Isobutyl Alcohol;
- (329) Isobutyro Nitrile;
- (330) Isocyanic Acid 3 4-Dichlorophenyl Ester;
- (331) Isodrin;
- (332) Isofluorophosphate;
- (333) Isophorone Diisocyanate;
- (334) Isopropyl Alcohol;
- (335) Isopropyl Chlorocarbonate;
- (336) Isopropyl Formate;
- (337) Isopropyl Methyl Pyrazolyl Dimethyl Carbamate;
- (338) Juglone (5-Hydroxy Naphthalene- 1, 4 Dione);
- (339) Ketene;
- (340) Lactonitrile;
- (341) Lead Arsenite;
- (342) Lead At High Temp (Molten);
- (343) Lead Azide;
- (344) Lead Styphanat;
- (345) Leptophos;

- (346) Lenisite;
- (347) Liquified Petroleum Gas;
- (348) Lithium Hydride;
- (349) N-Dinitrobenzene;
- (350) Magnesium Powder Or Ribbon;
- (351) Malathion;
- (352) Maleic Anhydride;
- (353) Malononitrile;
- (354) Manganese Tricarbonyl Cyclopentadiene;
- (355) Mechlor Ethamine;
- (356) Mephospholan;
- (357) Mercuric Chloride;
- (358) Mercuric Oxide;
- (359) Mercury Acetate;
- (360) Mercury Fulminate;
- (361) Mercury Methyl Chloride;
- (362) Mesitylene;
- (363) Methaacrolein Diacetate;
- (364) Methacrylic Anhydride;
- (365) Methacrylonitrile;
- (366) Methacryloyl Oxyethyl Isocyanate;
- (367) Methanidophos;
- (368) Methane;
- (369) Methanesulphonyl Fluoride;
- (370) Methidathion;
- (371) Methiocarb;
- (372) Methonyl;
- (373) Methoxy Ethanol (2-Methyl Cellosolve);
- (374) Methoxyethyl Mercuric Acetate;
- (375) Methylacrylol Chloride;
- (376) Methyl 2-Chloroacrylate;
- (377) Methyl Alcohol;
- (378) Methyl Amine;
- (379) Methyl Bromide (Bromomethane);
- (380) Methyl Chloride;
- (381) Methyl Chloroform;

- (382) Methyl Chloroformate;
- (383) Methyl Cyclohexene;
- (384) Methyl Disulphide;
- (385) Methyl Ethyl Ketone Peroxide (Conc. 60%);
- (386) Methyl Formate;
- (387) Methyl Hydrazine;
- (388) Methyl Isobutyl Ketone;
- (389) Methyl Isocyanate;
- (390) Methyl Isothiocyanate;
- (391) Methyl Mercuric Dicyanamide;
- (392) Methyl Mercaptan;
- (393) Methyl Methacrylate;
- (394) Methyl Phencapton;
- (395) Methyl Phosphonic Dichloride;
- (396) Methyl Thiocyanate;
- (397) Methyl Trichlorosilane;
- (398) Methyl Vinyl Ketone;

- (399) Methylene Bis (2-Chloroaniline);
- (400) Methylene Chloride;
- (401) Methylenebis-4, 4(2-Chloroaniline);
- (402) Metolcarb;
- (403) Mevinphos;
- (404) Mezacarbate;
- (405) Mitomycin C;
- (406) Molybdenum Powder;
- (407) Monocrotophos;
- (408) Morpholine;
- (409) Muscinol;
- (410) Mustard Gas;
- (411) N-Butyl Acetate;
- (412) N-Butyl Alcohol;
- (413) N-Hexane;
- (414) N-Methyl-N, 2, 4, 6-Tetranitroaniline;
- (415) Naphtha;
- (416) Naphtha Solvent;
- (417) Naphthalene;
- (418) Naphthyl Amine;
- (419) Nickel Carbonyl/Nickel Tetracarbonyl;
- (420) Nickel Powder;
- (421) Nicotine;
- (422) Nicotine Sulphate;
- (423) Nitric Acid;
- (424) Nitric Oxide;
- (425) Nitrobenzene;
- (426) Nitrocellulose (Dry);
- (427) Nitrochlorobenzene;
- (428) Nitrocyclohexane;
- (429) Nitrogen;
- (430) Nitrogen Dioxide;
- (431) Nitrogen Oxide;
- (432) Nitrogen Triflouride;
- (433) Nitroglycerine;
- (434) Nitropropane-1;

- (435) Nitropropane-2;
- (436) Nitroso Dimethyl Amine;
- (437) Nonane;
- (438) Norbormide;
- (439) O-Cresol;
- (440) O-Nitro Toluene;
- (441) O-Toludine;
- (442) O-Xylene;
- (443) O/P Nitroaniline;
- (444) Oleum;
- (445) Oo Diethyl S Ethyl Suph. Methyl Phos;
- (446) Oo Diethyl S Propythio Methyl Phosdithioate;
- (447) Oo Diethyl S Ethylsulphinylmethylphosphorothioate;
- (448) Oo Diethyl S Ethylsulphonylmethylphosphorothioate;
- (449) Oo Diethyl S Ethylthiomethylphosphorothioate;
- (450) Organo Rhodium Complex;
- (451) Orotic Acid;
- (452) Osmium Tetroxide;
- (453) Oxabain;
- (454) Oxamyl;
- (455) Oxetane, 3, 3,-Bis(Chloromethyl);
- (456) Oxidiphenoxarsine;
- (457) Oxy Disuffoton;
- (458) Oxygen (Liquid);
- (459) Oxygen Difluoride;
- (460) Ozone;
- (461) P-Nitrophenol;
- (462) Paraffin;
- (463) Paraoxon (Diethyl 4 Nitrophenyl Phosphate);
- (464) Paraquat;
- (465) Paraquat Methosulphate;
- (466) Parathion;
- (467) Parathion Methyl;
- (468) Paris Green;
- (469) Penta Borane;
- (470) Penta Chloro Ethane;

