

Appendix F: DHS CFAT – Chemicals of Interest (COI) list

COMMON LABORATORY CHEMICALS ARE HIGHLIGHTED IN YELLOW -
COMMERCIAL GRADE REFERS TO THE COMMONLY AVAILABLE
CONCENTRATION, THIS INCLUDES REAGENT, LABORATORY AND
ULTRAPURE OR HIGHER GRADES

Note: This list excludes chemicals under the laboratory and R+D reporting exemption.

Aluminum (powder) ≥ commercial grade	7429-90-5	Explosive
Ammonium nitrate, solid [nitrogen concentration >23%] ≥ 33%	6484-52-2	Explosive
Ammonium perchlorate ≥ commercial grade	7790-98-9	Explosive
Hydrogen peroxide ≥ 35%	7722-84-1	Explosive
Magnesium (powder) ≥ commercial grade	7439-95-4	Explosive
Nitric acid ≥ 68%	7697-37-2	Explosive
Nitromethane ≥ commercial grade	75-52-5	Explosive
Phosphorus ≥ commercial grade	7723-14-0	Explosive
Potassium chlorate ≥ commercial grade	3811-04-9	Explosive
Potassium nitrate ≥ commercial grade	7757-79-1	Explosive
Potassium perchlorate ≥ commercial grade	7778-74-7	Explosive
Potassium permanganate ≥ commercial grade	7722-64-7	Explosive
Sodium azide ≥ commercial grade	26628-22-8	Explosive
Sodium chlorate ≥ commercial grade	7775-09-9	Explosive
Sodium nitrate ≥ commercial grade	7631-99-4	Explosive
Triethanolamine ≥ 80%	102-71-6	Chemical Weapon/Precursor
CHEMICAL WEAPON/PRECURSORS		
1,3-Bis(2-chloroethylthio)-n-propane	63905-10-2	Chemical Weapon/Precursor
1,4-Bis(2-chloroethylthio)-n-butane	142868-93-7	Chemical Weapon/Precursor
1,5-Bis(2-chloroethylthio)-n-pentane	142868-94-8	Chemical Weapon/Precursor
2-Chloroethylchloro-methylsulfide	2625-76-5	Chemical Weapon/Precursor
Arsenic trichloride (synonym: [Arsenous trichloride]) ≥ 30%	7784-34-1	Chemical Weapon/Precursor
Bis(2-chloroethylthio)methane	63869-13-6	Chemical Weapon/Precursor

Policy	Chemical Hygiene Plan	Page:	48
Written by:	Michael D. Cimis	Revision date:	11/17/15

Bis(2-chloroethylthiomethyl)ether	63918-90-1	Chemical Weapon/Precursor
Chlorosarin (synonym: [o-Isopropyl methylphosphonochloridate])	1445-76-7	Chemical Weapon/Precursor
Chlorosoman (synonym: [o-Pinacolyl methylphosphonochloridate])	7040-57-5	Chemical Weapon/Precursor
DF (synonym: [Methyl phosphonyl difluoride])	676-99-3	Chemical Weapon/Precursor
Diethyl methylphosphonite \geq 30%	15715-41-0	Chemical Weapon/Precursor
Ethyl phosphonyl difluoride	753-98-0	Chemical Weapon/Precursor
Ethyldiethanolamine \geq 80%	139-87-7	Chemical Weapon/Precursor
Ethylphosphonothioic dichloride \geq 30%	993-43-1	Chemical Weapon/Precursor
HN1 (nitrogen mustard-1) (synonym: [Bis(2-chloroethyl)ethylamine])	538-07-8	Chemical Weapon/Precursor
HN2 (nitrogen mustard-2) (synonym: [Bis(2-chloroethyl)methylamine])	51-75-2	Chemical Weapon/Precursor
HN3 (nitrogen mustard-3) (synonym: [Tris(2-chloroethyl)amine])	555-77-1	Chemical Weapon/Precursor
Isopropylphosphonothioic dichloride \geq 30%	1498-60-8	Chemical Weapon/Precursor
Isopropylphosphonyl difluoride	677-42-9	Chemical Weapon/Precursor
Lewisite 1 (synonym: [2-Chlorovinyl dichloroarsine])	541-25-3	Chemical Weapon/Precursor
Lewisite 2 (synonym: [Bis(2-chlorovinyl)chloroarsine])	40334-69-8	Chemical Weapon/Precursor
Lewisite 3 (synonym: [Tris(2-chlorovinyl)arsine])	40334-70-1	Chemical Weapon/Precursor

