

# THE KERALA FACTORIES (MAJOR ACCIDENT HAZARD CONTROL) RULES, 2003.

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## THE KERALA FACTORIES (MAJOR ACCIDENT HAZARD CONTROL) RULES, 2003.

- 1. Short title and commencement,-**(I) These Rules may be called the Kerala Factories (Major Accident Hazard Control) Rules, 2003.
  - (2) They shall come into force at once.
  - (3) General effect—The provisions of these Rules shall be in addition to and not in derogation of the Kerala Factories Rules, 1957.
- 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 I or is listed in column (2) of Part II of the said schedule, or
  - (ii) any chemical listed in column (2) of Schedule 2; or
  - (iii) and 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 chemical 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 put ping 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 includes storage associated with a factory specified in Schedule 4 on the same site;

(d) (i) "major accident" means, an incident involving' loss of life inside or outside the site or ten or more injuries inside and /or one or more injuries outside or release of toxic chemical or explosion o/fire or spillage of hazardous chemical resulting an ('on -site' or 'off-site' emergencies or damage to equipment leading to stoppage of process or adverse effects to the environment;

(ii) "'major accident hazardous (MAH) installations" means isolated storage and industrial activity at a site handling (including transport through earner or pipeline) of hazardous chemicals equal to or, in excess of the threshold quantities specified in column (3) of schedules 2 and 3 respectively;

(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:

The words and expressions not defined in these Rules but defined or used m the Factories Act, 1948 (Central Act 63 of 1948) and the Kerala Factories Rules, 1957 made thereunder shall have the same meaning as assigned to them 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 I or is listed in column (2) of Part II of the said Schedule is or may be involved-

(2) An occupier of an industrial activity or isolated storage in terms of sub-rule (1) shall arrange to obtain or develop information on hazardous chemicals in the form of safety data sheet as specified in Schedule 5. The information shall be accessible to workers upon their request for reference.

(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 labeled 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) where it is impractical 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 of accompanying documents.

**3A. Duties of Inspector.-** The Inspector shall -

(a) inspect the industrial activity or isolated storage at least once in a calender year;

(b) send annually status report-on the compliance with the Rules by occupiers to the Ministry of Environment and Forests, Directorate General Factory Advice Service and Labour Institute and Ministry of Labour, Government of India; and

(c) enforce - directions -and procedures in respect of industrial activities or isolated storages covered under the Factories Act, 1948 and in respect of pipelines up to a distance of 500m

from the outside of the perimeter of the factory, regarding—

- (i) notification of the major accidents as per Rules 5 (I) and 5 (2);
- (ii) notification of sites as per Rules 7 and 8;
- (iii) safety reports and safety audit as per Rules 9 to 11;
- (iv) preparation of on-site emergency plans as per Rule 12 and involvement in the preparation of off-site emergency plans in consultation with District Collector or District Emergency Authority,

**4. General responsibility of occupier.**—(1) This rule 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 or is listed in column (2) of Part II of said- Schedule is or may be involved; and

(b) isolated storage of a hazardous chemical listed in column (2) of schedule 2 in- such quantity which is equal to or more than the threshold quantity specified in column (3,) of the schedule; -

(2) "An occupier under sub-rule (1) shall provide information on demand to show that he has,"-

(a) identified the major accident hazardous; and

(b) taken adequate steps to—

(i) prevent such major accidents and to limit their consequences to persons and the 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 the occupier shall forthwith 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 instalments if necessary, in the form, provided in Schedule 6.

(2) The Inspector or the Chief Inspector shall, on receipt of the report in accordance with sub-rule (1) of this rule, undertake a full analysis of the major accident and send the requisite information to the Ministry of Environment and Forests, the Directorate General Factory Advice Service and 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, the Directorate General Factory Advice Service and Labour Institute and Ministry of Labour, Government of India.

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

**6 . Industrial activity or isolated storage to which rules 7 to 13 apply.**— (1) (a) Rules 7,8, 12 and 13 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 (3), thereof;

(b) rules 9 to 11, shall apply to an industrial activity, other than isolated storage, in which there is involved such 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) thereof;

(c) rules 7 and 8 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) thereof; and

(d) rules 9 to 12 and 13 shall apply to an isolated storage in which there is involved such,

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) thereof.

