THE MANUFACTURE, STORAGE AND IMPORT OF HAZARDOUS CHEMICAL RULES, 1989

MINISTRY OF ENVIRONMENT & FORESTS

(Department of Environment, Forests and Wildlife)

NOTIFICATION

(New Delhi, the 27th November 1989)

***S.O.966(E)** - In exercise of the powers conferred by Section 6, 8 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules, namely :

1. SHORT TITLE AND COMMENCEMENT –

(1) These rules may be called the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989.

(2) They shall come into force on the date of their publication in the Official Gazette.

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

(a) "Act" means the Environment (Protection) Act, 1986 (29 of 1986);

(b) "Authority" means an authority mentioned in Column 2 of Schedule 5;

(c) "export" with its grammatical variations and cognate expression, means taking out of India to a place outside India;

(d) "exporter" means any person under the jurisdiction of the exporting country and includes the exporting country, who exports hazardous chemical;

(e) "Hazardous Chemical " means -

(i) any chemical which satisfies any of the criteria laid down in Part I of [1][Schedule 1 or] listed in Column 2 of Part II of this Schedule ;

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

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

(f) "import" with its grammatical variations and cognate expression, means brining into India from a place outside India;

(g) "importer" means an occupier or any person who imports hazardous chemicals;

(h) "industrial activity" means-

i. an operation or process carried out in an industrial installation 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; or

ii. isolated storage; or

iii. pipeline ;

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* The principal rules were published in the Gazette of India vide number S.O. 966(E), dated 27.11.1989 and subsequently amended vide: S.O.115 (E), dated 05.02.1990; GSR 584, dated 09.09.1990; S.O.2882, dated 03.10.1994; and S.O. 57(E), dated 19.01.2000.

1 Substituted by Rule 2(i) of the Manufacture, Storage and Import of Hazardous Chemical(Amendment) Rules, 2000 notified vide S.O. 57(E), dated 19.1.2000.

(i) "isolated storage" means storage of a hazardous chemical, other than storage associated with an installation on the same site specified in Schedule 4 where that storage involves atleast the quantities of that chemical set out in Schedule 2;

[1][(j) "major accident" means -an incident involving loss of life inside or outside the installation, or ten or more injuries inside and/or one or more injuries outside or release of toxic chemicals or explosion or fire or spillage of hazardous chemicals resulting in on-site or off-site emergencies or damage to equipment leading to stoppage of process or adverse affects to the environment ;

(ja) "major accident hazards (MAH) installations" means - isolated storage and industrial activity at a site handling (including transport through carrier or pipeline) of hazardous chemicals equal to or, in excess of the threshold quantities specified in, Column 3 of schedule 2 and 3 respectively;]

(k) "pipeline" means a pipe (together with any apparatus and works associated therewith) or system of pipes (together with any apparatus and work 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; the pipeline also includes inter -state pipelines;

(l) "Schedule" means Schedule appended to these rules;

(m) "site" means any location where hazardous chemicals are manufactured or processed, stored, handled, used, disposed of and includes the whole of an area under the control of an occupier and includes pier, jetty or similar structure whether floating or not;

(n) "Threshold quantity" means, -

(i) in the case of a hazardous chemical specified in Column 2 of Schedule 2, the quantity of that chemical specified in the corresponding entry in Columns 3 and 4 ;

(ii) in the case of a hazardous chemical specified in Column 2 of Part I of Schedule 3, the quantity of that chemical specified in the corresponding entry in Columns 3 & 4 of that part;

(iii) in the case of substances of a class specified in Column 2 of Part II of Schedule 3, the total quantity of all substances of that class specified in the corresponding entry in Columns 3 and 4 of that part.

[2][3. DUTIES OF AUTHORITIES –

The concerned authority shall, -

(a) inspect the industrial activity at least once in a calendar year;

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1 Substituted by Rule 2(ii) of the Manufacture, Storage and Import of Hazardous Chemical (Amendment)Rules, 2000 notified vide S.O.57(E), dated 19th January, 2000.

2 Substituted by Rule 2 of the MSIHC (Amendment) Rules, 1994 notified vide S.O.2882, dated 3.10.1994.

(b) except where such authority is the Ministry of Environment and Forests, annually report on the compliance of the rules by the occupiers to the Ministry of Environment and Forests through appropriate channel ;

(c) subject to the other provisions of these rules, perform the duties specified in column 3 of Schedule 5.]

4. GENERAL RESPONSIBILITY OF THE OCCUPIER DURING INDUSTRIAL ACTIVITY -

(1) these rules shall apply to, -

(a) an industrial activity in which a hazardous chemical, which satisfies any of the criteria laid down in Part I of Schedule 1 [1][or listed] in Column 2 of Part II of this Schedule is, or may be, involved; and

[2][(b) isolated storage of a hazardous chemical listed in Schedule 2 in a quantity equal to or more than the threshold quantity specified in Column 3, thereof.]

(2) An occupier who has control of an industrial activity in terms of sub-rule (1) shall provide evidence 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 the environment;

(ii) provide to the persons working on the site with the information, training and equipment including antidotes necessary to ensure their safety.

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4. NOTIFICATION OF MAJOR ACCIDENT -

(1) Where a major accident occurs on a site or in a pipe line, the occupier shall [3][within 48 hours notify] the concerned authority as identified in Schedule 5 of that accident, and furnish thereafter to the concerned authority a report relating to the accidents in installments, if necessary, in Schedule 6.

(2) The concerned authority shall on receipt of the report in accordance with sub-rule 1 of this rule, shall undertake a full analysis of the major accident and sent the [4][requisite information within 90 days to the Ministry] of Environment and Forests through appropriate channel.

[5][(3) An occupier shall notify to the concerned Authority, steps taken to avoid any repetition of such occurrence on a site.]

[6][(4) The concerned Authority shall compile information regarding major accidents and make available a copy of the same to the Ministry of Environment & Forests through appropriate channel.

(5) The concerned Authority shall in writing inform the occupier, of any lacunae which in its opinion needs to be rectified to avoid major accidents.]

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1 Substituted by Rule 3(i) of the MSIHC (Amendment) Rules, 1994 notified vide S.O.2882, dated 3.10.1994.

2 Substituted by Rule 3(ii), ibid.

3 Substituted by Rule 3(a) of the MSIHC (Amendment) Rules, 1994 notified vide S.O.2882, dated 3.10.1994.

4 Substituted by Rule 3(b) ibid.

5 Substituted by Rule 3(c) of the Manufacture, Storage and Import of Hazardous Chemical (Amendment) Rules, 1994 notified vide S.O. No.2882, dated 3.10.1994.

6 Inserted by Rule 3(d); ibid.

6. INDUSTRIAL ACTIVITY TO WHICH RULES 7 TO 15 APPLY -

(1) Rules 7 to 15 shall apply to, -

(a) an industrial activity in which there is involved a quantity of hazardous chemical listed in Column 2 of Schedule 3 which is equal to or more than the quantity specified in the entry for that chemical in Column 3 & 4 (Rules 10-12 only for Column 4); and

(b) 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 quantity specified in the entry for that chemical in Column [1][3 & 4 (rules 10-12 only for column 4).]