MDEA (synonym: [Methyldiethanolamine]) ≥ 80%	105-59-9	Chemical Weapon/Precursor
Methylphosphonothioic dichloride ≥ 30%	676-98-2	Chemical Weapon/Precursor
N,N-(2-diethylamino)ethanethiol (synonym: [2-(Diethylamino)ethanethiol]) ≥ 30%	100-38-9	Chemical Weapon/Precursor
N,N-(2-diisopropylamino)ethanethiol (synonym: [N,N-diisopropyl-(beta)-aminoethane thiol]) ≥ 30%	5842-07-9	Chemical Weapon/Precursor
N,N-(2-dimethylamino)ethanethiol ≥ 30%	108-02-1	Chemical Weapon/Precursor
N,N-(2-dipropylamino)ethanethiol ≥ 30%	5842-06-8	Chemical Weapon/Precursor
N,N-Diethyl phosphoramidic dichloride ≥ 30%	1498-54-0	Chemical Weapon/Precursor
N,N-Diisopropyl phosphoramidic dichloride ≥ 30%	23306-80-1	Chemical Weapon/Precursor
N,N-Dimethyl phosphoramidic dichloride (synonym: [Dimethylphosphoramido-dichloridate]) ≥ 30%	677-43-0	Chemical Weapon/Precursor
N,N-Dipropyl phosphoramidic dichloride ≥ 30%	40881-98-9	Chemical Weapon/Precursor
Nitrogen mustard hydrochloride (synonym: [Bis(2-chloroethyl)methylamine hydrochloride]) ≥ 30%	55-86-7	Chemical Weapon/Precursor
o,o-Diethyl S-[2-(diethylamino)ethyl] phosphorothiolate ≥ 30%	78-53-5	Chemical Weapon/Precursor
O-Mustard (T) (synonym: [Bis(2-chloroethylthioethyl)ether])	63918-89-8	Chemical Weapon/Precursor
Phosphorus oxychloride (synonym: [Phosphoryl chloride]) ≥ 80%	10025-87-3	Chemical Weapon/Precursor
Propylphosphonothioic dichloride ≥ 30%	2524-01-8	Chemical Weapon/Precursor
Propylphosphonyl difluoride	690-14-2	Chemical Weapon/Precursor

