## UTTARAKHAND FACTORIES (CONTROL OF INDUSTRIAL MAJOR ACCIDENT HAZARDS) RULES

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

- Short Title and Commencement
- Definition
- Collection, development and dissemination of information
- General Responsibility of the Occupiers
- Notification of Major accident
- Industrial activity to which rules 7 to 15 apply
- Notification of industrial activities
- Updating of the notification under Rule 7
- Transitional Provision
- Safety Reports
- Updating of reports under Rule 10
- Requirements for further information
- Preparation of on-site emergency plan by the occupier
- Preparation of off-site emergency plan
- Information to be given to persons liable to be affected by a major accident
- Disclosures of information notified under these Rules
- Improvement notices
- Power of the Central Government to modify the Schedules
- Schedules

#### 1. Short title and commencement

- 1. These rules may be called the Uttarakhand Factories (Control of Major Accident hazards) Rules
- 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) "hazardous chemical" means

- 1) any chemical which satisfies any of the criteria laid down in Part I of Schedule 1 and is listed in Column 2 of Part II of Schedule 1; or
  - 2) any chemical listed in Column 2 of Schedule 2; or
  - 3) any chemical listed in Column 2 of Schedule 3;
- (b) "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;
- (c) isolated storage" means storage where no other manufacturing process other than pumping of hazardous chemical is carried out and that stroage involves at least a quantity of that chemical set out in Schedule 2, but does not include storage associated with any installation specified in Schedule 4 on thw same site;
- (d) "major accident" means an occurrence (including in particulars, a major emission, fire or explosion) involving one or more hazardous chemicals and resulting from uncontrolled developments in the course of an industrial activity or owing to natural events leading to a serious danger to persons, whether immediate or delayed, inside or outside the installation or damage to property or adverse effects on the environment;
- (e) "pipeline" means a pipe (together with any apparatus and works associated therewith), for system of pipes (together with any apparatus and works associated therewith), for the conveyance of a hazardous chemical other than a flammable gas as set out in Column 2 of Part II of Schedule 3 at a pressure of less than 8 bars absolute;
- f) "Schedule" means Schedule appended to these rules;
- (g) "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 occupier
- (h) Words and expressions not defined in these Rules but defined or used in the Factories Act, 1948 and the rules made there under will have the same meaning as assigned therein.

#### 3.Collection, Development and Dissemination of Information

1. This rule shall apply to an industrial activity in which a hazardous chemical which satisfies any of the criteria laid

- down in part 1 of Schedule 1 and is 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 detailed information on hazardous chemical in the form of a material safety data sheet as specified in Schedule 5. The information shall be accessible to workers upon request for reference.
- 3. The occupier while obtaining or developing a material safety data sheet as indicated in Schedule 5 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 indicated in Schedule 5 as soon as practicable.
- 4. Every container of a hazardous chemical shall be clearly labelled or marked to identify-
- a. The contents of the container;
- b. the name and address of the manufacturer or importer of the hazardous chemical; and
- c. the physical, chemical and toxicological data as per the criteria given in Part I of schedule 1.
- 5. In terms of sub-rule (4) of this rule where it is impractical to label a chemical in view of the size of the container or the nature of the package, provision should be made for other effective means like tagging or accompanying documents.

#### 4. General responsibility of the occupiers

- 1. This rules shall apply to,
  - a. an industrial activity, other than isolated storage, in which a hazardous chemical which satisfies any of the criteria laid down in Part I of Schedule 1 and is listed in Column 2 of Part II of this Schedule therein is or may be involved; and
  - b. isolated storage in which there is involved a quantity of hazardous chemical listed in Column 2 of Schedule 2 which is equal to or more than the quantity specified in the Schedule for that chemical in column 3 thereof.
- 2. An occupier who has control of an industrial activity in terms of sub-rule (1) of this rule shall provide evidence to show that he has
  - a. identified the major accident hazards; and
  - b. taken adequate steps to -
    - I. prevent such major accident and to limit their consequences to persons and the environment; and
    - II. provide to the persons working on the site with the information,

training and equipment including antidotes necessary to ensure their safety.