- (471) Penta Chlorophenol;
- (472) Pentabromophenol;
- (473) Pentachloro Naphthalene;
- (474) Pentadecyl-Amine;
- (475) Pentaerythritol Tetranitrate;
- (476) Pentane;
- (477) Pentanone;
- (478) Perchloric Acid;
- (479) Perchloroethylene;
- (480) Peroxyacetic Acid;
- (481) Phenol;
- (482) Phenol, 2, 2-Thiobis (4, 6-Dichloro);
- (483) Phenol, 2, 2-Thiobis (4 Chloro 6 Methyl Phenol);
- (484) Phenol, 3-(1-Methyl Ethyl)-Methylcarbamate;
- (485) Phenyl Hydrazine Hydrochloride;
- (486) Phenyl Mercury Acetate;
- (487) Phenyl Silatrane;
- (488) Phenyl Thiourea;
- (489) Phenylene P-Diamine;
- (490) Phorate;
- (491) Phosazetin;
- (492) Phosfolan;
- (493) Phosgene;
- (494) Phosmet;
- (495) Phosphamidon;
- (496) Phosphine;
- (497) Phosphoric Acid;
- (498) Phosphoric Acid Dimethyl (4-Methyl Thio) Phenyl;
- (499) Phosphorothioic Acid Dimethyl S(2-Bis) Ester;
- (500) Phosphorothioic Acid Methyl (Ester);
- (501) Phosphorothioic Acid, 00-Dimethyl S-(2-Methyl);
- (502) Phosphorothioic, Methyl-Ethyl Ester;
- (503) Phosphorous;
- (504) Phosphorous Oxychloride;
- (505) Phosphorous Pentaoxide;

- (506) Phosphorous Trichloride;
- (507) Phosphorous Penta Chloride;
- (508) Phthalic Anhydride;
- (509) Phylloquinone;
- (510) Physostigmine;
- (511) Physostigmine Salicylate (1:1);
- (512) Picric Acid (2,4,6-Trinitrophenol);
- (513) Picrotoxin;
- (514) Piperdine;
- (515) Piprotal;
- (516) Pirinifos-Ethyl;
- (517) Platinous Chloride;
- (518) Platitnium Tetrachloride;
- (519) Potassium Arsenite;
- (520) Potassium Chlorate;
- (521) Potassium Cyanide;
- (522) Potassium Hydroxide;
- (523) Potassium Nitride;
- (524) Potassium Nitrite;
- (525) Potassium Peroxide;
- (526) Potassium Silver Cyanide;
- (527) Powdered Metals And Mixtures;
- (528) Promecarb;
- (529) Promurit;
- (530) Propanesultone;
- (531) Propargyl Alcohol;
- (532) Propargyl Bromide;
- (533) Propen-2-Chloro-1,3-Diou Diacetate;
- (534) Propiolactone Beta;
- (535) Propionitrile;
- (536) Propionitrile, 3-Chloro;
- (537) Propiophenone, 4-Amino;
- (538) Propyl Chloroformate;
- (539) Propylene Dichloride;
- (540) Propylene Glycol, Allylether;
- (541) Propylene Amine;

- (542) Propylene Oxide;
- (543) Prothoate;
- (544) Pseudosumene;
- (545) Pyrazoxon;
- (546) Pyrene;
- (547) Pyridine;
- (548) Pyridine, 2-Methyl-3 -Vinyl;
- (549) Pyridine, 4-Nitro-I -Oxide;
- (550) Pyridine, 4-Nitro- I -Oxide;
- (551) Pyriminil;
- (552) Quinaliphos;
- (553) Quinone;
- (554) Rhodium Trichloride;
- (555) Salcomine;
- (556) Sarin;
- (557) Selenious Acid;
- (558) Selenium Hexafluoride;

- (559) Selenium Oxychloride;
- (560) Semicarbazide Hydrochloride;
- (561) Silane (4-Amino Butyl) Diethoxy-Meth;
- (562) Sodium;
- (563) Sodium Anthra-Quinone-1-Sulphonate;
- (564) Sodium Arsenate;
- (565) Sodium Arsenite;
- (566) Sodium Azide;
- (567) Sodium Cacodylate;
- (568) Sodium Chlorate;
- (569) Sodium Cyanide;
- (570) Sodium Fluoro-Acetate;
- (571) Sodium Hydroxide;
- (572) Sodium Pentachloro-Phenate;
- (573) Sodium Picramate;
- (574) Sodium Selenate;
- (575) Sodium Selenite;
- (576) Sodium Sulphide;
- (577) Sodium Tellorite;
- (578) Stannane Acetoxy Triphenyl;
- (579) Stibine (Antimony Hydride);
- (580) Strychnine;
- (581) Strychnine Sulphate;
- (582) Styphinic Acid (2.4.6-Trinitroresorcinol);
- (583) Styrene;
- (584) Sulphotec;
- (585) Sulphoxide 3-Chloropropyl Octyl;
- (586) Sulphur Dichloride;
- (587) Sulphur Dioxide;
- (588) Sulphur Monochloride;
- (589) Sulphur Tetrafluoride;
- (590) Sulphur Trioxide;
- (591) Sulphuric Acid;
- (592) Tellurium (Powder);
- (593) Tellurium Hexafluoride;
- (594) Tepp (Tetraethyl Pyrophosphate);

- (595) Terbufos;
- (596) Tert-Butyl Alcohol;
- (597) Tert-Butyl Peroxy Carbonate;
- (598) Tert-Butyl Peroxy Isopropyl;
- (599) Tert-Butyl Peroxyacetate (Conc =70%);
- (600) Tert-Butyl Peroxypivalate(Conc =77%);
- (601) Tert-Butyl Peroxyiso-Butyrate;
- (602) Tetra Hydrofuran;
- (603) Tetra Methyl Lead;
- (604) Tetra Nitromethane;
- (605) Tetra-Chlorodibenzo-P-Dioxin, 1,2,3,7,8,(Tcdd);
- (606) Tetraethyl Lead;
- (607) Tetrafluoriethyne;
- (608) Tetramethylene Disulphotetramine;
- (609) Thallic Oxide;
- (610) Thallium Carbonate;
- (611) Thallium Sulphate;