(2) For the purpose of rules 7 to 15,

(a) "new industrial activity" means an industrial activity which, –

(i) commences after the date of coming into operation of these rules; or

(ii) if commenced before that date, is an industrial activity in which a modification has been made which is likely to cover major accident hazards, and that activity shall be deemed to have commenced on the date on which the modification was made;

(b) an "existing industrial activity" means an industrial activity which is not a new industrial activity.

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7. [2][APPROVAL AND] NOTIFICATION OF SITES -

(1) An occupier shall not undertake any industrial activity [3][unless he has been granted an approval for undertaking such an activity and has submitted] a written report to the concerned authority containing the particulars specified in Schedule 7 at least 3 months before commencing that activity or before such shorter time as the concerned authority may agree and for the purpose of this paragraph, an activity in which subsequently there is or is liable to be a threshold quantity or more of an additional hazardous chemical shall be deemed to be a different activity and shall be notified accordingly.

[4][(2) The concerned Authority within 60 days from the date of receipt of the report shall approve the report submitted and on consideration of the report if it is of the opinion that contravention of the provisions of the Act or the rules made thereunder has taken place, it shall issue notice under rule 19].

8. UPDATING OF THE SITE NOTIFICATION FOLLOWING CHANGES IN THE THRESHOLD QUANTITY -

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 threshold quantity of a hazardous chemical to which this rule applies which is or is liable to be at the site or in the pipeline or at the

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1 Substituted by Rule 4; ibid.

2 Substituted by Rule 5 of the MSIHC (Amendment) Rules, 2000 notified vide S.O.57(E), dated 19.1.2000.

3 Substituted by Rule 4 (a) of MSIHC (Amendment) Rules, 1994 notified vide S.O.2882, dated 3.10.1994.

4 Substituted by Rule 4(b), ibid.

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 concerned authority.

9. TRANSITIONAL PROVISIONS-

Where. –

(a) at the date of coming into operation of these rules, an occupier is in control of an existing industrial activity which is required to be reported under rule 7(1); or

(b) within 6 months after that date, an occupier commence any such new industrial activity;

it shall be a sufficient compliance with that rule if he reports to the concerned authority as per the particulars in Schedule 7 within 3 months after the date of coming into operation of these rules or within such longer time as the concerned authority may agree in writing.

10. SAFETY REPORTS [1][AND SAFETY AUDIT REPORTS] -

(1) Subjects to the following paragraphs of this rule, an occupier shall not undertake any industrial activity to which this rule applies, unless he has prepared a safety report on that industrial activity containing the information specified in Schedule 8 and has sent a copy of that report to the concerned authority at least ninety days before commencing that activity.

(2) In the case of a new industrial activity which an occupier commences, or by virtue of sub-rule (2) (a) (ii) of rule 6 is deemed to commence, within 6 months after coming into operation of these rules, it shall be a sufficient compliance with sub-rule (1) of this rule if the occupier sends to the concerned authority a copy of the report required in accordance with that sub-rule within ninety days after the date of coming into operation of these rules.

[2][(3) In case of an existing industrial activity, the occupier shall prepare a safety report in consultation with the concerned authority and submit the same within one year from the date of commencement of the Manufacture, Storage and Import of Hazardous Chemicals (Amendment) Rules, 1994 to the concerned Authority.]

[3][(4) After the commencement of the Manufacture, Storage and Import of Hazardous Chemicals (Amendment) Rules, 1994, the occupier of both the new and the existing industrial activities shall carry out an independent safety audit of the respective industrial activities with the help of an expert, not associated with such industrial activities.

(5) The occupier shall forward a copy of the auditor's report along with his comments to the concerned Authority within 30 days after the completion of such Audit.]

[4][(6) The occupier shall update the safety audit report once a year by conducting a fresh safety audit and forward a copy of it with his comments thereon within 30 days to the concerned Authority.

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1 Substituted by Rule 6 of the MSIHC (Amendment) Rules, 2000 notified vide S.O.57(E), dated 19.1.2000.

2 Substituted by Rule 5(a) of the MSIHC (Amendment) Rules, 1994 notified vide S.O.2882, dated 3.10.1994.

3 Inserted by Rule 5(b), ibid.

4 Inserted by Rule 5(b) of the MSIHC (Amendment) Rules, 1994 notified vide S.O.2882, dated 3.10.1994.

(7) The concerned Authority may if it deems fit, issue improvement notice under rule 19 within 45 days of the submission of the said report.]

11. UPDATING OF 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 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 those modifications and has sent a copy of that report to the concerned authority at least 90 days before making those modifications.

(2) Where an occupier has made a report in accordance with rule 10 and sub - rule (1) of this rule and that industrial activity is continuing the occupier shall within three years of the date of the last such report, make a further report which shall have regard in particular to new technical knowledge which has affected the particulars in the pervious report relating to safety and hazard assessment and shall within 30 days [1][***] send a copy of the report to the concerned authority.

[2][12. REQUIREMENT FOR FURTHER INFORMATION TO BE SENT TO THE AUTHORITY -

Where, in accordance with rule 10, an occupier has sent a safety report and the safety audit report relating to an industrial activity to the concerned Authority, the concerned Authority 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 concerned Authority within 90 days].

13. PREPARATION TO ON-SITE EMERGENCY PLAN BY THE OCCUPIER -

(1) An occupier shall prepare and keep up-to-date [3][an on-site emergency plan containing details specified in Schedule II and detailing] how major accidents will be dealt with on the site on which the industrial activity is carried on and that plan shall include the name of the person who is responsible for safety on the site and the names of those who are authorized to take 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) takes into account any modification made in the industrial activity and that every person on the site who is affected by the plan is informed of its relevant provisions.

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

(a) in the case of a new industrial activity, before that activity is commenced;

(b) in the case of an existing industrial activity within 90 days of commencing into operation of these rules.

[4][(4) The occupier shall ensure that a mock drill of the on-site emergency plan is conducted every six months;

(5) A detailed report of the mock drill conducted under sub-rule (4) shall be made immediately available to the concerned Authority.]

14. PREPARATION OF OFF-SITE EMERGENCY PLAN BY THE AUTHORITY -

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1 Omitted by Rule 6, ibid.

2 Substituted by Rule 7, ibid.

3 Substituted by Rule 8(a), ibid.

4 Inserted by Rule 8(b) of the MSIHC (Amendment) Rules, 1994 notified vide S.O.2882, dated 3.10.1994.

(1) It shall be the duty of the concerned authority as identified in Column 2 of Schedule 5 to prepare and keep up-to-date [1][an adequate off-site emergency plan containing particulars specified in Schedule 12 and detailing] how emergencies relating to a possible major accident on that site will be dealt with and in preparing that plan the concerned authority shall consult the occupier, and such other persons as it may deem necessary.