#### 5.Notification of Major accident

- 1. Where a major accident occurs on a site, the occupier shall forthwith notify the Inspector and the 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 schedule 6.
- 2. The Chief Inspector shall on receipt of the report in accordance with sub-rule (1) of this rule, shall undertake a full analysis of the accident and send the requisite information to the Directorate General, Factory Advice Service and Labour Institutes (DGFASLI) and the Ministry of Labour throuh appropriate channel.

#### 6. Industrial activities to which rules 7 to 15 apply

- 1. Rules 7 to 9 and 13 to 15 shall apply  ${\bf to}$  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 that the quantity specified in the entry for that chemical in Columns 3;
- (b) Rules 10 to 12 shall apply to an industrial activity, other than isolated storage, in which there is involved a quantity of a hazardous chemical listed in coloumn 2 of Schedule 3 which is equal to or more than the quantity specified in the entry for that chemical in Coloumn 4;
- (c) Rules 7 to 9 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 quantity specified in the entry for that chemical in Column 3; and
- (d) Rule 10 to 15 shall apply to an isolated storage in which there is involved a quantity of a hazardous chemical listed in Column 2 of Schedule 2 which is equal to or more than the quantity specified in the entry for that chemical in Column 4.
- 2. For the purposes of rules 7 to 15 -
- (a) a "new industrial activity" means an industrial activity which
- (i) was commenced after the date of coming into operation of these rules; or
- (ii) if commenced before that date, is an industrial activity in which there has since that date a modification which would be likely to have important implications for major accident hazards, and that activity

shall be deemed to have been commenced on the date on which the modification was made; and

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

#### 7.Notification of industrial activities

- 1. An occupier shall not undertake any industrial activity unless he has submitted a written report to the Chief Inspector containing the particulars specified in Schedule 7 atleast three months 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 quantity given in Coloumn 3 of Schedule 2 and 3 or more of an additional hazardous chemical shall be deemed to be a different activity and shall be notified accordingly.
- 2. No report under sub-rule (1) of this rule need to be submitted by the occupier, if he submits a report under sub-rule (1) of Rule 10.

#### 8. Updating of the site notification under Rule 7

When 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 liable to be at the site or in the pipeline or at the cessation of the activity) which affects the particulars specified in that report or any subsequent report made under this Rule, the occupier shall forthwith furnish a further report to the Chief Inspector.

#### 9.Transitional provision

Where, -

- a. at the date of coming into operation of these Rules, an occupier who is in control of an existing industrial activity which is required to be reported under sub-rule(1) of Rule 7; or
- b. within 6 months after that date an occupier commences any such new industrial activity;

it shall be a sufficient compliance with that rule if he reports to the Chief Inspector 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 Chief Inspector may agree in writing.

#### 10.Safety reports

1. Subject to the following sub-rules 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 Chief Inspector at least three months before commencing that activity.
- 2. In the case of a new industrial activity which an occupier commences, or by virtue of sub-rule (ii) of clause (a) of sub-rule (2) of Rule 6 is deemed to commence within 6 months after coming into operation of these rules, is shall be a sufficient compliance with sub-rule(1) of this Rule if the occupier sends to the Chief Inspector a copy of the report required in accordance with that sub-rule within three months after the date of coming into operation of these Rules.
- 3. In case of an existing industrial activity, until five years from the date of coming into operation of these Rules, it shall be a sufficient compliance with sub-rule(1) of the Rule if the occupier on or within the three months after the date of coming into in schedule 7 relating to that activity.

#### 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 Chief Inspector at least three months before making those modifications.
- 2. Where an occupier has made a report in accordance with rule 10 and subrule (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 previous report relating to safety and hazard assessment and shall within one month or in such longer time as the Chief Inspector may agree in writing, send a copy of the report to the Chief Inspector.

#### 12.Requirements for further information

Where in accordance with rule 10(1), an occupier has sent a safety report relating to an industrial activity to the Chief Inspector, the

Chief Inspector may, by a notice served on the occupier, require him to provide such additional information as is specified in the notice and the occupier shall send that information to the Chief Inspector within such time as is specified in the notice or within such extended time as the Chief Inspector may subsequently specify.