QL (synonym: [o-Ethyl-o-2-diisopropylaminoethyl methylphosphonite])	57856-11-8	Chemical Weapon/Precursor
Sarin (synonym: [o-Isopropyl methylphosphonofluoridate])	107-44-8	Chemical Weapon/Precursor
Sesquimustard (synonym: [1,2-Bis(2-chloroethylthio)ethane])	3563-36-8	Chemical Weapon/Precursor
Soman (synonym: [o-Pinacolyl methylphosphonofluoridate])	96-64-0	Chemical Weapon/Precursor
Sulfur mustard (Mustard gas (H)) (synonym: [Bis(2-chloroethyl)sulfide])	505-60-2	Chemical Weapon/Precursor
Tabun (synonym: [o-Ethyl-N,N-dimethylphosphoramido-cyanidate])	77-81-6	Chemical Weapon/Precursor
Thiodiglycol (synonym: [Bis(2-hydroxyethyl)sulfide]) ≥ 30%	111-48-8	Chemical Weapon/Precursor
Triethanolamine hydrochloride ≥ 80%	637-39-8	Chemical Weapon/Precursor
Triethyl phosphite ≥ 80%	122-52-1	Chemical Weapon/Precursor
Trimethyl phosphite ≥ 80%	121-45-9	Chemical Weapon/Precursor
VX (synonym: [o-Ethyl-S-2-diisopropylaminoethyl methyl phosphonothiolate])	50782-69-9	Chemical Weapon/Precursor
EXPLOSIVES		
1H-Tetrazole ≥ commercial grade	288-94-8	Explosive
5-Nitrobenzotriazol ≥ commercial grade	2338-12-7	Explosive
Ammonium nitrate, [with >0.2 percent combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance] ≥ commercial grade	6484-52-2	Explosive
Ammonium picrate ≥ commercial grade	131-74-8	Explosive
Barium azide ≥ commercial grade	18810-58-7	Explosive
Diazodinitrophenol (synonym: [DDNP]) ≥ commercial grade	87-31-0	Explosive
Diethyleneglycol dinitrate ≥ commercial grade	693-21-0	Explosive
Dingu (synonym: [Dinitroglycoluril]) ≥ commercial grade	55510-04-8	Explosive
Dinitrophenol ≥ commercial grade	25550-58-7	Explosive
Dinitroresorcinol ≥ commercial grade	519-44-8	Explosive
Dipicryl sulfide ≥ commercial grade	2217-06-3	Explosive

Policy	Chemical Hygiene Plan	Page:	51
Written by:	Michael D. Cimis	Revision date:	11/17/15

Dipicrylamine [or] Hexyl (synonym: [Hexanitrodiphenylamine]) ≥ commercial grade	131-73-7	Explosive
Guanyl nitrosaminoguanylidene hydrazine ≥ commercial grade		Explosive
Hexanitrostilbene ≥ commercial grade	20062-22-0	Explosive
Hexolite (synonym: [Hexotol]) ≥ commercial grade	121-82-4	Explosive
HMX (synonym: [Cyclotetramethylene-tetranitramine]) ≥ commercial grade	2691-41-0	Explosive
Lead azide ≥ commercial grade	13424-46-9	Explosive
Lead styphnate (synonym: [Lead trinitroresorcinate]) ≥ commercial grade	15245-44-0	Explosive
Mercury fulminate ≥ commercial grade	628-86-4	Explosive
Nitrobenzene ≥ commercial grade	98-95-3	Explosive
Nitrocellulose ≥ commercial grade	9004-70-0	Explosive
Nitroglycerine ≥ commercial grade	55-63-0	Explosive
Nitromannite (synonym: [Mannitol hexanitrate, wetted]) ≥ commercial grade	15825-70-4	Explosive
Nitrostarch ≥ commercial grade	9056-38-6	Explosive
Nitrotriazolone ≥ commercial grade	932-64-9	Explosive
Octolite ≥ commercial grade	57607-37-1	Explosive
Octonal ≥ commercial grade	78413-87-3	Explosive
Pentolite ≥ commercial grade	8066-33-9	Explosive
PETN (synonym: [Pentaerythritol tetranitrate]) ≥ commercial grade	78-11-5	Explosive
Picrite (synonym: [Nitroguanidine]) ≥ commercial grade	556-88-7	Explosive
RDX (synonym: [Cyclotrimethylenetrinitramine]) ≥ commercial grade	121-82-4	Explosive
RDX and HMX mixtures ≥ commercial grade	121-82-4	Explosive
Tetranitroaniline ≥ commercial grade	53014-37-2	Explosive
Tetrazene (synonym: [Guanyl nitrosaminoguanyltetrazene]) ≥ commercial grade	109-27-3	Explosive
TNT (synonym: [Trinitrotoluene]) ≥ commercial grade	118-96-7	Explosive
Torpex (synonym: [Hexotonal]) ≥ commercial grade	67713-16-0	Explosive
Trinitroaniline (synonym: [Picramide]) ≥ commercial grade	26952-42-1	Explosive
Trinitroanisole ≥ commercial grade	606-35-9	Explosive
Trinitrobenzene ≥ commercial grade	99-35-4	Explosive
Trinitrobenzenesulfonic acid (synonym: [Picrylsulfonic acid]) ≥ commercial grade	2508-19-2	Explosive
Trinitrobenzoic acid ≥ commercial grade	129-66-8	Explosive
Trinitrochlorobenzene ≥ commercial grade	88-88-0	Explosive
Trinitrofluorenone ≥ commercial grade	129-79-3	Explosive
Trinitro-meta-cresol ≥ commercial grade	602-99-3	Explosive
Trinitronaphthalene ≥ commercial grade	55810-17-8	Explosive
Trinitrophenetole ≥ commercial grade	4732-14-3	Explosive
Trinitrophenol (synonym: [Picric acid]) ≥ commercial grade	88-89-1	Explosive
Trinitroresorcinol ≥ commercial grade	82-71-3	Explosive
Tritonal ≥ commercial grade	54413-15-9	Explosive
GASSES (please estimate amount of product remaining or use maximum cylinder capacity/amount purchased)		