(2) For the purpose of enabling the concerned authority to prepare the emergency plan required under sub-rule (1), the occupier shall provide the concerned authority with such information relating to the industrial activity under his control as the concerned authority may require, including the nature, extent and likely effects off-site of possible major accidents and the authority shall provide the occupier with any information from the off-site emergency plan which relates to his duties under rule 13.

(3) The concerned authority shall prepare its emergency plan required under sub-rule (1),-

(a) In the case of a new industrial activity, before that activity is commenced;

(b) In the case of an existing industrial activity, within six months of coming into operation to these rules.

[2][(4) The concerned authority shall ensure that a rehearsal of the off-site emergency plan is conducted at least once in a calendar year.]

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15. INFORMATION TO BE GIVEN TO PERSONS LIABLE TO BE AFFECTED BY A MAJOR ACCIDENT -

(1) The occupier shall take appropriate steps to inform persons outside the site either directly or through District Emergency Authority 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 "Do's' and 'Don'ts" which should be adopted in the event of a major accident.

(2) The occupier shall take steps required under sub-rule (1) to inform persons about an industrial activity, before that activity is commenced, except, in the case of an existing industrial activity in which case the occupier shall comply with the requirements of sub-rule (1) within 90 days of coming into operation of these rule.

16. DISCLOSURES OF INFORMATION -

Where for the purpose of evaluating information notified under rule 5 or 7 to 15, the concerned authority discloses that information to some other person, that other person shall not use that information for any purpose except for the purpose of the concerned authority disclosing it, and before disclosing the information the concerned authority shall inform that other person of his obligations under this paragraph.

17. COLLECTION, DEVELOPMENT AND DISSEMINATION OF INFORMATION -

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1 Substituted by Rule 9 (a), ibid.

2 Inserted by Rule 9(b) of the MSIHC (Amendment) Rules, 1994 notified vide S.O.2882, dated 3.10.1994.

(1) This rule shall apply to an industrial activity in which a hazardous chemical which satisfies any of the criteria laid down in part I of Schedule 1 [1][or listed] in Column 2 of Part II of this Schedule is or may be involved.

(2) An occupier, who has control of an industrial activity in term of sub-rule 1 of this rule, shall arrange to obtain or develop information in the form of safety data sheet as specified in Schedule 9. The information shall be accessible upon request for reference.

(3) The occupier while obtaining or developing a safety data sheet as specified in Schedule 9 in respect of a 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 material safety data sheet as specified in Schedule 9 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 manufacturer or importer of the hazardous chemical ;

(c) the physical, chemical and toxicological data as per the criteria given at Part I of Schedule 1.

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

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18. IMPORT OF HAZARDOUS CHEMICALS -

(1) This rule shall apply to a chemical which satisfies any of the criteria laid down in Part I of Schedule 1 [2][or listed] in Column 2 of Part II of this Schedule.

(2) Any person responsible for importing hazardous chemicals in India shall provide [3][before 30 days or as reasonably possible but not later than] the date of import to the concerned authorities as identified in Column 2 of Schedule 5 the information pertaining to, -

(i) the name and address of the person receiving the consignment in India;

(ii) the port of entry in India;

(iii) mode of transport from the exporting country to India;

(iv) the quantity of chemical (s) being imported; and

(v) complete product safety information.

[4](3) If the Concerned Authority of the State is satisfied that the chemical being imported is likely to cause major accidents, it may direct the importer to take such safety measures as the concerned Authority of the State may deem appropriate.]

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1 Substituted by Rule 7 of the MSIHC (Amendment) Rules, 2000 notified vide S.O.57(E), dated 19.1.2000.

2 Substituted by Rule 8(a), ibid.

3 Substituted by Rule 10(a) of the MSIHC (Amendment) Rules, 1994 notified vide S.O.2882, dated 3.10.1994.

4 Substituted by Rule 10(b), ibid.

[1][(3A) In case the concerned Authority of the State is of the opinion that the chemical should not be imported on safety or on environmental considerations, such Authority may direct stoppage of such import.]

(4) The concerned Authority at the State shall simultaneously inform the concerned Port Authority to take appropriate steps regarding safe handling and storage of hazardous chemicals while off-loading the consignment within the port premises.

(5) Any person importing hazardous chemicals shall maintain the records of the hazardous chemicals imported as specified in Schedule 10 and the records so maintained shall be open for inspection by the concerned authority at the State or the Ministry of Environment and Forests or any officer appointed by them in this behalf.

(6) The importer of the hazardous chemical or a person working on his behalf shall ensure that transport of hazardous chemicals from port of entry to the ultimate destination is in accordance with the Central Motor Vehicles Rules, 1989 framed under the provisions of the Motor Vehicles Act, 1988.

19. IMPROVEMENT NOTICES -

(1) if the concerned authority is of the opinion that a person has contravened the provisions of these rules, the concerned authority shall serve on him a notice (in this para referred to as " an improvement notice") requiring that person to remedy the contravention or, as the case may be, [2][the matters occasioning it within 45 days.]

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(2) A notice served under sub-rule (1) shall clearly specify the measures to be taken by the occupier in remedying said contraventions.

20. POWER OF THE CENTRAL GOVERNMENT TO MODIFY THE SCHEDULES -

The Central Government may, at any time, by notification in the Official Gazette, make suitable changes in the Schedules.

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1 Inserted by Rule 10(c), ibid.

2 Substituted by Rule 11 of MSIHC Rules, 1994 notified vide S.O.2882, dated 3.10.1994.

[1][SCHEDULE 1]

[See rule 2e (i), 4 (1)(a), 4(2), 17 and 18]

[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:

S.No.	Toxicity	Oral toxicity LD_{50}(mg/kg)	Dermal toxicity LD_{50}(mg/kg)	Inhalation toxicity LC_{50}(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 20°C and at standard pressure of 101.3KPa 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 Standard 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 mean 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.

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1 Substituted by Rule 9 of the MSIHC (Amendment) Rules, 2000 notified vide S.O.57(E), dated 19.1.2000.