#### 13. Preparation of on-site emergency plan by the occupiers

- 1. An occupier who has control of an industrial activity to which this rule applies shall prepare in consultation with the Chief Inspector and keep up to-date and furnish to the Chief Inspector and the Inspector an on-site emergency plan 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 authorised 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, 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 provision.
- 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 except that in the case of a new industrial activity which is commenced or is deemed to have been commenced before a date of three months after the coming into operation of these Rules by that date; or
  - b. in the case of an existing industrial activity, within three months of coming into operation of these rules

#### 14. Preparation of off-site emergency plans by the authority

- 1. It shall be the duty of the District Magistrate or the District Emergency Authority designate by the State Government in whose area there is a site on which an occupier carries upon an industrial activity to which this Rule applies to prepare and keep up-to-date an adequate off-site emergency plan detailing emergencies relating to a possible major accident on that site will be dealt with and in preparing that plan the authority shall consult the occupier, the Chief Inspector and such other persons as appear to the authority to be appropriate.
- 2. The occupier shall provide the District Magistrate or the District Emergency Authority with such information relating to the industrial activity under his control as may be necessary to enable the District magistrate or the District

Emergency Authority to prepare an off-site emergency plan under sub-rule of this Rule including the nature, extents and likely effects off-site of possible major accidents as well as any additional information as the District Magistrate or the District Emergency Authority may require in this regard.

- 3. the District Magistrate or the District Emergency Authority shall provide the occupier with information from the offsite emergency plan which relates to his duties under Rule 13 or sub-rule(2) of this rule.
- 4. The District Magistrate or the District Emergency Authority shall prepare its emergency plan for ant industrial activity required under sub-rule (1) of this Rule -
- 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 its being notified by the occupier of the industrial activity.

## 15. Information to be given to persons liable to be affected by a major accident

- 1. The occupier shall take appropriate steps to inform person outside the site who are likely to be in an area which might be affected by a major accident at any site on which an industrial activity under his control to which this Rule applies is carried on either directly or through the District Emergency Authority about -
- a. the nature of the major accident hazard; and
- b. the safety measure and the correct behavior which should be adopted in the event of a major accident.
- 1. The occupier shall take the steps required under sub-rule (1) of this rule Rule to inform persons about an industrial activity, before that activity is commenced, except that, in the case of an existing industrial activity in which case the occupier shall comply with the requirements of sub rule (1) of this Rule within three months of coming into operation of these Rules.

#### 16.Disclosure of information notified under these Rules

Where for the purpose of evaluating information notified under rule 5 or 7 to 15, the Inspector or the Chief Inspector or the District Emergency Authority disclose that information to some other person, that other person shall not use that information for any purpose except for the purpose of the Inspector or the Chief Inspector or the District Emergency Authority disclosing it, as the case may be, and before disclosing that information the Inspector or the Chief Inspector or the District Emergency Authority as the case may be, shall inform that other person of his obligations under this paragraph.

17. Improvement notices (1) If an Inspector is of the opinion that an

- (a) is contravening one or more these Rules, or
- (b) has contravened one or more of that Rules in circumstances that make it likely that the contravention will continue or be repeated, he may serve on him a notice (in this Rule referred to as "an improvement notice") stating the reasons for his opinion, requiring the occupier to remedy the contravention within such period as may be specified in the notice.
- 2. A notice served under sub-rule (1) of this Rule may include directions as to the matters to be taken by the occupier to remedy any contravention or the matters to which the notice relates.

#### 18. Power of the State Government to modify the Schedules

The State Government may, at any time, by notification in the Official Gazette, modify the Schedules:

#### **SCHEDULES**

SCHEDULE 1	SCHEDULE 2	SCHEDULE 3	SCHEDULE 4
SCHEDULE 5	SCHEDULE 6	SCHEDULE 7	SCHEDULE 8
SCHEDULE 9	SCHEDULE 10	SCHEDULE 11	SCHEDULE 12

#### Schedule 1

[ See Rule 2 E(i), 4(1)(A), 4(2), 17 and 18]

#### **Indicative criteria and list of Chemicals**

#### **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:

Sl. No.	Degreeof toxicity	Medium lethal dose by the oral route, Oral Toxicity LD50(mg/kg body weight of text animals)	Medium Lethal dose by the dermal route, Dermal Toxicity (dermal LD 50) (mg/kg body weight of test animals)	Medium lethal concentration by inhalation route(for hours LC50 (mg/I inhalation in test animals)
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  $20^{\circ}\text{C}$  and at standard pressure of 101.3 KP a are :-
- (a) ignitable when in a mixture of 13 per cent 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.
- (iii) flammable liquids: chemicals which have a flash point lower than 65°C and which remain liquids under pressure, where particular processing conditions, such as high pressure and high temperature, may create major accident hazards;

