

HAZARDOUS CHEMICALS, CHEMICAL TOXICANTS AND SELECT AGENTS REQUIRING IBC PROTOCOL REGISTRATION

DEFINITION: The hazardous chemicals and toxins which require an approved IBC protocol are now defined as any chemical or toxin which is a: highly toxic, hazardous chemical = LD₅₀ (oral/rat) of ≤50 mg/kg or, if LD₅₀ not available, a GHS rating of 1 or 2 oral, 1 dermal, or 1 inhalation; or HMIS rating of 4. Some of these chemical agents are listed in the chart below. **Note that this is not an all-inclusive list.**

NOTE: Investigational quantities of most standard lab chemicals are now exempt from IBC protocol registration, as described above. However, a complete inventory list of lab chemicals must be recorded in EH&S. The chemical inventory can be accessed online through EH&S at <http://www.ttuhsu.edu/admin/safety/chemlist> (contact Laboratory Safety in Lubbock for details at 806-743-2597).

Chemical name / Description (synonym)	CAS Number	Toxicity	Specific Hazard Type
1,3-Butadiene diepoxide	1464-53-5	78 mg/kg LD50	toxic, carcinogen
2-(Dimethylamino)ethyl acrylate	2439-35-2	GHS 1 Inhalation HMIS – Health 4	toxic
2,3,7,8 tetrachlorodibenzo-p-dioxin (TCDD-dioxin)	1746-01-6	0.05 mg/kg LD50	carcinogen
3-acetylpyridine	350-03-8	46 uL/kg LD50	toxic
4-aminopyridine	504-24-5	21 mg/kg LD50	toxicant
abrin	1393-62-0		toxin
acrolein	107-02-8	44 mg/kg LD50	toxicant
aconitine	302-27-2	1mg/kg LD50	toxicant
actinomycin D	50-76-0	7.2 mg/kg LD50	carcinogen
alpha-bungarotoxin	11032-79-4	150 ug/kg LD50 (intraperitoneal)	toxic
aminopterin	54-62-6	3 mg/kg LD50	toxicant
antimycin A	1397-94-0	28 mg/kg LD50	toxic
arterenol free base	51-41-2	20 mg/kg LD50	toxicant
Atropine	51-55-8	GHS 2 Oral	toxic
BCNU (carmustine)	154-93-8	GHS 2 Oral	Toxic, carcinogen, reproductive toxin
Botulinum neurotoxins	No CAS		toxin
butyl methyl ether (TBME)	1634-04-04	4 mg/kg LD50	toxicant

carbamylocholine chloride (carbachol)	51-83-2	40 mg/kg LD50	toxic
carbon fuchsin	4197-24-4	36 mg/kg LD50	toxicant
colchicine	64-86-8	26 mg/kg LD50	toxicant
“some” or “certain” conotoxins (see CDC.gov for more info)	no CAS		toxin
cyanogen bromide (bromine cyanide)	506-68-3	GHS 2 Oral	poison, toxic
cycloheximide	66-81-9	2 mg/kg LD50	toxicant
cyclopiazonic acid	18172-33-3	36 mg/kg LD50	toxicant
cytochalasin B	14930-96-2	11 mg/kg LD50	toxicant
Diacetoxyscirpenol	2770-40-8	7mg/kg LD50	toxin
diisopropyl fluorophosphate	55-91-4	5mg/kg LD50	toxicant
Heptachlor	76-44-8	40mg/kg LD50	carcinogen
Hydrofluoric acid	7664-39-3	GHS 2 Oral, 1 Dermal	toxic
hydrogen cyanide	74-90-8	10 mg/kg LD50	toxicant, toxic gas, fire hazard
Iberitoxin, recombinant, from <i>Mesobuthus tamulus</i>	129203-60-7		toxin
Indomethacin	53-86-1	GHS 1 Oral, 2.42 mg/kg LD50	toxic
L-(-)-Norepinephrine (+)-bitartrate salt monohydrate, (L-(-)-Noradrenaline)	108341-18-0	GHS 2 Oral, 1 inhalation	toxic
Melphalan	148-82-3	11.2 mg/kg LD50	toxic
mercuric acetate	1600-27-7	40.9 mg/kg LD50	poison
mercuric chloride	7487-94-7	1mg/kg LD50	carcinogen
Methanesulfonyl chloride	124-63-0	GHS 2 Oral, 1 Inhalation	Toxin
mitomycin C	50-07-7	23 mg/kg LD50	toxin
muscimol	2763-96-4	45 mg/kg LD50	toxicant
Nicotine	54-11-5	50 mg/kg LD50	toxicant
nitric oxide	10102-43-9	200ppm/1mm LCLO	explosion hazard
N-nitrosomethylvinylamine	4549-40-0	24 mg/kg LD50	carcinogen
<i>N,N</i> -Dimethyl- <i>p</i> -phenylenediamine sulfate salt	536-47-0		toxicant
Ouabain octahydrate	11018-89-6	GHS 1 Oral	toxicant
Osmium tetroxide	20816-12-0		toxin
Paraoxon-ethyl Synonym: Diethyl p-nitrophenyl phosphate	311-45-5	GHS 2 Oral, 1 inhalation	toxin