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PART II
LIST OF HAZARDOUS AND TOXIC CHEMICALS

S. No.	NAME OF HAZARDOUS CHEMICALS	S. No.	NAME 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. Aniline2,4, 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- (chloromethyl)-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-Trimitrophenylamine)
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

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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. Carbonphenothion
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. Chlorosulphonic acid
137. Chlorothiophos
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. Coumatetralyl
151. Crimidine
152. Crotenaldehyde
153. Crotonaldehyde
154. Cumene
155. Cyanogen bromide
156. Cyanongen iodide
157. Cyanophos
158. Cyanothoate
159. Cyanuric fluoride
160. Cyclo hexylamine
161. Cyclohexane
162. Cyclohexanone
163. Cycloheximide
164. Cyclopentadiene
165. Cyclopentane
166. Cyclotetramethyl enetetranitramine
167. Cyclotrimethylen etrinnitranine
168. Cypermethrin
169. DDT
170. Decaborane (1 :4)
171. Demeton
172. Demeton S-Methyl
173. Di-n-propyl peroxydicarbonate (Conc = 80%)
174. Dialifos
175. Diazodinitrophenol

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176. Dibenzyl peroxydicarbonate (Conc>= 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 ethtanolamine
194. Diethyl peroxydicarbonate (Conc=30%)
195. Diethyl phenylene diamine
196. Diethylamine
197. Diethylene glycol
198. Diethylene glycol dinitrate
199. Diethylene triamine
200. Diethleneglycol butyl ether
201. Diglycidyl ether
202. Digitoxin
203. Dihydroperoxypropane (Conc >=30%)
204. Diisobutyl 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. Dimethylcarbonyl chloride
218. Dimetilan
219. Dinitro O-cresol
220. Dinitrophenol
221. Dinitrotoluene
222. Dinoseb
223. Diniterb
224. Dioxane-p
225. Dioxathion
226. Dioxine N
227. Diphacinone
228. Diphosphoramide octamethyl
229. Diphenyl methane di-isocynate (MDI)
230. Dipropylene Glycol Butyl ether
231. Dipropylene glycolmethyl ether
232. Disec-butyl peroxydicarbonate (Conc.>80%)
233. Disufoton
234. Dithiazamine iodide
235. Dithiobiurate
236. Endosulfan
237. Endothion
238. Endrin
239. Epichlorohydrine
240. EPN
241. Ergocalciferol
242. Ergotamine tartarate
243. Ethanesulfenyl 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

IndiaCode

260. Ethylamine
261. Ethylene
262. Ethylene chlorohydrine
263. Ethylene dibromide
264. Ethylene diamine
265. Ethylene diamine hydrochloride
266. Ethylene flourohydrine
267. Ethylene glycol
268. Ethylene glycol dinitrate
269. Ethylene oxide
270. Ethylenimine
271. Ethylene di chloride
272. Femamiphos
273. Femitrothion
274. Fensulphothion
275. Fluemetil
276. Fluorine
277. Fluoro2-hyrdoxy 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. Gallium Trichloride
294. Glyconitrile (Hydroxyacetonitrile)
295. Guanyl-4-nitrosaminoguynyl-1-tetrazene
296. Heptachlor
297. Hexamethyl terta-oxyacyclononate (Conc 75%)
298. Hexachlorobenzene
299. Hexachlorocyclohexan (Lindane)
300. Hexachlorocyclopentadiene
301. Hexachlorodibenzo-p-dioxin
302. Hexachloronapthalene
303. Hexafluoropropanone sesquihydrate
304. Hexamethyl phosphoromide
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. Isoamyl 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)

IndiaCode

339. Ketene
340. Lactonitrile
341. Lead arsenite
342. Lead at high temp (molten)
343. Lead azide
344. Lead styphanate
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. Methyacrylol 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. Nephtha solvent
417. Naphthalene
418. Naphthyl amine
419. Nickel carbonyl/nickel tetracarbonyl
420. Nickel powder
421. Nicotine
422. Nicotine sulphate

IndiaCode

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 trifluouide
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 ethtylsulphinyl methylphosphorothioate
448. OO Diethyl s ethylsulphonyl methylphosphorothioate
449. OO Diethyls ethylthiomethylphospho-rothioate
450. Organo rhodium complex
451. Orotic acid
452. Osmium tetroxide
453. Oxabain
454. Oxamyl
455. Oxetane, 3, 3-bis(chloromethyl)
456. Oxidiphenoxarsine
457. Oxy disulfoton
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. Pentaerythaiotol 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. Phosphorthioic acid dimethyl S(2-Bis) Ester
500. Phosphorothioic acid methyl (ester)

IndiaCode

501. Phosphorothioic acid, OO 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. Physostignine
511. Physostignine salicylate (1:1)
512. Picric acid (2, 4, 6- trinitrophenol)
513. Picrotoxin
514. Piperdine
515. Piprotal
516. Pirinifos-ethyl
517. Platinous chloride
518. Platinum tetrachloride
519. Potassium arsenite
520. Potassium chlorate
521. Potassium cyanide
522. Potassium hydroxide
523. Potassium nitride
524. Potiassium 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 imine
542. Propylene oxide
543. Prothoate
544. Pseudosumene
545. Pyrazoxon
546. Pyrene
547. Pyridine
548. Pyridine, 2-methyl-3-vinyl
549. Pyridine, 4-nitro-1-oxide
550. Pyridine, 4-nitro-1-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

IndiaCode

585. Sulphoxide, 3-chloropropyl octyl
586. Sulphur dichloride
587. Sulphur dioxide
588. Sulphur monochloride
589. Sulphur tetrafluoride
590. Sulphur trioxide
591. Sulphuric acid
592. Tellurim (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. Terta 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-1H-1, 2, 3-triazole
635. Triaminotrinitrobenzene
636. Triamphos
637. Triazophos
638. Tribromophenol 2, 4, 6
639. Trichloro napthalene
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-orthocreysyl phosphate
664. Triphenyl tin chloride
665. Tris(2-chloroethyl)amine

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666. Turpentine
667. Uranium and its compounds
668. Valino mycin
669. Vanadium pentaoxide
670. Vinyl acetate mononer
671. Vinyl bromide
672. Vinyl chloride
673. Vinyl cyclohexane dioxide
674. Vinyl fluoride
675. Vinyl norbornene
676. Vinyl toluene
677. Vinyledene chloride
678. Warfarin
679. Warfarin Sodium
680. Xylene dichloride
681. Xylidine
682. Zinc dichloropentanitrile
683. Zink phosphide
684. Zirconium & compounds

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SCHEDULE 2

[See rule 2(e)(ii),4(1)(b), 4(2) (1) and 6 (1) (b)]

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 installation 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 metres.

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(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 metres 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.

S.No	Chemicals	Threshold Quantities (tonnes) [1][For application of rules 4,5,7 to 9 and 13 to 15	[2][For application of rule 10 to 12]
1	2	3	4
1.	Acrylonitrile	350	5,000
2.	Ammonia	60	600
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
[3][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.	Sujphur trioxide	15	100
[4][12.	Carbonyl chloride	0.750	0.750
13.	Hydrogen Sulphide	5	50
14.	Hydrogen Fluoride	5	50
15.	Hydrogen Cyanide	5	50
16.	Carbon disulphide	20	200
17.	Bromine	50	500
18.	Ethylene oxide	5	501
19.	Propylene oxide	5	50

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[1] Substituted by Rule 10(i) (a) of the MSIHC (Amendment) Rules, 2000 notified by S.O.57(E), dated 19.1.2000 ;

[2] Substituted by Rule 10(i) (b), ibid;

[3] Substituted entry 7 by Rule 10(ii), ibid ;

[4] Inserted entries 12 to 27 by Rule 11 of the MSIHC (Amendment) Rules, 1994 notified vide S.O.2882,dated 3.10.1994.