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

- (ii) extremely flammable liquids : chemicals which 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 inflammable 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  $60^{\circ}$ C but lower than  $90^{\circ}$ C
- **(c) Explosives :** explosives means a solid or liquid or pyrotechnic substance (or a mixture of substances) or an article.
- (a) which is in itself capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings;
- (b) which is designed to produce an effect by heat, light, sound, gas or smoke or a combination of these as the result of non-detonative self-sustaining exothermic reaction.

# PART II List of Hazardous and Toxic Chemicals

SI.No	Name of the chemical	SI. No.	Name of the Chemical	SI. No.	Name of the Chemical
1	Acetaldehyde	2	Acetic acid	3	Acetic anhydride
4	Acetone	5	Acetone cyanohydrine	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 amine	17	Allyl amine	18	Alyl chloride
19	Aluminium (powder)	20	Aluminium azide	21	Aluminium borohydride
22	Aluminium Chloride	23	Aluminium fluoride	24	Aluminium (powder)

25	Amino diphenyl	26	Amino pyridine	27	Aminiphenol-2
28	Aminopterin	29	Amiton	30	Amiton dialate
31	Ammonia	32	Ammonium chloro platinate	33	Ammonium nitrate
34	Amonium nitrite	35	Ammonium picrate	36	Anabasine
37	Aniline	38	Aniline 2,4,6-trimethyl	39	Anthraquinone
40	Antimony pentafluoride	41	Antimycin A	42	ANTU
43	Arsenic pentoxide	44	Arsenic trioxide	45	Arsenous trichloride
46	Arsine	47	Asphalt	48	Azinphos- ethyl
49	Azinphos-methyl	50	Baccitracin	51	Barium azide
52	Barium azide	53	Benzene	54	Benzidine
55	Benzenamine,3- trifluoromethyl	56	Benzene	57	Benzene sulfonyl chloride
58	Benzene, 1-(chloromethyl)- 4 Nitro	59	Benzene arsenic acide	60	Benzidine
61	Benzidine salts	62	Benzimidazole, 4,5-Dichloro 2(Trifluoromethly)	63	Benzoquinone-P
64	Benzotricloride	65	Benzolyl chloride	66	Benzoyl peroxide
67	Bezyl 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-Butylperoxy) cyclohexane	74	Bis (tert-Butylperoxy) butane	75	Bis (2,4,6- Trimitrophenylamine)
76	Bis (chloromethyl) Ether	77	Bismuth and compounds	78	Bisphenol-A
79	Bitoscanate	80	Boron Powder	81	Boon Powder
82	Boron trifluoride	83	Boron trifluoride comp. with methylether, 1:1	84	Bromine
85	Bromine pentafluoride	86	Bromo Chloro methane	87	Bromodialone
88	Butadiene	89	Butane	90	Butanone-2
91	Butyl amine tert	92	Butyl glycidal ether	93	Butyl isovalarate
94	Butyl peroxymaleate tert	95	Butyl vinyl ether	96	Butyl-n-mercaptan
97	C.I. Basic green	98	Cadmium oxide	99	Cadmium stearate
100	Calcium arsenate	101	Calcium carbide	102	Carbon disulphide
103	Camphechlor (Toxaphene)	104	Cantharidin	105	Captan
106	Carbachol Chloride	107	Carbaryl	108	Carbofuran
109	Carbon tetrachloride	110	Carbon disulphide	111	Carbon monoxide
112	Carbophenothion	113	Carvone	114	Cellulose nitrate
115	Chloroacetic acid	116	Chlordane	117	Chlorfenvinphos
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	Chloropoxypropane	132	Chloroethane
133	Chloromethylether	134	Chloronitrobenzene	135	Chlorophacinone
136	Chlorosulphonic acid	137	Chlorothiphos	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 compound	147	Copperoxychloride
148	Coumafuryyl	149	Coumaphos	150	Coumatetralyl
151	Crimidine	152	Crotenaldehyde	153	Crotonaldehyde
154	Cumene	155	Cyanogen bromide	156	Cyanogen iodide
157	Cyanophos	158	Cyanothoate	159	Cyanuuric fluoride
160	Cyclohexylamine	161	Cyclohexane	162	Cyclohexanone
163	Cycloheximide	164	Cyclopentadiene	165	Cyclopentane
166	Cyclotetramethylene tetranitrami- ne	167	Cyclotrim ethylenetrinitranine	168	Cypermethrin
169	DDT	170	Decaborane (1:4)	171	Demeton
172	Demeton S-Methyl	173	Di-n-Propyl peroxy dicarbonate	174	Dialifos
175	Diazodinitrophenol	176	Dibenzyl peroxydicarbonate	177	Diborane
178	Dichloroacetylene	179	Dichlorobenzalkonium chloride	180	Dichloroethyl ether
181	Dichlorophenol, -2, 6	182	Dichlorophenol, 2, 6	183	Dichlorophenol -2,4
184	Dichloromethyl phenoxy acetic acid	185	Dichloropropane-2,2	186	Dichlorosalicylic acid,3,5
187	Dichlorvos (DDVP)	188	Dicrotophos	189	Dieldrin
190	Diepoxybutane	191	Diethyl carbamazine citrate	192	Diethyl Chlorophosphate
193	Diethyl ethanolamine	194	Diethyl Peroxydicarbonate	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	Dihydro peroxpropane	204	Diisobutyl peroxide
205	Dimefox	206	Dimethoate	207	Dimethyl dichloroasilane
208	Dimethyl hydrazine	209	Dimethyl nitrosoamine	210	Dimethyl P phenylene diamine
211	Dimethyl phosphoramidocyanidic acid (TABUM)	212	Dimethyl phosphorochloridothioate	213	Dimethylsufolane
214	Diemethyl sulphide	215	Dimethylamine	216	Dimethylaniline
217	Diemethlacarbonyl chloride	218	Dimetilan	219	Dinitro-o-cresol
220	Dinitrophenol	221	Dinitrotoluene	222	Dinoseb
223	Dinoterb	224	Dioxane-p	225	Dioxathion