**7. Notification of sites.**—(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 ninety days before commencing that activity or before such shorter time as the Chief Inspector may agree and for the purposes of this sub-rule, an activity in which subsequently there is or is liable to be a threshold quantity given in column (3) of Schedule 2 and 3 of more of an additional hazardous chemical shall be deemed to be a different activity and shall be notified accordingly.

(2) The Chief Inspector shall within sixty days from the date of receipt of the report under sub-rule (1) shall examine it and on examination of the report if he is of the opinion that contravention of the provisions of the Act or the Rules made there under has taken place, he may issue notice for obtaining compliance.

**8. Updating of site notification under Rule 7.**—Where an activity has been reported in accordance with sub-rule (1) of rule 7 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 in the pipeline or at the cessation of 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. Safety Reports and Safety Audit, Reports.**—(1) Subject to sub-rule (2) and (3) of this rule, an occupier shall not undertake any industrial activity or isolated storage to which the rule applies, unless he has prepared a safety report or what industrial activity or isolated storage containing the information specified in Schedule 8 and has sent a copy of that report to the Chief Inspector at least ninety 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 a competent agency to be accredited by an Accreditation Board to be constituted by the Ministry of Labour, Government of India in this behalf. 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 a competent agency accredited in this behalf;

(c) in the year when an external audit is carried out, internal audit need not be carried out.

(3) The occupier shall within thirty days of the completion of the audit, send a report to the Chief Inspector with respect to the implementation of the audit recommendations.

**10, Updating of Safety reports under Rule 9** ,—(1) Where an occupier has made a safety, report in accordance with sub-rule (1) of rule 9, 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 those modifications and has sent a copy of that report to the Inspector and Chief Inspector at least ninety days before making those modifications.

(2) Where an occupier has made a report in accordance with rule 9 and sub-rule (1) of the rule and that industrial activity or isolated storage 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 previous report relating to- safety and hazard assessment, and shall within thirty days or in such longer period as the Chief Inspector may agree in writing, send a copy of the report to the Inspector and the Chief Inspector.

**11. Requirement for further information to be sent to the Inspector and the Chief**

**Inspector.**— Where in accordance with rules 9 and 10 an occupier has sent 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 ninety days.

**12. 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 out 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) of this rule, taken 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 the 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 made immediately available to the Inspector and the Chief Inspector.

**13. 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 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 Do's and Don'ts which should be adopted in the event of a major accident.

(2) The occupier shall take the steps required under sub-rule (1), 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 thereof within ninety days of coming into operation of these rules.

**14. Disclosure of information.**— Where, for the purpose of evaluating information notified under rule 5 or rules 7 to 13, 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 a 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.

**15. Power of the State Government to modify the Schedules.**—The State Government may, at any time, by notification in the official Gazette, make suitable modifications in the Schedules.

## **Schedule I**

### **Rule 2a-(i) 3(1), 4(1) (a), and 4(2)]**

#### **[Part 1]**

#### **(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:

SI. No.	Toxicity	Oral toxicity- LD 50 (mg./ kg)	Dermal toxicity L&50 (mg/kg)	Inhalation toxicity LC50 (mg/kg)
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 203G and at standard pressure of 101.3.Kpa arc:-

(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

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

(iii) very highly -flammable liquids: chemicals which have a flash point lower than or equal to 23°G 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°G

(v) flammable liquid's: chemicals which have a flash point higher than 60°G but tower than 90°G

(c) Explosives; explosives means a solid or liquid or pyrotechnic substance (or a mixture of substances)or an article,-

(i) which is in itself capable by chemical reaction of producing gas at such a tomparature and pressure and at such a speed · as to cause darrlage to the surroundings

(ii) which is designed to produce an effect by heat, light', sound, gas or smoke or a combination of these as the result of non-dctonative 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 thioscmicarbazide
7. Acetomtrile
8. Acetylene
9. Acetylene tetra chloride
10. Acrolein
11. Acrylamide
12. Acrylonitrile
13. Adiponitril
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 pentoxide
41. Antimycin-A
42. ANTU
43. Arsenic pentoxide
44. Arsenic trioxide
45. Arsenous trichloride . .
46. Arsine
47. Asphalt
48. Azinphos-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 (Terbutylperoxy) 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 glycidyl ether
93. Butyl isovalerate
94. Butyl p\_eroxymaleate tert
95. Butyl vinyl ether
96. Butyl-n-mercaptan
97. G.I Basic green
98. Cadmium oxide
99. Cadmium stearate
100. Calcium arsenate
102. Calcium carbide
102. Calcium cyanide
103. Caniphechlor (Toxaphene)
104. Cantharidin
105. Captan
106. Garbachol chloride
107. Carbaryl
108. Garbofuran (Iniradan)
109. Carbon tetrachloride
110. Carbon disulphide
111. Carbon monoxide
112. Carbophenothion
113. Carvone.
114. Cellulose acetate
115. Chloroacetic acid