- (612) Thallous Chloride;
- (613) Thallous Malonate;
- (614) Thallous Sulphate;
- (615) Thiocarbazide;
- (616) Thiocynamicacid, 2-(Benzothiazolyethio) Methyl;
- (617) Thiofamox;
- (618) Thiometon;
- (619) Thionazin;
- (620) Thionyl Chloride;
- (621) Thiophenol;
- (622) Thiosemicarbazide;
- (623) Thiourea (2-Chloro-Phenyl);
- (624) Thiourea (2-Methyl Phenyl);
- (625) Tirpate (2, 4-Dimethyl-1,3-Di-Thiolane);
- (626) Titanium Powder;
- (627) Titanium Tetra-Chloride;
- (628) Toluene;
- (629) Toluene 2, 4-Di Isocyanate;
- (630) Toluene 2, 6-Di Isocyanate;
- (631) Trans-1, 4-Di Chloro-Butene;
- (632) Tri Nitro Anisole;
- (633) Tri (Cyclohexyl) Methylstannyl 1,2,4 Triazole;
- (634) Tri (Cyclohexyl) Stannyl- I H- 1,2,3-Triazole;
- (635) Triaminotrinitrobenzene;
- (636) Triamphos;
- (637) Triazophos;
- (638) Tribromophenol 2,4,6;
- (639) Trichloro Naphthalene;
- (640) Trichloro Chloromethyl Silane;
- (641) Trichloroacetyl Chloride;
- (642) Trichlorodichlorophenylsilane;
- (643) Trichloroethyl Silane;
- (644) Trichloroethylene;
- (645) Trichloromethane Sulphenyl Chloride;
- (646) Trichloronate;
- (647) Trichlorophenol 2, 3, 6;

- (648) Trichlorophenol 2, 4, 5;
- (649) Trichlorophenyl Silane;
- (650) Trichlorophon;
- (651) Triethoxy Silane;
- (652) Triethylamine;
- (653) Triethylene Melamine;
- (654) Trimethyl Chlorosilane;
- (655) Trimethyl Propane Phosphite;
- (656) Trimethyl Tin Chloride;
- (657) Trinitro Aniline;
- (658) Trinitro Benzene;
- (659) Trinitro Benzoic Acid;
- (660) Trinitro Phenetole;
- (661) Trinitro-M-Cresol;
- (662) Trinitrotoluene;
- (663) Tri Orthocresyl Phosphate;
- (664) Triphenyl Tin Chloride;
- (665) Tri (2-Chloroethyl) Amine;
- (666) Turpentine;
- (667) Uranium And Its Compounds;
- (668) Valinomycin;
- (669) Vanadium Pentaoxide;
- (670) Vinyl Acetate Monomer;
- (671) Vinyl Bromide;
- (672) Vinyl Chloride;
- (673) Vinyl Cyclohexane Dioxide;
- (674) Vinyl Fluoride;
- (675) Vinyl Norbornene;
- (676) Vinyl Toluene;
- (677) Vinylidene Chloride;
- (678) Warfarin;
- (679) Warfarin Sodium;
- (680) Xylene Dichloride;
- (681) Xylidine;
- (682) Zinc Dichloropentanitrile;
- (683) Zinc Phosphide;

(684) Zirconium And Compounds”;

SCHEDULE – 2

(See rules 2(a)(ii), 2(c),2(da), 4(1)(b), 6 (1)(c) and (d) and 7(1))

ISOLATED STORAGE AT INSTALLATIONS OTHER THAN THOSE COVERED BY SCHEDULE 4

- (a) The threshold quantities set out below relate to each installation or group of installation belonging to the same occupier where the distance between installations is not sufficient to avoid, in foreseeable circumstances, any aggravation of major accident hazards. These threshold quantities apply in any case to each group of installations belonging to the same occupier where the distance between the installations is less than 500 meters.
- (b) For the purpose of determining the threshold quantity of a hazardous chemical at an isolated storage, account shall also be taken of any hazardous chemical which is :-
- (i) in that part of any pipeline under the control of the occupier having control of the site, which is within 500 metres of that site and connected to it;
 - (ii) at any other site under the control of the same occupier any part of the boundary of which is within 500 meters of the said site; and
 - (iii) in any vehicle, vessel, aircraft or hovercraft, under the control of the same occupier which is used for storage purpose either at the site or within 500 meters of it;

but no account shall be taken of any hazardous chemical which is in a vehicle, vessel, aircraft or a hovercraft used for transporting it.

TABLE

Sr.No	Chemicals	Threshold Quantities (tonnes)	
		For application of rules 4,5,7 to 9 and 13 to 15	For application of rule 10 to 12
(1)	(2)	(3)	(4)
(1)	Acrylonitrile	350	5,000
(2)	Ammonia	60	600

Sr.No	Chemicals	Threshold Quantities (tonnes)	
		For application of rules 4,5,7 to 9 and 13 to 15	For application of rule 10 to 12
(3)	Ammonium nitrate (a)	350	2,500
(4)	Ammonium nitrate fertilizers (b)	1,250	10,000
(5)	Chlorine	10	25
(6)	Flammable gases as defined in Schedule 1, paragraph (b) (i)	50	300
(7)	Extremely flammable liquids as defined in Schedule 1, paragraph (b) (ii)	5000	50,000]
(8)	Liquid oxygen	200	2000
(9)	Sodium chlorate	25	250
(10)	Sulphur dioxide	20	500
(11)	Sulphur trioxide	15	100
(12)	Carbonyl chloride	0.750	0.750
(13)	Hydrogen sulphide	5	50
(14)	Hydrogen fluoride	4	50
(15)	Hydrogen cyanide	5	10
(16)	Carbon disulphide	20	200
(17)	Bromine	50	500
(18)	Ethylene oxide	5	501
(19)	Propylene oxide	5	50
(20)	2-Propenal (Acrolein)	20	200
(21)	Bromomethane (Methyl bromide)	20	200
(22)	Methyl isocyanate	0.150	0.150
(23)	Tetraethyl lead or tetramethyl lead	5	50
(24)	1,2 Dibromoethane (Ethylene dibromide)	5	50
(25)	Hydrogen chloride (liquefied gas)	25	250
(26)	Diphenyl methane di-isocyanate (MDI)	20	200