226	Dioxine N	227	Dipphacinone	228	Diphosphoramide octamethyl
229	Dphenyl methane diisocynate (MDI)	230	Dipropylene Glycol Butyl ether	231	Dipropylene glycol methylether
232	Di-sec-Butyl peroxydicarbonate	233	Disufoton	234	Dithiazamine iodide
235	Dithiobiurate	236	Endosulfan	237	Endothion
238	Endrin	239	Epichhlorohydrine	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 alchohal	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 thocyanate	260	Ethylamine	261	Ethylene
262	Ethylene chlorohydrine	263	Ethylenne dibromide	264	Ethylene diamine
265	Ethylene diamine hydrochloride	266	Ethylenne flurohydrine	267	Ethylene glycol
268	Ethylene glycol dinitrate	269	Ethylene oxide	270	Ethylenimine
271	Ethylene dichloride	272	Femamiphos	273	Femitrothion
274	Fensulphothion	275	Fluenetil	276	Fluorine
277	Fluoro 2 hydroxy butyric acid amid salt esters	278	Fluoroacetamide	279	Fluoroacetic acid amide salts and ethers
280	Fluoro acetylchloride	281	Fluorobutyric acid amide salt esters	282	Fluorocroptonic acid amides salts esters
283	Fluoroucil	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, -1, -4 nitrosaminogunyl -1 - tetrazene	296	Heptachlor	297	Hexa methyl- tetraoxyacyclononate
298	Hexachlorobenzene	299	Hexachloro cyclohexane	300	Hexachloro cyclopentadiene
301	Hexachlorodiebenzo-p- dioxin	302	Hexachloronapthalene	303	Hexafluoropropene sesquilydrate
304	Hexamethylphosphoramide	305	Hexamethylene diameine N N dibutyl	306	Hexane
307	Hexanitrostilbene,- 2,2,4,4,6,6	308	Hexane	309	Hydrogen selenide
310	Hydrogen Sulphide	311	Hydrazine	312	Hydrazine nitrate
313	Hydrochloric acid (Gas)	314	Hydrogen	315	Hydrogen Bromide