S.No	Chemicals	Threshold Quantities (tonnes) [1][For application of rules 4,5,7 to 9 and 13 to 15	[2][For application of rule 10 to 12]
1	2	3	4
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
27.	Toluene di-isocyanate (TDI)	10	100]
[1][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]

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(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).

[1] Inserted entries 28, 29 and 30 by 10(iii) of the HSIHC (Amendment) Rules, 2000 notified by S.O.57(E), dated 19.1.2000.

SCHEDULE 3

[See Rule 2(e)(iii), 5 and 6(1) (a)]

LIST OF HAZARDOUS CHEMICALS FOR APPLICATION 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 have control of the site, which is within 500 metres off 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 if;

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

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PART -I
NAMED CHEMICALS

S. No.	Chemicals	Threshold for application of Rules 5, 7-9 and 13-15	Quantity for application of Rules 10-12	CAS Number
(1)	(2)	(3)	(4)	(5)
GROUP 1-TOXIC SUBSTANCES				
1.	Aldicarb	100kg		116-06-3
2.	4-Aminodiphenyl	1 kg		96-67-1
3.	Amiton	1 kg		78-53-5
4.	Anabasine	100 kg		494-52-0
5.	Arseinc pentoxide, Arsenic (V) acid & salts	500 kg		
6.	Arsenic trioxide, Arsenic (III) acid & salts	100 kg		
7.	Arsine (Arsenic hydride)	10kg		7784-42-1
8.	Azinphos-ethyl	100kg		2642-71-9
9.	Azinphos-methyl	100 kg		86-50-0
10.	Benzidine	1 kg		92-87-5
11.	Bezidine salts	1 kg		
12.	Beryllium (powders, compounds)	10 kg		
13.	Bis (2-chloroethyl) 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.	Chlorefenvinphos	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, oxide, carbonates, sulphides, as powders)	1 t		
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 phosphorothiate	100 kg		2588-05-8
27.	OO-Diethyl S-ethylsulphonylmethyl phosphorothiate	100 kg		2588-06-9
28.	OO-Diethyl S-ethylthiomethyl Phosphorothioate	100 kg		2600-69-3

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S. No.	Chemicals	Threshold for application of Rules 5, 7-9 and 13-15	Quantity for application of Rules 10-12	CAS Number
(1)	(2)	(3)	(4)	(5)
29.	OO-Diethyl S-isoprophylthiomethyl phosphorothiate	100 kg		78-52-4
30.	OO-Diethyl S-isopropylthiomethyl 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 phosphoromidocynicidic acid	1 t		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.	Fluenetil	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		194-8-74-3
59.	Hexmathylphosphoramide	1 kg		680-31-9
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-Hydroxynaphithalene 1,4 dione)	100 kg		481-39-0

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S. No.	Chemicals	Threshold Quantity for application of Rules 5, 7-9 and 13-15	Quantity for application of Rules 10-12	CAS Number
(1)	(2)	(3)	(4)	(5)
64.	4,4-Methylenebis (2-chloroniline)	10 kg		101-14-4
65.	Mthyl isocynate	150 kg	150kg	624-83-9
66.	Mevinphos	100 kg		7786-34-7
67.	2-Naphthylamine	1 kg		91-59-8
68.	2-Nickel (metal, oxides, carbonates), sulphides, as powers)	1 t		
69.	Nickel tetracarbonyl	10 kg		13463-39-3
70.	Oxygendisulfoton	100 kg		2497-07-6
71.	Oxygen difluoride	10 kg		7783-41-7
72.	Paraxon (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	750kg	75-44-5
79.	Phosphamidon	100 kg		13171-21-6
80.	Phosphine (Hydrogen phosphide)	100 kg		7803-51-2
81.	Promurit (1-(3,4 dichlorophenyl)-3-triazenthiocarboxamide)	100 kg		5836-73-7
82.	1,3-Propanesultone	1 kg		1120-71-4
83.	1-Propen-2-chloro-1,3diol 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 hydride)	100 kg		7803-52-3
88.	Sulfotep	100 kg		3689-24-5
89.	Sulphur dichloride	1 t		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.	Tirpate (2,4-Dimethyl-1,3-dithiolane-2-carboxaldehyde O-methylcarbamoyloxime)	100 kg		26419-73-8

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S. No.	Chemicals	Threshold for application of Rules 5, 7-9 and 13-15	Quantity for application of Rules 10-12	CAS Number
(1)	(2)	(3)	(4)	(5)
96.	Trichloromethanesulphonyl chloride	100 kg		594-42-3
97.	1-Tri (cyclohexyl) stannyl 1H-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	Acetone cyanohydrin (2-Cyanopropan-2-ol	200 t		75-86-5
101	Acrolein (2-Propenal)	20 t	[1][200t]	107-02-8
102	Acrylonitrile	20 t	200t	107-13-1
103	Allyl alcohol (Propen-1-ol)	200 t		107-18-6
104	Alylamine	200 t		107-11-9
105	Ammonia	50 t	500t	7664-41-7
106	Bromine	40 t	[1][500t]	7726-95-6
107	Carbon disulphide	20 t	200t	75-15-0
108	Chlorine	10 t	25t	7782-50-5
109	Diphneyl ethane di-isocynate (MDI)	20 t	[1][200t]	101-68-8
110	Ethylene dibromide (1,2-Dibromoethane)	5 t	[1][50t]	106-93-4
111	Ethyleneimine	5 t		151-56-4
112	Formaldehyde (concentration <90%)	5 t	[1][50t]	50-00-0
113	Hydrogen chloride (liquified gas)	25 t	250t	7647-01-0
114	Hydrogen cyanide	5 t	20t	74-90-8
115	Hydrogen fluoride	5 t	50t	7664-39-3
116	Hydrogen sulphide	5 t	50t	7783-06-4
117	Methyl bromide (Bromomethane)	20 t	[1][200 t]	74-83-9
118	Nitrogen oxides	50 t		11104-93-1
119	Propylineimine	50 t		75-55-8
120	Sulphur dioxide	20 t	250t	7446-09-5
121	Sulphur trioxide	15 t	75t	7446-11-9
122	Tetraethyl lead	5 t	[2][200t]	78-00-2
123	Tetra methyl lead	5 t	[1][100t]	75-74-1
124	Toluene di-isocynate (TDI)	10 t		584-84-9

[1] Inserted by Rule14 (a to h) of MSIHC (Amendment) Rules, 1994 notified vide notification S.O.2882, dated 3.10.1994.

[2] Inserted by Rule14 (a to h) of MSIHC (Amendment) Rules, 1994 notified vide notification S.O.2882, dated 3.10.1994.