Sr.No	Chemicals	Threshold Quantities (tonnes)	
		For application of rules 4,5,7 to 9 and 13 to 15	For application of rule 10 to 12
(27)	Toluene di-isocyanate (TDI)	10	100
(28)	Very highly flammable liquids as defined in Schedule 1, paragraph (b) (iii)	7,000	7,000
(29)	Highly flammable liquids as defined in Schedule 1, paragraph (b) (iv)	10,000	10,000
(30)	Flammable liquids as defined in Schedule -1, paragraph (b) (v)	15,000	1,00,000

- (a) This applies to ammonium nitrate and mixtures of ammonium nitrates where the nitrogen content derived from the ammonium nitrate is greater than 28 per cent by weight and to aqueous solutions of ammonium nitrate where the concentration of ammonium nitrate is greater than 90 per cent by weight.
- (b) This applies to straight ammonium nitrate fertilizers and to compound fertilizers where the nitrogen content derived from the ammonium nitrate is greater than 28 per cent by weight (a compound-fertilizer contains ammonium nitrate together with phosphate and/or potash).;

SCHEDULE - 3

(See rules 2(a) (iii), 2(da), 6(1)(a) and (b), 7(1))

List of Hazardous Chemicals for the purposes of rules 5 and 7 to 15

- (a) The quantities set-out-below relate to each installation or group of installations belonging to the same occupier where the distance between the installations is not sufficient to avoid, in foreseeable circumstances, any aggravation of major-accident hazards. These quantities apply in any case to each group of installations belonging to the same occupier where the distance between the installations is less than 500 metres.
- (b) For the purpose of determining the threshold quantity of a hazardous chemical in an industrial installation, account shall also be taken of any hazardous chemicals which is:-
- (i). in that part of any pipeline under the control of the occupier having control of the site, which is within 500 metres of that site and connected to it;
 - (ii). at any other site under the control of the same occupier any part of the boundary of which is within 500 metres of the said site; and
 - (iii). in any vehicle, vessel, aircraft or hovercraft under the control of the same occupier which is used for storage purpose either at the site or within 500 metres of it;

but no account shall be taken of any hazardous chemical which is in a vehicle, vessel, aircraft or hovercraft used for transporting it.

PART I**Named Chemicals
TABLE**

S.No.	Chemical	Threshold Quantity		CAS Number
		for application of Rules, 5, 7-9 and 13-15	for application of Rules 10-12	
(1)	(2)	(3)	(4)	(5)
GROUP 1-TOXIC SUBSTANCES				
(1)	Aldicarb	100 kg		116-06-3
(2)	4-Aminodiphenyl	1 kg		92-67-1
(3)	Amiton	1 kg		78-53-5
(4)	Anabasine	100 kg		495-52-0
(5)	Arsenic pentoxide, Arsenic (V) acid and salts	500 kg		
(6)	Arsenic trioxide, Arsenious (III) acid and salts	100 kg		
(7)	Arsine (Arsenic hydride)	10 kg		7784-42-1
(8)	Azinphos-ethyl	100 kg		2642-71-9
(9)	Azinphos-methyl	100 kg		86-50-0
(10)	Benzidine	1 kg		92-87-5
(11)	Benzidine salts	1 kg		
(12)	Beryllium (powders, compounds)	10 kg		
(13)	Bis (2-chloromethyl) sulphide	1 kg		505-60-2
(14)	Bis (chloromethyl) ether	1 kg		542-88-1
(15)	Carbophuran	100 kg		1563-66-2

(16)	Carbophenothion	100 kg		786-19-6
(17)	Chlorfenvinphos	100 kg		470-90-6
(18)	4-(Chloroformyl) morpholine	1 kg		15159-40-7
(19)	Chloromethyl methyl ether	1 kg		107-30-2
(20)	Cobalt (metal, oxides, carbonates, sulphides, as powders)	1000 kg		
(21)	Crimidine	100 kg		535-89-7
(22)	Cynthoate	100 kg		3734-95-0
(23)	Cycloheximide	100 kg		66-81-9
(24)	Demeton	100 kg		8065-48-3
(25)	Dialifos	100 kg		10311-84-9
(26)	OO-Diethyl S-ethylsulphinylmethyl phosphorothioate	100 kg		2588-05-8
(27)	OO-Diethyl S-ethylsulphonylmethyl phosphorothioate	100 kg		2588-06-9
(28)	OO-Diethyl S-ethylthiomethyl Phosphorothioate	100 kg		2600-69-3
(29)	OO-Diethyl S-isopropylthiomethyl phosphorodithioate	100 kg		78-52-4
(30)	OO-Diethyl S-propylthiomethyl phosphorodithioate	100 kg		3309-68-0
(31)	Dimefox	100 kg		115-26-4
(32)	Dimethylcarbamoyl chloride	1 kg		79-44-7
(33)	Dimethylnitrosamine	1 kg		62-75-9
(34)	Dimethyl phosphoramidocyanidic acid	1000 kg		63917-41-9
(35)	Diphacinone	100 kg		82-66-6