					1
316	Hydrogen cyanide	317	Hydrogen fluoride	318	Hydrogen peroxide
319	Hydroquinone	320	Indene	321	Indium powder
322	Indomethacin	323	lodine	324	Indium tetrachloride
325	Ironpentaacarbonyl	326	Iso benzan	327	Isoamyl alcohal
328	Isobutyl alcohol	329	Isobutyro nitrile	330	Isocyanic acid 3 4- dichlorophenyl ester
331	Isodrin	332	Isofluorophophate	333	Isophorone diisocyanate
334	Isopropyl alcohal	335	Isopropyl chlorocarbonate	336	Isopropyl formate
337	Iso propyl methyl pyrazolyl dimethyl carbamate	338	Juglone (5-hydroxy Napthalene - 1,4 dione)	339	Ketene
340	Lactonitrile	341	Lead arsenite	342	Lead at high temp (molten)
343	Lead azide	344	Lead syyphanate	345	Leptophos
346	Lenisite	347	Liquified Petroleum Gas (LPG)	348	Lithium hydride
349	N-Dinitrobenzene	350	Magnesium powder or ribbon	351	Malathion
352	Maleic anhydrides	353	Mercapto benzothiazole	354	Manganese Tricarbonuyl
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	Methanesuphonyl fluoride
370	Metthidathion	371	Methiocarb	372	Methonyl
373	methoxy ethanol (2-methyl cellosolve)	374	Methoxythyl mercuric acetate	375	Methyacrylol chloride
376	Methyl 2-chloroarylate	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	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	Methyltrichlorosilane	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	+	Morpholine
409	Muscinol	410	Mustard gas	411	N-Butyl Acetate
412	N-Butyl alcohol	413	N-Hexane	414	N-Methyl-N,2,4,6,- Tetranitroaniline
415	Naphtha	416	Naphtha solvent	417	Naphthalene
418	Naphthyl amine	419	Nickel tetracorbonyl	420	Nickel powder
421	Nicotine	422	Nicotine sulphate	423	Nitric acid
424	Nitric oxide	425	Nitrobenzene	426	Nitroaniline-o
427	Nitrochloobenzen	428	Nitrocyclohexane	429	Nitrogen
430	Nitrogen dioxide	431	Nitrogen oxides	432	Nitrogen trifluoride
433	Nitroglycerine	434	Nitropropane-1	435	NitroPropane-2
436	Nitrosodimethylamine	437	Nonane	438	Norbormide
439	O-Cresol	440	O-Nitro Tolune	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- ethylsulphonyl Methyl phosphorothioate
448	OO-Diethyl s ethylesulphony- Imethyl phosphorothioate	449	Oo-Diethyl s ethylthiorim- ethyl phosphorothioate	450	Organo rhodium complex
451	Orotic acid	452	Osmium tetroxide	453	Oxabain
454	Oxamyl	455	Oxetane, 3,3,-bis (chloromethyl)	456	Oxamyl
457	Oxydisulfoton	458	Oxygen (liquid)	459	Oxygen difluoride
460	Ozone	461	P-nitrophenol	462	Parafin
463	Paraoxon (diethyl 4- nitrophenyl phosphate)	464	Paraquat	465	Paraquat methosulphate
466	Parathion	467	Parathion methyl	468	Paris green
469	Pentaborane	470	Pentachloroethane	471	PentachloroPhenol
472	Pentabromophenol	473	Pentachloronaphthalene	474	Pentadecyl-amine
475	Pentaerythaiotol tetranitrate	476	Pentane	477	Pentone
478	Perechloric acid	479	Perchloroethylene	480	Pentabromodiphenyl Oxide
481	Phenol	482	Phenol,2,2-thiobis (4,6-Dichloro)	483	Phenol,2,2-thobis (4 chloro 6 methyl phenol)
484	Phenol, 3-(1-methyl ethyl) metylcarbamate	485	Phenyl hydrazine hydrochloride	486	Phenylmercury acetate
487	Phenyl silatrane	488	Phenyl thiourea	489	Phenylene p-diamine
490	Phorate	491	Phosazetin	492	Phosfolan
493	Phosgene	494	Phosmet	495	Phosphamidon
496	Phosphine	497	Phosphoric acid	498	Phosphoric acid dimethyl (4-methyl thio) phenyl