S. No.	Chemicals	Threshold for application of Rules 5, 7-9 and 13-15	Quantity for application of Rules 10-12	CAS Number
(1)	(2)	(3)	(4)	(5)
GROUP 3-HIGHLY REACTIVE SUBSTANCES				
125	Acetylene (ethyne)	5 t		74-86-2
126	a. Ammonium nitrate (1) b. Ammonium nitrate in form of fertilizer (2)	350t 1250 t	2500t	6484-52-2
127	2,2 Bis (tert-butylperoxy) butane) (concentration >70%)	5 t		2167-23-9
128	1, 1-Bis(tert-butylperoxy) cyclohexane (concentration > 80%)	5 t		3006-86-8
129	tert-Butyle proxyacetate (concentration ≤70%)	5 t		107-71-1
130	tert-Butyle peroxy isobutyrate (concentration >80%)	5 t		109-13-7
131	Tert-Butyl peroxy isopropyl carbonate (concentration ≥80%)	5 t		2372-21-6
132	Tert-Butyl peroxymaletate (concentration ≥80%)	5 t		1931-62-0
133	Tert-Butyl peroxypivalate (concentration ≥77%)	50 t		927-07-1
134	Dibenzyl peroxydicarbonate (concentration≥90%)	5 t		2144-45-8
135	Di-sec-butyl peroxydicarbonate (concentration ≥80%)	5 t		19910-65-7
136	Diethyl peroxydicarbonate (concentration ≥30%)	50 t		14666-78-5
137	2,2-dihydroperoxypropane (concentration≥30%)	5 t		2614-76-08
138	di-isobutyrl peroxide (concentration ≥50%)	50 t		3437-84-1
139	Di-n-propyl peroxydicarbonate (concentration≥80%)	5 t		16066-38-9
140	Ethyene oxide	5 t	50t	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 (concenttation ≥75%)	50 t		22397-33-7
143	Hydrogen	2 t	50 t	1333-74-0

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S. No.	Chemicals	Threshold for application of Rules 5, 7-9 and 13-15	Quantity for application of Rules 10-12	CAS Number
(1)	(2)	(3)	(4)	(5)
144	Liquid Oxygen	200 t	[1][2000t]	7782-41-7
145	Methyl ethyl ketone peroxide (concentration ≥60%)	5 t		1338-23-4
146	Methyl isobutyl ketone peroxide (concentration ≥60%)	50 t		37206-20-5
147	Peracetic acid (concentration ≥60%)	50 t		79-21-0
148	Propylene oxide	5 t	[1][50t]	75-56-9
149	Sodium chlorate	25 t		7775-09-9
GROUP 4-EXPLOSIVE SUBSTANCES				
150	Barium azide	[1][100] kg		18810-58-7
151	Bis(2,4,6 -trinitrophenyl) amine	50 t		131-073-7
152	Chlorotrinitro benzene	50 t		28260-61-9
153	Cellulose nitrate (containing 12.6% Nitrogen)	50 t		9004-70-0
154	Cyclotetramethyleneteranitramine	50 t		2691-41-0
155	Cyclotrimethylenetiraniramine	50 t		121-82-1
156	Diazodinitrophenol	10 t		7008-81-3
157	Diethylene glycol dinitrate	10 t		693-21-0
158	Dinitrophenol, salts	50 t		
159	Enthylene glycol dinitrate	10 t		628-96-6
160	1-Gyanyl-4-nitrosaminoguanyl-1-tetrazene	[1][100 kg]		109-27-3
161	2, 2, 4, 4, 6, 6, -Hexanitositibene	50 t		20062-22-0
162	Hydrazine nitrate	50 t		13464-97-6
163	Lead azide	[1][100 kg]		13424-46-9
164	Lead Styphnate (Lead 2,4,6-trinitroresorcinoxide)	50 t		15245-44-0
165	Mercury fuliminate	10 t		20820-45-5 628-86-4
166	N-Methyl-N,2,4,6-tetranitroaniline	50 t		497-45-8
167	Nitroglycerine	10 t	10t	55-63-0
168	Pentacrythritol tetra nitrate	50 t		78-11-5

[1] Substituted by Rule 11(i) of the MSIHC (Amendment) Rules, 2000 notified vide S.O.57(E), dated 19.1.2000.

S. No.	Chemicals	Threshold Quantity for application of Rules 5, 7-9 and 13-15	for application of Rules 10-12	CAS Number
(1)	(2)	(3)	(4)	(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-Trinitrobezene	50 t		3058-38-6
173	Trinitroaniline-	50 t		26952-42-1
174	2,4,6-Trinitroanisole	50 t		606-35-9
175	Trinitrobenze	50 t		25377-32-6
176	Trinitrobenzoic acid	50 t		35860-50-5 129-66-8
177	Trinitrocresol	50 t		28905-71-7
178	2,4,6-Trinitrophenitole	50 t		4732-4-3
179	2,4,6-Trinitrotoluene	50 t	50 t	118-96-7

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[1][PART II

CLASSES OF SUBSTANCES AS DEFINED IN PART – I, 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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(1) This applies to ammonium nitrate and mixtures of ammonium nitrate where the nitrogen content derived from the ammonium nitrate is greater than 28% by weight and aqueous solutions of ammonium nitrate where the concentration of ammonium nitrate is greater than 90% by weight.

(2) This applied to straight ammonium nitrate fertilizers and to compound fertilizers where the nitrogen content derived from the ammonium nitrate is greater than 28% by weight (a compound fertilizer contains ammonium nitrate together with phosphate and/or potash).

[1] Substituted by Rule 11(ii) of the MSIHC (Amendment) Rules, 2000 notified by S.O.57(E), dated 19.1.2000.

SCHEDULE -4

(See Rule 2(h) (i)

1. Installation for the production, processing or treatment of organic or inorganic chemicals using for this purpose, among others;

(a) alkylation
(b) Amination by ammonolysis
(c) carbonylation
(d) condensation
(e) dehydrogenation
(f) esterification
(g) halogenation and manufacture of halogens
(h) hydrogenation
(i) hydrolysis
(j) Oxidation
(k) Polymerziation
(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. Installation for distillation, refining or other processing of petroleum or petroleum products.

3. Installations for the total or partial disposal of solid or liquid substances by incineration or chemical decomposition.

4. Installations for production, processing, [1][use] or treatment of energy gases, for example, LPG, LNG, SNG.

5. Installation for the dry distillation of coal or lignite.

6. Installations for the production of metals or non-metals by a wet process or by means of electrical energy.

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[1] Inserted by Rule 12 of the MSIHC (Amendment) Rules, 2000 notified vide S.O.57(E), dated 19.1.2000.