116. Chlordane
117. Chlorofenvinphos
118. Chlorinated benzene
119. Chlorine
120. Chlorine oxide
121. Chlorine trifluoride
122. Chlormcphos
123. Chlormequat chloride
124. Chloroacetal chloride
125. Chloroacetaldehyde
126. Chloroaniline-2
127. Chloroaniline-4
128. Chlorobenzene
129. Chloroethyl chloroferrate
130. Chloroform
131. Chloroformyl morpholine
132. ChloronK thane
133. Ghloi-ometliy] methylether
134. Chloro nitrobenzene
135. Ghlorophacinone
136. GJilorosulphoic acid
137. ClilorolJiophos
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. Copperoxy chloride
148. Coumauryl
149. Cumaphos
150. Coumatertraly
151. Crimidine
152. Crotenaldehyde
153. Crotonaldehyde
154. Cumene
155. Cyanogen bromide
156. Cyanogen iodide
157. Cyanophos
158. Cyanothoate
159. Cyanuric fluoride
160. Cyclohexylamine
161. Cyclohexane
162. Cyclohexanone
163. Cycloheximide
164. Cyclopentadiene
165. Gydopentane
166. Cyclotetramethylenetetranitramine

167. Gydotrirnethylenetriunitranine-
168. Cypermethrin
169. DDT
170. Decaboiaac (1:4)
171. Demeton
172. pemeton S-Methyl
173. Di-n-propyl peroxydicarbonate (Conc=80%)
174. Dialifos
175. Diazodinitrophenol
176. Dibenzyl peroxydicarbonate (Conc>=90%)
177. Diborane
178. Dlchloroacetylene
179. Dichlorobenzalkoninm chloride
180. Dichloroethyl ether'
181. Dfchloromethyl phenylsilane
182. Dichlorophenol-2, 6
183. Dichlorophenol-2, 4
184. Dichlorophenoxy acetic acid
185. Dichloropropane-2,2
186. Dichloro salicylic acid-3, 5
187. Dichlorvos (DDVP)
188. Dicrotophos
189. Dieldrin
190. Diepoxy butane
191. Diethyl carbamazine citrate
192. Diethyl chlgrophosphate
193. Diethyl ethanolamine
194. Diethyl peroxydi carbonate "(Conc=30%)
195. Diethyl phenylene diamine
196. Diethylamine
197. DiethyJene glycol
198. Diethylene glycol clinijrate
199. Diethylene. triamirie
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 mtrosoamme
210. Dimethyl P phenylene diamine
211. Dimethyl phosphoramikli cyanidic acid
212. Dimethyl phosphorochloridothioatc
213. Dimethyl sufolane (DMS)
214. Dimethyl sulphide
215. Dimethylamine
216. Dimethyl aniline
217. Ditnethlcarbouyi chloride

218. Dimetilan
219. Dinitro O-cresol
220. Dial tro phenol
221. Dinitro toluene .
222. Dinoseb
223. Dinoterb
224. Dioxane-p
225. Dioxathion
226. Dioxine N
227. Diphacinone
228. Diphosphoramid octamethyl
229. Diphenyl methane di-isocynate (MDI)
230. Dipropylene Glycol Butyl ether
231. Dipropylene glycolmethylether
232. Disec-butyl peroxydicarbonate (Gonc>80%)
233. Disufoton
234. Dithiazamine iodide
235. Ditoiobiurate
236. Endosulfan
237. E«dothion
238. Endrin
239. Epichlorohydrine
240. EPN
241. Ergocalciferol
242. Ergotamine tartarate
243. EthauesulfeyiJ chloride, 2 chloro
244. Ethanol 1-2 dicholoracetate
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 methacrylatc
258. Ethyl nitrate
259. Ethyl thiocyanate
260. Ethylamine
261. Ethylene
262. Ethylene diloroHydrine
263. EtUylene cUbronaide
264. Ethylenc diaminc
265. Ethylene diamie hydrocH&ride
266. EthyJeie flouroHydrine
267. Ethylene glycol'
268. Ethylene glycol dinitrate