499	Phosphorothioic acid dimethyl S(2-Bis) Ester	500	Phosphorotioic acid methyl (Ester)	501	Phosphorotioic acid OO Dimethyl S-(2- methyl)
502	Phosphorotioic, methylethyl	503	Phosphorous	504	Phosphorous oxychloride
505	Pentaoxide	506	Phosphorous trichloride	507	Phosforous penta chloridel
508	Phthalic anhydride	509	Phosmet	510	Physostignine
511	Physostignine salicylate (1:1)	512	Picric acid (2,4,6- trinitorphenol)	513	Picrotoxin
514	Piperdine	515	Piprotal	516	Pirinifos-ethyl
517	Platonus chloride	518	Platium tetrachloride	519	Potassium arsenite
520	Potassium chlorate	521	Potassium cyanide	522	Potassium hydroide
523	Potassium nitride	524	Potassium nitrite	525	Potassium peroxide
526	Potassium silver cyanide	527	Powered 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	Propiopheone, 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- sulphate	564	Sodium arsenate
565	Sodium arsenite	566	Sodium azide	567	Sodium cacodylate
568	Sodiumchlorate	569	Sodium cyanide	570	Selenium hexafluoride
571	Sodium hydroxide	572	Sodium pentachloro-phenate	573	Sodium picramate
574	Sodium selenate	575	Sodium selenite	576	Sodium selenate sulphide
577	Sodium tellorite	578	Stannane acetoxy triphenyl	579	Sulfotep
580	Strychnine	581	Strychnine sulphate	582	Styphininc acid (,4,6-trinitroresorcinol)
583	Styrene	584	Sulphotec	585	Sulphoxide, 3- chloropropyl
EOC	Sulphur dichloride	587	Sulphur dooxide	588	Sulphur monochloride