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SCHEDULE -5
(See Rules, 2(b) and 3)

S. No.	Authority(ies) with legal backing	Duties and corresponding Rule
(1)	(2)	(3)
1.	Ministry of Environment and Forests under Environment (Production) Act, 1986.	1. Notification of hazardous chemicals as per Rules 2(e)(i), 2(e) (ii) & 2(e) (iii)
2.	Chief Controller Imports & Exports under Import & Exports (Control) Act, 1947.	Import of hazardous chemicals as per Rule 18
3.	Central Pollution Control Board or State Pollution Control Board [1][or Committee] under Environment (Protection) Act, 1986 as the case may be.	(1) Enforcement of directions and procedures in respect of isolated storage of hazardous chemicals, regarding- (i) Notification of major accidents as per Rules 5(1) and 5(2) (ii) Notification of sites as per Rules 7 to 9. (iii) Safety reports in respect of isolated storages as per Rule 10 to 12. (iv) Preparation of on-site emergency plans as per Rule 13. (2) Import of hazardous Chemicals and enforcement of directions and procedures on import of hazardous chemicals as per Rule 18.
4.	Chief Inspector of Factories appointed under the Factories Act, 1948.	Enforcement of directions and procedures in respect of industrial installations and isolated storages covered under the Factories Act, 1948, dealing with hazardous chemicals and pipelines including inter-state pipelines regarding- (i) Notification of major accidents as per Rule 5(1) and 5 (2). (ii) Notification of sites as per Rules, 7 to 9. (iii) Safety reports as per Rules, 10 to 12. (iv) Preparation of on-site emergency plans as per Rule 13. Preparation of off-site emergency plans in consultation with District Collector or District Emergency Authority as per S. No. 9 of this schedule.

[1] Inserted by Rule 13(i) of the MSIHC (Amendment) Rules, 2000 notified vide S.O.57(E), dated 19.1.2000.

S. No.	Authority(ies) with legal backing	Duties and corresponding Rule
(1)	(2)	(3)
5.	Chief Inspector of Dock Safety appointed under the Dock Workers (Safety, Health and Welfare) Act, 1986.	Enforcement of directions and procedures in respect of industrial installations and isolated storages dealing with hazardous chemicals and pipelines [1][inside a port covered under the Dock Workers (Safety, Health and Welfare) Act, 1986] regarding- (i) Notification of major accidents as per Rules 5(1) and 5(2). (ii) Notification of sites as per Rules 7 to 9. (iii) Safety reports as per Rules 10 to 12. (iv) Preparation of on-site emergency plans as per Rule 13. (v) Preparation of off-site emergency plans in consultation with District Collector or District Emergency Authority as per S. No.9 of this Schedule.
6.	Chief Inspector of Mines appointed under the Mines Act, 1952	Enforcement of directions and procedures in respect of industrial installations and isolated storages dealing with hazardous chemicals [2][***] regarding - (i) Notification of major accidents as per Rules 5(1) and 5(2). (ii) Notification of sites as per Rules 7 to 9. (iii) Safety reports as per Rules 10 to 12. (iv) Preparation of on-site emergency plans as per Rule 13. (v) Preparation of off-site emergency plans in consultation with District Collector or District Emergency Authority as per S. No.9 of this Schedule.
7.	Atomic Energy Regulatory Board appointed under the Atomic Energy Act, 1972.	[3][Enforcement of directions and procedures regarding :- (a) Notification of major accidents as per rule 5(1) and 5(2) (b) Approval and Notification of Sites as per rule 7; (c) Safety report and safety audit

1 Substituted by Rule 13(ii) of the MSIHC (Amendment) Rules, 2000 notified vide S.O.57(E), dated 19.1.2000;

2 Omitted by Rule 13(iii), ibid;

3 Substituted by Rule 13(iv), ibid.

S. No.	Authority(ies) with legal backing	Duties and corresponding Rule
(1)	(2)	(3)
		repots as per rule 10 to 12; (d) Acceptance of On-site Emergency plans as per rule 13; (e) Assisting the District Collector in the preparation of Off-Site emergency plans as per serial number 9 of this Schedule]
8.	Chief Controller of Explosives appointed under the Indian Explosive Act and Rules, 1983	Enforcement of directions and procedures as per the provisions of [1][(i) The Explosives Act, 1884(4 of 1884) and the rules made thereunder, namely:- (a) The Gas Cylinders Rules, 1981; (b) The Static and Mobile Pressure Vessel (Unified) Rules, 1981; (c) The Explosive Rules, 1984 (ii) The petroleum Act, 1934 (30 of 1934) and the Rules made thereunder, namely; (a) The Petroleum Rules, 1976; (b) The Calcium Carbide Rules, 1987]; [2][and in respect of Industrial installation and isolated storages dealing with hazardous chemicals and pipelines including inter-state pipelines regarding. : - (a) Notification of major accident as per rule 5; (b) Approval and notification of sites as per rule 7; (c) Safety report and safety audit reports as per rules 10 to 12; (d) Acceptance of On-site Emergency plans as per rule 13; (e) Assisting the District Collector in the preparation of Off-Site emergency plans as per serial number 9 of this Schedule.]

[1] Substituted by Rule 15 of the MSIHC (Amendment) Rules, 1994, notified vide S.O.2882, dated 3.10.1994.

[2] Inserted by Rule 13 (v) of the MSIHC (Amendment) Rules, 2000 notified vide S.O.57(E), dated 19.1.2000.

S. No.	**Authority(ies) with legal backing**	**Duties and corresponding Rule**
(1)	**(2)**	**(3)**
9.	District Collector or District Emergency Authority designated by the State Government	Preparation of off-site emergency plans as per Rule 14
[1][10.	[2][CENTRE FOR ENVIRONMENT AND EXPLOSIVE SAFETY (CEES), Defense Research and Development of Organisation (DRDO). Department of defence Research & Development, Ministry of Defence	Enforcement of directions and procedures in respect of laboratories, industrial establishment and isolated storages dealing with hazardous chemicals in the Ministry of Defence]

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1 Substituted by Rule 13(vi), of the MSIHC (Amendment) Rules, 2000 notified vide S.O.No.57(E), dated 19.1.2000.

2 Inserted by G.S.R.584(E), dated 9th June, 1990.

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 manufacturer
(Also state telephone/telex number)
(c) (i) Registration number

(ii) Licence number

(as may have been allotted under any status 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.

☐ ☐ ☐ ☐

2. Type of major accident

Explosion ☐ Fire ☐ Emission of dangerous substance ☐

Substance(s) emitted ……

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 dangerous substance 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) ☐
6. Not Known ☐
   Information will be supplied as soon as possible ☐

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7. Nature and extent of damage

(a) Within the establishment - casualties ……Killed
……Injured
……Poisoned

Persons exposed to the major accident ……
material damaged ☐
danger is still present ☐
danger no longer exists. ☐

(b) Outside the establishment
casualties. ……Killed
……Injured
……Poisoned

Persons exposed to the major accident……
material damaged ☐
damage to environment ☐
the danger is still present ☐
the danger no longer exists ☐

8. Data available for assessing the effects
of the accident on persons and environment.

9. 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.

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SCHEDULE -7
[See Rule 7(1)]

INFORMATION TO BE FURNISHED FOR THE NOTIFICATION OF SITES

PART -I

Particulars to be included in a notification of a site

1. The name and address of the employer 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 b(ii) of schedule 2 and 3.

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 dangerous substance 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 ;

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(b) the conditions or the events which could be significant in brining 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 features 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 quantities of all significant inventories of the hazardous chemicals;

(c) a description of the process or storage involving the hazardous chemicals 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.