(36)	Disulfoton	100 kg		298-04-4
(37)	EPN	100 kg		2104-64-5
(38)	Ethion	100 kg		563-12-2
(39)	Fensulfothion	100 kg		115-90-2
(40)	Fluometil	100 kg		4301-50-2
(41)	Fluoroacetic acid	1 kg		144-49-0
(42)	Fluoroacetic acid, salts	1 kg		
(43)	Fluoroacetic acid, esters	1 kg		
(44)	Fluoroacetic acid, amides	1 kg		
(45)	4-Fluorobutyric acid	1 kg		462-23-7
(46)	4-Fluorobutyric acid, salts	1 kg		
(47)	4-Fluorobutyric acid, esters	1 kg		
(48)	4-Fluorobutyric acid, amides	1 kg		
(49)	4-Fluorobutyric acid	1 kg		37759-72-1
(50)	4-Fluorocrotonic acid, salts	1 kg		
(51)	4-Fluorocrotonic acid, esters	1 kg		
(52)	4-Fluorocrotonic acid, amides	1 kg		
(53)	4-Fluoro-2-hydroxybutyric acid, amides	1 kg		
(54)	4-Fluoro-2-hydroxybutyric acid, salts	1 kg		
(55)	4-Fluoro-2-hydroxybutyric acid, esters	1 kg		

(56)	4-Fluoro-2-hydroxybutyric acid, amides	1 kg		
(57)	Glycolonitrile (Hydroxyacetonitrile)	100 kg		107-16-4
(58)	1, 2, 3, 7, 8, 9-Hexachlorodibenzo-p-dioxin	100 kg		194-08-74-3
(59)	Hexamethylphosphoramide	1 kg		680-31-91
(60)	Hydrogen selenide	10 kg		7783-07-5
(61)	Isobenzan	100 kg		297-78-9
(62)	Isodrin	100 kg		465-73-6
(63)	Juglone (5-Hydroxynaphthalene 1, 4 dione)	100 kg		481-39-0
(64)	4, 4-Methylenebis (2-chloroaniline)	10 kg		101-14-4
(65)	Methyl isocyanate	150 kg	150 kg	624-83-9
(66)	Mevinphos	100 kg		7786-34-7
(67)	2-Naphthylamine	1 kg		91-59-8
(68)	Nickel (metal, oxides, carbonates, sulphides, as powders)	1000 kg		
(69)	Nickel tetracarbonyl	10 kg		13463-39-3
(70)	Oxydisulfoton	100 kg		2497-07-6
(71)	Oxygen difluoride	10 kg		7783-41-7
(72)	Paraoxon (Diethyl 4-nitrophenyl phosphate)	100 kg		311-45-5
(73)	Parathion	100 kg		56-38-2
(74)	Parathion-methyl	100 kg		298-00-0
(75)	Pentaborane	100 kg		19624-22-7

(76)	Phorate	100 kg		298-02-2
(77)	Phosacetim	100 kg		4104-14-7
(78)	Phosgene (carbonyl chloride)	750 kg	750 kg	75-44-5
(79)	Phosphamidon	100 kg		13171-21-6
(80)	Phosphine (Hydrogen phosphate)	100 kg		7803-51-2
(81)	Promurit (1-(3, 4-dichlorophenyl)-3 – triazenethio-carboxamide)	100 kg		5836-73-7
(82)	1, 3-Propanesultone	1 kg		1120-71-4
(83)	1 -Propen-2-chloro- 1, 3-diol diacetate	10 kg		10118-72-6
(84)	Pyrazoxon	100 kg		108-34-9
(85)	Selenium hexafluoride	10 kg		7783-79-1
(86)	Sodium selenite	100 kg		10102-18-8
(87)	Stibine (Antimony hydroxide)	100 kg		7803-52-3
(88)	Sulfotep	100 kg		3689-24-5
(89)	Sulphur dichloride	1000 kg		10545-99-0
(90)	Tellurium hexafluoride	100 kg		7783-80-4
(91)	TEPP	100 kg		107-49-3
(92)	2, 3, 7, 8-Tetrachlorodibenzo-p-dioxin (TCDD)	1 kg		1746-01-6
(93)	Tetramethylenedisulphotetramine	1 kg		80-12-6
(94)	Thionazin	100 kg		297-97-2
(95)	Tripate (2, 4-Dimethyl-1, 3-dithiolane-2-carboxaldehyde O-	100 kg		26419-73-8

	methylcarbarmoyloxime)			
(96)	Trichloromethanesulphonyl chloride	100 kg		594-42-3
(97)	1-Tri (cyclohexyl) stannyl-1 H-1, 2, 4-triazole	100 kg		41083-11-8
(98)	Triethylenemelamine	10 kg		51-18-3
(99)	Warfarin	100 kg		81-81-2
GROUP 2-TOXIC SUBSTANCES				
(100)	Acetonecyanohydrin (2-Cyanopropan-2-01)	200 t		75-86-5
(101)	Acrolein (2-Propenal)	20 t	200 t	107-02-8
(102)	Acrylonitrile	20 t	200 t	107-13-1
(103)	Allyl alcohol (Propen-1-01)	200 t		107-18-6
(104)	Allylamine	200 t		107-11-9
(105)	Ammonia	50 t	500 t	7664-41-7
(106)	Bromine	40 t	500 t	7726-95-6
(107)	Carbon disulphide	20 t	200 t	71-15-0
(108)	Chlorine	10 t	25 t	7782-50- 5
(109)	Diphenyl methane di-isocynate (MDI)	20 t	200 t	101-68-8
(110)	Ethylene dibromide (1, 2-Dibromoethane)	5 t	50 t	106-93-4
(111)	Ethyleneamine	50 t		151-56-5
(112)	Formaldehyde (concentration < 90%)	5 t	50 t	50-00-0
(113)	Hydrogen chloride (liquified gas)	25 t	250 t	7647-01-0

(114)	Hydrogen cyanide	5 t	20 t	74-90-8
(115)	Hydrogen fluoride	5 t	50 t	7664-39-3
(116)	Hydrogen sulphide	5 t	50 t	7783-06-4
(117)	Methyl bromide (Bromomethane)	20 t	200 t	74-83-9
(118)	Nitrogen oxides	50 t		11104-93-1
(119)	Propyleneamine	50 t		75-55-8
(120)	Sulphur dioxide	20 t	250 t	7446-09-5
(121)	Sulphur trioxide	15 t	75 t	7446-11-9
(122)	Tetraethyl lead	5 t		78-00-2
(123)	Tetramethyl lead	5 t	200 t	75-74-1
(124)	Toluene-di-isocyanate (TDI)	10 t	100 t	584-84-9