Terturum 1993 Terlurum nexaliuoride 1994 pyrophos 1995 Terbufos 1995 Tert-Butyl alchohal 1997 Tert-Butyl peroxy isopropyl 1995 Tert-Butyl peroxyacetate 1997 Tert-Butyl peroxypin 1998 Tert-Butyl peroxyisobutyrate 1999 Tert-Butyl peroxyacetate 1990	retraethyl sphate) yl peroxy te yl valate thyl lead yl lead xide chloride
Tert-Butyl peroxy isopropyl  Tert-Butyl peroxy isopropyl  Tert-Butyl peroxy isopropyl  Tert-Butyl peroxy isopropyl  Tert-Butyl peroxyacetate  Tert-Butyl peroxypir  Tert-Butyl peroxyiso- butyrate  Terta hydrofuran  Tetrachlorodibenzo-p- dioxin,2,3,7,8 (TCDD)  Tetrachluriethyne  Tetrachlorodibenzo-p- dioxin,2,3,7,8 (TCDD)  Tetrachluriethyne  Tetrachlorodibenzo-p- dioxin,2,3,7,8 (TCDD)  Tetrachlylenedisulphotetramine  Thallium sulphate  Thocynamicacid, 2- (Benzothiazolyethio)  Methyl  Thallium  Thallium  Thallium  Thallium  Thallium	sphate) yl peroxy te yl valate thyl lead yl lead xide chloride
Tert-Butyl peroxy isopropyl 599 Tert-Butyl peroxyacetate 600 Tert-Butyl peroxypis 601 Tert-Butylperoxyiso-butyrate 602 Terta hydrofuran 603 Tetramet 604 Tetranitromethane 605 Tetrachlorodibenzo-p-dioxin,2,3,7,8 (TCDD) 606 Tetraethy 607 Tetafluoriethyne 608 Tetramethylenedisulphotetramine 609 Thallic ox 610 Thallium carbonate 611 Thallium sulphate 612 Thallous 613 Thallous malonate 614 Thallous sulphate 615 Thiocarb 616 (Benzothiazolyethio) 617 Thiofamox 618 Thiometo	te yl valate thyl lead yl lead xide chloride
Tert-Butyl peroxy isopropyr  601 Tert-Butylperoxyiso- butyrate  602 Terta hydrofuran  603 Tetramet  604 Tetranitromethane  605 Tetrachlorodibenzo-p- dioxin,2,3,7,8 (TCDD)  606 Tetraethy  607 Tetafluoriethyne  608 Tetramethylenedisulphotetramine  609 Thallic ox  610 Thallium carbonate  611 Thallium sulphate  612 Thallous  613 Thallous malonate  614 Thallous sulphate  615 Thiocarb  7 Thocynamicacid, 2- (Benzothiazolyethio) Methyl  617 Thiofamox  618 Thiometo	valate thyl lead yl lead xide chloride
butyrate   602   Terta hydrolulari   603   Tetramete   604   Tetranitromethane   605   Tetrachlorodibenzo-p-dioxin,2,3,7,8 (TCDD)   606   Tetraethy   607   Tetafluoriethyne   608   Tetramethylenedisulphotetramine   609   Thallic ox   610   Thallium carbonate   611   Thallium sulphate   612   Thallous   613   Thallous malonate   614   Thallous sulphate   615   Thiocarbonate   Thocynamicacid, 2-(Benzothiazolyethio)   617   Thiofamox   618   Thiomete   Thallium   Thallium	yl lead xide chloride
604 Tetranitromethane 605 dioxin,2,3,7,8 (TCDD) 606 Tetraethy 607 Tetafluoriethyne 608 Tetramethylenedisulphotetramine 609 Thallic ox 610 Thallium carbonate 611 Thallium sulphate 612 Thallous 613 Thallous malonate 614 Thallous sulphate 615 Thiocarb Thocynamicacid, 2- (Benzothiazolyethio) 617 Thiofamox 618 Thiometor	xide chloride
610 Thallium carbonate 611 Thallium sulphate 612 Thallous 613 Thallous malonate 614 Thallous sulphate 615 Thiocarb Thocynamicacid, 2- (Benzothiazolyethio) 617 Thiofamox 618 Thiometor	chloride
613 Thallous malonate 614 Thallous sulphate 615 Thiocarb  Thocynamicacid, 2- 616 (Benzothiazolyethio) 617 Thiofamox 618 Thiometo  Methyl Thallium	
Thocynamicacid, 2- (Benzothiazolyethio) Methyl  617 Thiofamox 618 Thiometo	azide
616 (Benzothiazolyethio) 617 Thiofamox 618 Thiometon Methyl Thallium	
610 Thionazin 620 Thional phlorida 624 Thallium	on
619 Thionazin 620 Thionyl chloride 621 compour	
622 Thiosemicarbazide 623 Thiourea (2-chloro-phenyl) 624 Tirpate	
625 Tirpate (2,4-dimethyl-1,3-di-thiolane) 626 Titanium powder 627 Titanium	tetra-chloride
Toluene 629 Toluene -2 -4 di isocyanate 630 Toluene isocyana	
631 Trans-1, 4-chloro-butene 632 tri nitro anisole 633 Tri (Cyclo methylsta triazole	
634 Tri-I, (Cyclohexyl) stannyl- 1,H-1,2,3- tr-iazole 635 Triaminotrinitrobenzene 636 Triampho	os
637 Triazophos 638 Tribromophenol 2,4,6 639 Trichloro	naphthalene
640 Trichloromthyl silane 641 Trichloroacetyl chloride 642 Trichloro silane	odichlorophenyl
643 Trichloroethyl silane 644 Trichloroethylene 645 Trichloro sulpheny	omethane /l
646 Trichloro ethane 647 Trichlorophenol, 2,3,6 648 Trichloro	phenol,2,4,5
649 Trichlorophenyl silane 650 Trichloroethane, 1, 1, 1 651 Triethoxy	y silane
Trichloromethanesulphenyl 654 Trimethy	d chlorosilane
Trimethylpropane phosphite 656 Trimethyl tin chloride 657 Trinitro a	niline
658 Trinitorbenzene 659 Trinitrobenzonic acid 660 Trinitro p	henetole
661 Trinitro-m-cresol 662 Trinitrotoluene 663 Teiorthoo phosphar	
664 Triphenyltin chloride 665 Tris (2-chloroethyl) amine 666 Turpentir	ne
667 Uranium and its 668 Valino mycin 669 Vanadiur	m pentaoxide

	compounds				
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 dichloropentaanitrile	683	Zinc phosphide	684	Zirconium and compo

### MSIHC ACT MENU