269. Ethyleuc oxide
270. Ethyleniminc
271. Ethylene, d,i chloride
272. Femamipho.s
273. Femitrothion
274. Fenaulpliothion
275. Fluemetil '
276. Fluorine
277. Fluoro 2-hydroxy butyrk acid amid salt ester
278. Flooroacetamid e
279. Fiuoroacetic acid amide aalts and esters
280. FluoroacetyJchloride
281. Fluorobutyric acid amide salts esters
282. Fluorocrotonic acid amides salts esters
283. FJuorouracil
284. Fonofos
285. Formaldehyde
286. Formetanate hydroehloride
287. Formic acid
288. Formoparan&te
289. Formpthion
290. Foathiotaa
291. Fuberidazole
292. Furan
293. Gallium Trichloride
294. Glyconitrile (Hydroxyacetonitrile)
295. Guanyl-4-mtro3aminoguynyH-tetrazei e
296. HeptaclJor
297. Hexa methyl terta-oxyacyclononate (Cone 75%)
298. Hexachlorbbenzene
299. Hexachlorocyclohexan (Lindane)
300. Hcxachlorocyclopentadieae
301. Hexachlorodibenzo-p-dioxm
302. Hexachloronapthalenc
303. Hexafluoropropanone sesquihydrate
304. Hexamethyl phosphoroamid e
305. Hexamethylene diamine NN djbuty
306. Hexaue
307. Hexanitrostilbcne 224466
308. Ho.xenc
309. Hydrogen selenide
310. Hydrogen sulphide .
311. Hydrazjne
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 34-dichlorophenyl ester
331.	Isodrin
332.	Isofluorophosphate
333.	Isophorone diisocyanate
334.	Isopropyl alcohol
335.	Isopropyl chlorocarbonate
336.	Isopropyl formate
337.	IgopropyJ methyl pyrazolyl dimethyl carbamate *
338.	Juglone (5-Hydroxy Napthalene-1,4 dione)
339.	Ketene
340.	LactonitriJe
341.	'Lead arsenife
342.	Lead at high temp (molten)
343.	Xead azide-
344.	Lead styphanate
345.	Leptophos
346.	Lenisite
347.	Liqui&d petroleum gas
348.	Lithium hydride
349.	N-Dini fro benzene
350.	Magnesium powder or ribbon
351.	Malathion
352.	Maleic anhydride
353.	MalononitnJe
354.	Manganese Tricarbonyl cyclopentadiene
355.	Meclilor ethamine
356.	Mephospholan
357.	Mercuric chloride
358.	Mercuric oxide
359.	Mercury acetate
360.	Mercury fulminate
361.	Mercury methyl chloride
362.	Mesitylene
363.	Methaacrolein cliacetate
364.	Metbacrylic anhydride
365.	Methacrylonitrile
366.	Metbacryloyl oxyethyl isocyanate
367.	Methanidophos
368.	Methane
369.	Methanesulphonyl fluoride
370.	Methidathion

371.	Methiocarb
372.	Methonyl
373.	Methi'Xy etbanol (2-methyi ceJlosolve)
374.	Methoxyethyl mercuric acetate
375.	MethyacryJol chloride
376.	Methyl 2-chloroacrylate
377.	Methyl alcohol
378.	Methyl amine
379.	Methyl bromide (Bromomethane)
380.	Methyl chloride
381.	Methyl chloroform
382.	Methyl chlorofbrmate
383.	Methyl cyclohexane
384.	Methyl disulphide
385.	Methyl ethyl ketone peroxide (Cone 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 cuchkmde
396.	Methyl thiocyanate
397.	Methyl trichlorosilanc
398.	Methyl vinyl ketone
399.	Methylene bis (2-chloroamline)
400.	Methylene chloride
401.	Methylenebis-4, 4(2-chlorosniiiue)
402.	Metolcarb
403.	Mevinphos
404.	Meza carba te
405.	Mifomycin G
406.	Molybdenum powder
font	Mono cro topics
408.	MorphoJine .
409.	Muscinol
410.	Mustard! gas
411.	N-JSutyl acetate
412.	N-Butyl alcohol
413.	N-Hexane
414.	N-Methyl-N, 2,4,6-TetfamfroaniJine
415.	Naphtha
416.	Naph tha solven £
417.	Naphthalene
418.	Naphthyl aminc
419.	NickeJ carbonyl/nickel tetracarbonyJ
420.	Nickel power
421.	Nicotine