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PART -II

Particulars to be included regarding pipeline-

1. The names and address of the persons making the notification.

2. The full postal address of the place from which the pipeline activity is controlled, addresses of the places where the pipeline starts and finishes and a map showing the pipeline route drawn to a scale of not less than 1:400000.

3. The date on which it is anticipated that the notifiable activity will commence, or if it is already commenced a statement to that effect.

4. The total length of the pipeline, its diameter and normal operating pressure and the name and maximum quantity liable to be in the pipeline of each hazardous chemical for which notification is being made.

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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 be 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, safety-related data, toxicological data and threshold values),
   - (b) the form in which the chemical may occur on or into which they may be transformed in the event of abnormal conditions,
   - (c) the degree of purity of the hazardous chemical.

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5. Information on the preliminary hazard analysis, namely-

(a) types of accident
(b) system elements or 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) special relief systems,
(d) quick-acting valves,
(e) collecting tanks/dump tank,
(f) sprinkler system,
(g) fire fighting etc.

7. Information on the hazards assessment, namely-

(a) identification of hazards ,
(b) the cause of major accidents,
(c) assessment of hazards according to their occurrence frequency,
(d) assessment of accident consequences,
(e) safety systems,
(f) known accident history.

8. Description of information or organizational systems used to carry on the industrial activity safety, 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 procedure.

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

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(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 systems,
(c) emergency plan containing system of organisation used to fight the emergency, the alarm and the communication rules guidelines for fighting the emergency, information about hazardous chemicals, examples of possible accident sequences,
(d) coordination with the District Emergency authority and its off-site emergency plan,
(e) notification of the nature and scope of the hazard in the event of an accident,
(f) antidotes in the event of a release of a hazardous chemical.

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SCHEDULE -9

(See Rule 17)

SAFETY DATA SHEET

1. CHEMICAL IDENTITY

Chemical Name			Chemical Classification
Synonyms			Trade Name
Formula	C.A.S.No		U.N. No.:
Regulated Identification	Shipping Name Codes/Lable		Hazchem No.:
	Hazardous Waste I.D. No.:		
Hazardous Ingredients	C.A.S. No.	Hazardous Ingredients	C.A.S No.:
1.		3.	
2.		4.	

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2. PHYSICAL AND CHEMICAL DATA

Boiling Range/Point ^{o}C	Physical State	Appearance
Melting/Freezing Point ^{o}C	Vapour Pressure @ 35 ^{o}C mm/Hg	Odour
Vapour Density (Air=1)	Solubility in Water at 30^{o}C Others	
Specific Gravity Water =1	pH	

3. FIRE AND EXPLOSION HAZARD DATA

Flammability	Yes/No	*LEL*	%	Flash Point ^{o}C	Auto ignition Temperature ^{o}C
TDG Flammability		*UEL*	%	Flash Point ^{o}C	
Explosion Sensitivity to Impact			Explosion Sensitivity to Static Electricity		Hazardous Combustion Products
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

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Permissible Exposure Limits 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 Extinguishing Media

FIRE

Special Procedures

Unusual Hazards

EXPOSURE

First Aid Measures

Antidotes/Dosages

SPILLS

Steps to be taken

Waste Disposal Method

8. ADDITIONAL INFORMATION / REFERENCES

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9. MANUFACTURER / SUPPLIER DATA

Name of Firm	Contact Person in Emergency
Mailing Address	Local Bodies Involved
Telephone/Telex Nos.	Standard Packing
Telegraphic Address	Tremcard Details/Ref Other.

10. DISCLAIMER

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 sheet is relevant to the product manufactured/handled or sold by him as the case may be. The Government makes no warranties expressed or implied in respect of the adequacy of this document for any particular purpose.

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SCHEDULE -10

[See Rule 18(5)]

FORMAT FOR MAINTAINING RECORDS OF HAZARDOUS CHEMICALS IMPORTED

1. Name and address of the Importer:
2. Date and reference number of issuance of permission to import hazardous chemicals:
3. Description of hazardous chemicals:
   (a) Physical form:
   (b) Chemical form:
   (c) Total volume and weight (in kilogram's/ Tones)
4 Description of purpose of Import:
5. Description of storage of hazardous chemicals:
   (a) Date:
   (b) Method of storage

Note: Published in the Gazette No.787, dt.27.11.1989.
All correction made in the terms of corrigendum No.S.O.115(E), dt.5.2.1990 published in the Gazette No. 59 dt.5.2.1990.

[1][SCHEDULE –11]

[See Rule 13(1)]

DETAILS TO BE FURNISHED IN THE ON-SITE EMERGENCY PLAN

1. Name and address of the person furnishing the information.

2. Key personnel of the organization and responsibilities assigned to them in case of an emergency

3. Outside organization if involved in assisting during on-site emergency:

   (a) Type of accidents

   (b) Responsibility assigned

4. Details of liaison arrangement between the organizations.

5. Information on the preliminary hazard analysis:

   (a) Type of accidents

   (b) System elements or events that can lead to a major accident

   (c) Hazards

   (d) Safety relevant components

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[1] Inserted by Rule 16 of the MSIHC (Amendment) Rules, 1994 notified by S.O.2882, dated 3.10.1994.

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 plant.

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 and safety and security systems.

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(ii) alarm and hazard control plans in line with disaster control and hazard control planning, ensuring the necessary technical and organizational 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 operations.

(vi) maintenance and repair work according to the generally recognized rules of good engineering practices.

11. Details of communication facilities available during emergency and those required for an off-site emergency.

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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.

[1][SCHEDULE 12
[See Rule 14(1)]

DETAILS TO BE FURNISHED IN THE OFF-SITE EMERGENCY PLAN

1. The types of accidents and release to be taken into account.

2. Organisations involved including key personnel and responsibilities and liaison arrangements between them.

3. Information about the site including likely locations of dangerous substances, personnel and emergency control rooms.

4. Technical information such as chemical and physical characteristics and dangers of the substances and plant.

5. Identify the facilities and transport routes.

6. Contact for further advice e.g. meteorological information, transport, temporary food and accommodation, first aid and hospital services, water and agricultural authorities.

7. Communication links including telephones, radios and standby methods.

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[1] Inserted by Rule 16 of the MSIHC (Amendment) Rules, 1994 notified by S.O.2882, dated 3.10.1994.

8. Special equipment including fire fighting materials, damage control and repair items.

9. Details of emergency response procedures.

10. Notify the public.

11. Evacuation arrangements.

12. Arrangements for dealing with the press and other media interests.

13. Longer term clean up.]

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Note: Principal rules were published in Gazette of India vide Notification S.O. 966(E), dated 27.11.1989. Amending rules were published vide GSR No.681, dated 9.6.1990, S.O.115 (E), dated 5.2.1990, S.O.2882, dated 3.10.1994 and S.O.57 (E), dated 19.1.2000.