GROUP 3--HIGHLY REACTIVE SUBSTANCES

(125)	Acetylene (ethyne)	5 t		74-86-2
(126)	a. Ammonium nitrate (1)	350 t	2500 t	6484-52-2
	b. Ammonium nitrate in the form of fertiliser (2)	1250 t		
(127)	2, 2-Bis (tert-butylperoxy) butane (concentration \geq 70%)	5 t		2167-23-9
(128)	1, I-Bis (tert-butylperoxy) cyclohexane (concentration \geq 80%)	5 t		3006-86-8

(129)	Tert-butyl peroxyacetate (concentration $\geq 70\%$)	5 t		107-71-1
(130)	Tert-butyl peroxyisobutyrate (concentration $\geq 80\%$)	5 t		109-13-7
(131)	Tert-butyl peroxy isopropyl carbonate (concentration $\geq 80\%$)	5 t		2372-21-6
(132)	Tert-butyl peroxy maleate (concentration $\geq 80\%$)	5 t		1931-62-0
(133)	Tert-butyl peroxy pivalate (concentration $\geq 77\%$)	50 t		927-07-1
(134)	Dibenzyl peroxydicarbonate (concentration $\geq 90\%$)	5 t		2144-45-8
(135)	Di-sec-butyl peroxydicarbonate (concentration $\geq 80\%$)	5 t		19910-65-7
(136)	Diethyl peroxydicarbonate (concentration $\geq 30\%$)	50 t		14666-78-5
(137)	2, 2-dihydroperoxypropane (concentration $\geq 30\%$)	5 t		2614-76-8
(138)	Di-isobutyl peroxide (concentration $\geq 50\%$)	50 t		3437-84-1
(139)	Di-n-propyl peroxydicarbonate (concentration $\geq 80\%$)	5 t		16066-38-9
(140)	Ethylene oxide	5 t	50 t	75-21-8
(141)	Ethyl nitrate	50 t		625-58-1
(142)	3, 3, 6, 6, 9, 9 - Hexamethyl-1, 2, 4, 5-tert oxacyclononane (concentration $\geq 75\%$)	50 t		22397-33-7
(143)	Hydrogen	2 t	50 t	1333-74-0
(144)	Liquid Oxygen	200 t	2000 t	7782-44-7
(145)	Methyl ethyl ketone peroxide (concentration $\geq 60\%$)	5 t		1338-23-4
(146)	Methyl isobutyl ketone peroxide (concentration $\geq 60\%$)	50 t		37206-20-5

(147)	Peracetic acid (concentration \geq 60%)	50 t		79-21-0
(148)	Propylene oxide	5 t	50 t	75-56-9
(149)	Sodium chlorate	25 t		7775-09-9
GROUP 4-EXPLOSIVE SUBSTANCES				
(150)	Barium azide	100 kg		18810-58-7
(151)	Bis (2,4, 6-trinitrophenyl) amine	50 t		131-73-7
(152)	Chlorotrinitro benzene	50 t		28260-61-9
(153)	Cellulose nitrate (containing \geq 12.6% Nitrogen)	50 t		9004-70-0
(154)	Cyclotetramethylenetetranitramine	50 t		2691-41-0
(155)	Cyclotrimetylenetrinitramine	50 t		121-82-4
(156)	Diazodinitrophenol	10 t		7008-81-3
(157)	Diethylene glycol dinitrate	10 t		693-21-0
(158)	Dinitrophenol, salts	50 t		
(159)	Ethylene glycol dinitrate	10 t		628-96-6
(160)	1-Gyanyl-4-nitrosaminoguanyl-1-tetrazene	100 kg		109-27-3
(161)	2, 2, 4, 4, 6, 6-Hexanitrostilbene	50 t		20062-22-0
(162)	Hydrazine nitrate	50 t		13464-97-6
(163)	Lead azide	100 kg		13424-46-9

(164)	Lead styphnate (Lead 2, 4, 6-trinitroresorcinoxide)	100 kg		15245 44-0
(165)	Mercury fulminate	100 kg		20820-45-5
(166)	N-Methyl-N, 2, 4, 6-tetranitroaniline	50 t		479-45-8
(167)	Nitroglycerine	10 t	10 t	55-63-0
(168)	Pentaerythritol tetranitrate	50 t		78-11-5
(169)	Picric acid (2, 3, 6-Trinitrophenol)	50 t		88-89-1
(170)	Sodium picramate	50 t		831-52-7
(171)	Styphnic acid (2, 4, 6-Trinitroresorcinol)	50 t		82-71-3
(172)	1, 3, 5-Triamino-2, 4, 6-trinitrobenzene	50 t		3058-38-6
(173)	Trinitroaniline	50 t		26952-42-1
(174)	2, 4, 6-Trinitroanisole	50 t		606-35-9
(175)	Trinitrobenzene	50 t		25377-32-6
(176)	Trinitrobenzoic acid	50 t		35860-50-5
(177)	Trinitrocresol	50 t		28905-71-7
(178)	2,4, 6-Trinitrophenitole	50 t		4732-14-3
(179)	2,4, 6-Trinitrotoluene	50 t	50 t	118-96-7

PART - II

Classes of substances as defined in PART-I of Schedule-1 and not specifically named in PART-I of this Schedule.