422.	Nicotine sulphate
423.	Nitric acid
424.	Nitric oxide'
425.	Nitrobenzene
426.	Nitrocellulose (dry)
427.	Vifrochlorobenzene
428.	Nitrocyclohexane
429.	Nitrogen
430.	Nitrogen dioxide
431.	Nitrogen, oxide
432.	Nifrog'en trifiuouide
433.	Nitroglycerine
434.	Nitropropane-1
435.	Nitropropane-2
436.	Nitroso dimethyl ainine
437.	Nonane
438.	JVorbormide
439.	O-Cresol
440.	O-Nitro Toluene
441.	O-ToJudine
442.	O-Xylene
443.	O/P Nitroaniline
444.	Oleum
445.	OO Diethyl S etJiyl suph. methyl phos
446.	OO Diethyl S propythio methyl phosdithioate
447.	OO Dicthyl s ethylsulphmylmethylphosphorothioate
448.	GO Diethyl s ethylsulphonylmetitylphosphorothioate
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 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. PentachJoro naphthalene;  
474. Pentadecyl-amine  
475. PeaKaeiythaiotol tetranitrate  
476. Pentane  
477. Pentanone  
478. Perchloric acid..  
479. Perchloroethylene  
480. Peroxyacetic acid  
481. Phenol  
482. Phenol, 2, 2-thiobis (4,,6-Dichlorp)  
483. Phenol, 2, 2-thiobis (4 chloro 6 methyl phenol)  
484. Phenol, 3-(1-methyl ethyl)-methylcarbamate  
485. Phenyl hydrazine hydrochloride  
486. Phenyl mercmy acetate  
487. Phenyl silatrane  
488. Phenyl thiourea  
489. Phenylene P-diamine  
490. Phorate  
491. Phosazetin  
492. Phosfolan  
493. Phosgene  
494. Phosmet  
495. Phosphamidott  
496. Phosphine  
497. Phosphoric acid  
498. Phosphoric acid dimethyl (4-methl thio) phenyl  
499. Phosphorothioic acid dimethyl S (2-Bis) Ester  
500. Phosphorothioic acid methyl.(ester)  
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. Phylloquinoue  
510. Physostigiine  
511. Physostignine salicylate (1:1)  
512. Picric acid (2, 4, 6-trinitropheriol)  
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. 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 -diol diacetate  
 534. Propiolactone beta  
 535. Propionitrile  
 536. Propionitrile, 3 -chloro  
 537. Propiophenone, 4-amino ^  
 538. Propyl chloro form ate  
 539. Propylene dichloride  
 540. Propylene glycol allylether  
 541. Propylene imine  
 542. Propylene oxide  
 543. Prothoate  
 544. Pseudocumene  
 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. Pymamil  
 552. Quinalphos  
 553. Quinone  
 554. Rhodium trichloride  
 555. Salcomine  
 556. Sarin  
 557. Selenious acid  
 558. Selenium Hexafluoride  
 559. Selenium oxychloride  
 560. Sulfamic acid hydrochloride  
 561. Silane (4-amino butyl) diethoxy-meth  
 562. Sodium  
 563. Sodium alpha-thio-quinone-sulfonate  
 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 tellurite
- 578. Stannane acetoxy triphenyl
- 579. Stibine (Antimony hydride)
- 580. Strychnine
- 581. Strychnine sulphate
- 582. Styphnic acid 2,4,6-trinitroresorcinol)
- 583. Styrene
- 584. Sulphuric acid
- 585. Sulphuric acid, 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. TEEP (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 peroxyisobutyrate (Conc = 77%)
- 601. Tert-Butyl peroxyisobutyl
- 602. Tetrahydrofuran
- 603. Tetra methyl lead
- 604. Tetra nitromethane
- 605. Tetra-chlorodibenzo-p-dioxin, 1,2,3,7,8, (TCDD)
- 606. Tetraethyl lead
- 607. Tetrafluoroethylene
- 608. Tetra methylene disulphotetramine
- 609. Thallium oxide
- 610. Thallium carbonate
- 611. Thallium sulphate