pentachlorophenol (PCP)	87-86-5	27mg/kg	toxicant, poison
phenyl mercuric acetate (PMA)	62-38-4	22 mg/kg LD50	toxicant
phosphorus (red)	7723-14-0	3 mg/kg LD50	toxicant
phosphorus (white)	7723-14-0	3 mg/kg LD50	toxicant
Picrotoxin	124-87-8	15 mg/kg LD50	toxin
potassium cyanide	151-50-8	5 mg/kg LD50	toxicant
potassium dichromate	7778-50-9	25 mg/kg LD50	poison, carcinogen
Ricin	9009-86-3		toxin
ricin toxin subunit A	96638-28-7		toxin
ricin toxin subunit B	96638-29-8		toxin
saxitoxin/STX (0.26 mg/kg LD50)	35554-08-6, 35523-89-8		toxin
Shiga and Shiga-like toxins (1 and 2)	no CAS		toxin
sodium arsenite anhydrous	7784-46-5	41 mg/kg LD50	poison, carcinogen
sodium azide	26628-22-8	27 mg/kg LD50	toxicant
sodium cyanide	143-33-9	6.64 mg/kg LD50	toxicant
sodium fluoride	7681-49-4	31 mg/kg LD50	toxicant
sodium selenite	10102-18-8	7 mg/kg LD50	toxicant
Staphylococcal enterotoxins	11100-45-1		toxicant
Strychnine	57-24-9	23.5 mg/kg LD50	toxicant
strychnine hydrochloride	1421-86-9	2 mg/kg LD50	toxicant
T-2 toxin	21259-20-1	2.7 mg/kg LD50	toxin
tetramethylammonium chloride	75-57-0	50 mg/kg LD50	poison
Tetrodotoxin	4368-28-9	10 mg/kg LD50	toxin
Thallium(I) nitrate	10102-45-1	GHS 1 Oral	toxin
Thimerosal	54-64-8	GHS 1 Oral, GHS 1 Inhalation, GHS 1 Dermal	toxin
Valinomycin	2001-95-8	4 mg/kg LD50	toxin
Vinorelbine	125317-39-7	26-34 mg/kg LD50	toxic
vitamin d2 (calciferol)	50-14-6	10 mg/kg LD50	toxic
vitamin d3 (cholecalciferol)	67-97-0	42 mg/kg LD50	toxic
Wortmannin	19545-26-7	18 mg/kg LD50	toxicant

KEY:

- SELECT AGENT = select agents as designated by the CDC/NIH and/or USDA.
- All SELECT AGENTS are highlighted in Green.
- LD50 values are indicated if current tox data is available
- GHS = Global Harmonization System