(1)	(2)	(3)	(4)
Group 5 - Flammable substances			
(1)	Flammable Gases	15T	200T
(2)	Extremely flammable liquids	1000T	5000T
(3)	Very Highly flammable liquids	1500T	10000T
(4)	Highly Flammable liquids which remains liquid under pressure	25T	200T
(5)	Highly Flammable liquids	2500T	20000T
(6)	Flammable liquids	5000T	50000T

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“SCHEDULE - 4”

(See rule 2 (b)(i))

(1) Factories involving in production, processing or treatment of organic or inorganic chemicals using for this purpose, among others:

- (a) alkylation
- (b) amination by amonolysis
- (c) carbonylation
- (d) condensation
- (e) dehydrogenation
- (f) estefication

- (g) halogenation & manufacture of halogens
- (h) hydrogenation
- (i) hydrolysis
- (j) oxidation
- (k) polymerization
- (l) sulphonation
- (m) desulphurization, manufacture and transformation of sulphur-containing compounds
- (n) nitration and manufacture of nitrogen-containing compounds.
- (o) manufacture of phosphorous-containing compounds
- (p) formulation of pesticides and of pharmaceutical products
- (q) distillation
- (r) extraction
- (s) solvation
- (t) mixing

(2) Factories involving in distillation, refining or other processing of petroleum or petroleum products.

(3) Factories involving in total or partial disposal of solid or liquid chemicals by incineration or chemical decomposition.

(4) Factories involving in production, processing or treatment of energy gases, for example LPG,LNG,SNG.

(5) Factories involving in dry distillation of coal or lignite

(6) Factories involving in production of metals or non-metals by a wet process or by means of electrical energy.

“SCHEDULE – 5”

[(see rule 3(2) and (3)]
Form of material safety data sheet

1. CHEMICAL IDENTITY

Chemical Name	Chemical Classification	
Synonyms	Trade Name	
Formula	C.A.S.No.	U.N. No:

Shipping Name
Codes/Label

Hazchem No:

Regulated identification

Hazardous Waste

I.D. No.

Hazardous ingredients	C.A.S. No.	Hazardous ingredients	C.A.S. No.
1.		3.	
2.		4.	

2. Physical and Chemical Data

Boiling Range/Point °C	Physical State	Appearance
Melting/Freezing Point °C	Vapour pressure at 35°C mm Hg	Odour
Vapour Density (Air=1)	Solubility in water at 30°C	Others

3. FIRE AND EXPLOSION HAZARD DATA

Flammability Yes/No.	LEL	% Flash point oC [“]	Autoignition °C Temperature
TDG Flammability	UEL	% Flash point oC	Hazardous Combustion Products
Explosion Sensitivity To impact		Explosion sensi- tivity to static electricity	
Hazardous Polymerisation			
Combustible liquid	Explosive Material	Corrosive material	
Flammable material	Oxidiser others		
Pyrophoric Material	Organic Peroxide		

4. REACTIVITY DATA

Chemical Stability
Incompatibility With other material
Reactivity
Hazardous Reaction Products

5. HEALTH HAZARD DATA

Routes of Entry			
Effects of Exposure/Symptoms			
Emergency Treatment			
TLV (ACGIH)	Ppm/mg/m ³	STEL	Ppm mg/m ³
Permissible Exposure Limit LD 50	Ppm mg/m ³	Odour Threshold LD 50	Ppm/mg/m ³

NEPA Hazard
Signals

Health

Flammability

Stability

Special

6. PREVENTIVE MEASURES

Personnel
Protective
Equipment

Handling and
Storage
Precautions

7. EMERGENCY AND FIRST AID MEASURE

FIRE
FIRE

FIRE EXTINGUISHING MEDIA
Special procedure
Unusual Hazards

EXPOSURE

First Aid Measures
Antidotes/Dosages

SPILLS

Steps to be taken
Waste disposal Method

8. ADDITIONAL INFORMATION/REFERENCES

9. MANUFACTURER/SUPPLIER DATA

Name of firm Mailing address Telephone/telex Nos. Telegraphic Address	Contact person In Emergency
	Local bodies Involved
	Standard Packing
	Tremcard Details/Ref.
	Other

10. DISCALIMER

Information contained in this material data sheet is believed to be reliable but no representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. It is upto the manufacturer/seller to ensure that the information contained in the material safety data is relevant to the products manufactured/handled or sold by him as the case may be. The Govt. makes no warranties expressed or implied in respect of the adequacy of this document for any particular purpose.

“SCHEDULE - 6”

[(See rule 5 (1)]

Information to be furnished regarding Notification of a major accident

Report Number
Of the particular accident.

(1) General data

(a) Name of the site

(b) Name and address of the occupier
(Also state the telephone/telex Number)

(c) (i) Registration Number

(ii) Licence Number

(As may have been allotted under any statute applicable to the site, e.g. the Factories Act)

(d) (i) Nature of industrial activity (mention what is actually manufactured , stored,
etc.,

(ii) National industrial classification 1987 at the four digit level

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(2) Type of major accident

Explosion

Fire

Emission of
Hazardous
Chemicals

(3) Description of the major accident

(a) Date, shift and hour of the accident

(b) Department/Section and exact place
Where the accident took place.

(c) The process/operation undertaken
In the department/section where the
Accident took place
(Attach a flow chart, if necessary)

(d) The circumstances of the accident
And the hazardous chemical involved

(4) Emergency measures taken and

measures envisaged to be taken to
alleviate short-term effects of the accident

- (5) Causes of the major accident
Known (to be specified)

Not known

Information will be supplied
As soon as possible.

- (6) Nature and extent of damage

- (a) Within the establishment

- casualties killed
..... injured
..... poisoned

-persons exposed to the major accident

-material damage

-damage is still present

-damage no longer exists

- (b) Outside the establishment

-casualties killed
..... injured
..... poisoned

-persons exposed to the major accident

-material damage

-damage to environment

-damage is still present

-danger no longer exists

- (7) Data available for assessing the effects of
the accident on persons and environment

- (8) Steps already taken or envisaged

a) To alleviate medium or long term effects of the accident

b) To prevent recurrence of similar major accident

c) Any other relevant information

“SCHEDULE - 7”

[(See rule 7(1)]

Information to be furnished for the Notification of site

Particulars to be included in a Notification of site-

- (1) The name and address of the occupier making the notification
- (2) The full postal address of the site where the notifiable industrial; activity will be carried on.
- (3) The area of the site covered by the notification and of any adjacent site which is required to be taken into account by virtue of Schedule 2(b) and Schedule 3 (b)
- (4) The date on which it is anticipated that the notifiable industrial activity will commence or if it has already commenced a statement to that effect.
- (5) The name and maximum quantity liable to be on the site of each hazardous chemical for which notification is being made.
- (6) Organisation structure, namely organisation diagram for the proposed industrial activity and set up for ensuring safety and health
- (7) Information relating to the potential for major accidents, namely-
 - (a) Identification of major accident hazards;
 - (b) The condition of events which could be significant in bringing one about;
 - (c) A brief description of the measures taken.
- (8) Information relating to the site namely-
 - (a) A map of the site and its surrounding area to a scale large enough to show any feature that may be significant in the assessment of the hazard or risk associated with the site;
 - (i) area likely to be affected by the major accident
 - (ii) Population distribution in the vicinity
 - (b) a scale plan of the site showing the location and quantity of all significant inventories of the hazardous chemicals;
 - (c) a description of the processes or storages involving the hazardous chemicals, the maximum amount of such a hazardous chemical in the given process or storage and an indication of the conditions under which it is normally held;
 - (d) the maximum number of persons likely to be present on site.
- (9) The arrangement for training of workers and equipment necessary to ensure safety of such workers”.

“SCHEDULE – 8”

[(See rule 10(1)]

Information to be furnished in a safety report

- (1) The name and address of the person furnishing the information
- (2) Description of the Industrial activity, namely-
 - (a) Site
 - (b) Construction design
 - (c) Protection zones (explosion, protection, separation distances),
 - (d) Accessibility of plant
 - (e) Maximum number of persons working on the site and particularly of those persons exposed to the hazard
- (3) Description of the processes, namely-
 - (a) technical purpose of the industrial activity.
 - (b) basic principles of the technological process
 - (c) process and safety-related data for the individual process stages.
 - (d) process description
 - (e) safety-related types of utilities
- (4) Description of the hazardous chemicals, namely-
 - (a) chemicals (quantities, substance data on physical and chemical properties, safety-related data on explosive limits, flash-point, thermal stability, toxicological data and threshold limit value, (ethal concentrations)
 - (b) the form in which the chemicals may occur or into which they may be transformed in the event of abnormal conditions.
 - (c) the degree of purity of the hazardous chemical
- (5) Information on the Preliminary hazard Analysis namely-
 - (a) type of accident
 - (b) system elements or foreseen events that can lead to a major accident.
 - (c) hazards
 - (d) safety-relevant components
- (6) Description of safety-relevant units, among others
 - (a) special design criteria
 - (b) controls and alarms

- (c) pressure relief systems.
- (d) Quick-acting valves
- (e) Collecting tanks-dump tanks.
- (f) Sprinkler systems.
- (g) Fire protection.

(7) Information on the hazard assessment, namely-

- (a) Identification of hazards
- (b) The causes of major accidents
- (c) assessment of hazards according to their occurrence frequency
- (d) assessment of accident consequences
- (e) safety system
- (f) known accident history.

(8) Description of information on organisational systems used to carry on industrial activity safely, namely

- (a) Maintenance and inspection schedules,
- (b) Guidelines for the training of personnel,
- (c) Allocation and delegation of responsibility for plant safety.
- (d) Implementation of safety procedures

(9) Information on assessment of the consequences of major accidents, namely-

- (a) Assessment of the possible release of hazardous chemicals or of energy
- (b) Possible dispersion of released chemical
- (c) Assessment of the effects of the releases (size of the affected area, health effects, property damage)

(10) Information on the mitigation of major accidents namely-

- (a) Fire brigade
- (b) Alarm system;
- (c) Emergency plan consisting system of organisation used to fight the emergency, the alarm and the communication routes, guidelines for fighting the emergency, examples of possible accident sequences
- (d) Coordination with the District Collector or the District Emergency Authority and its off-site emergency plan.
- (e) Notification of the nature and scope of the hazard to the event of an accident
- (f) Antidotes in the event of a release of a hazardous chemical.

“SCHEDULE - 8A”

[(See rule 13(1)]

Details to be furnished in the on-site Emergency Plan

- (1) Name and address of the persons furnishing the information
- (2) Key personnel of the organisation and responsibilities assigned to them in case of an emergency
- (3) Outside organisation if involved in assisting during on-site emergency
 - (a) Type of accidents.
 - (b) Responsibility assigned
- (4) Details of liaison arrangement between the organisation
- (5) Information on the preliminary hazard analysis
 - (a) Type of accident
 - (b) System elements or events that can lead to a major accident
 - (c) Hazards
 - (d) Safety relevant components
- (6) Details about the site
 - (a) Location of dangerous substances.
 - (b) Seat of key personnel
 - (c) Emergency control room
- (7) Description of hazardous chemicals at plant site
 - (a) Chemicals (Quantities and toxicological data)
 - (b) Transformation if any which could occur
 - (c) Purity of hazardous chemicals.
- (8) Likely dangers to the plan
- (9) Enumerate effects of:
 - (i) Stress And strain caused during normal operation
 - (ii) Fire and explosion inside the plant and effect if any, of fire and explosion out side.
- (10) Details regarding

- (i) warning, alarm & safety and security systems.
 - (ii) alarm and hazard control plans in line with disaster control and hazard control planning, ensuring the necessary technical and organisational precautions;
 - (iii) Reliable measuring instruments, control units and servicing of such equipments
 - (iv) Precautions in designing of the foundation and load bearing parts of the building.
 - (v) Continuous surveillance of operation;
 - (vi) Maintenance and repair work according to the generally recognised rules of good engineering practices;
- (11) Details of communication facilities available during emergency and those required for an off-site emergency.
- (12) Details of fire fighting and other facilities available and those required for an off-site emergency.
- (13) Details of first aid and hospital services available and its adequacy.