Policy	Chemical Hygiene Plan	Page:	52
Written by:	Michael D. Cimis	Revision date:	11/17/15

Arsine \geq 0.67%	7784-42-1	Toxic Gas
Boron tribromide \geq 12.67%	10294-33-4	Toxic Gas
Boron trichloride (synonym: [Borane, trichloro]) \geq 84.7%	10294-34-5	Toxic Gas
Boron trifluoride (synonym: [Borane, trifluoro]) \geq 26.87%	7637-07-2	Toxic Gas
Bromine chloride (synonym: [Bromine monochloride]) \geq 9.67%	13863-41-7	Toxic Gas
Bromine trifluoride \geq 6%	7787-71-5	Toxic Gas
Carbonyl fluoride (synonym: [Carbonyl oxyfluoride]) \geq 12%	353-50-4	Toxic Gas
Carbonyl sulfide (synonym: [Carbon oxysulfide]) \geq 56.67%	463-58-1	Toxic Gas
Chlorine \geq 9.77%	7782-50-5	Toxic Gas
Chlorine pentafluoride \geq 4.07%	13637-63-3	Toxic Gas
Chlorine trifluoride \geq 9.97%	7790-91-2	Toxic Gas
Cyanogen (synonym: [Ethanedinitrile]) \geq 11.67%	460-19-5	Toxic Gas
Cyanogen chloride \geq 2.67%	506-77-4	Toxic Gas
Diborane \geq 2.67%	19287-45-7	Toxic Gas
Dichlorosilane (synonym: [Silane, dichloro-]) \geq 10.47%	4109-96-0	Toxic Gas
Dinitrogen tetroxide \geq 3.8%	10544-72-6	Toxic Gas
Fluorine \geq 6.17%	7782-41-4	Toxic Gas
Germane \geq 20.73%	7782-65-2	Toxic Gas
Germanium tetrafluoride \geq 2.11%	7783-58-6	Toxic Gas
Hexaethyl tetraphosphate and compressed gas mixtures \geq 33.37%	757-58-4	Toxic Gas
Hexafluoroacetone \geq 15.67%	684-16-2	Toxic Gas
Hydrogen bromide (anhydrous) \geq 95.33%	10035-10-6	Toxic Gas
Hydrogen chloride (anhydrous) \geq commercial grade	7647-01-0	Toxic Gas
Hydrogen cyanide (synonym: [Hydrocyanic acid]) \geq 4.67%	74-90-8	Toxic Gas
Hydrogen fluoride (anhydrous) \geq 42.53%	7664-39-3	Toxic Gas
Hydrogen iodide, anhydrous \geq 95.33%	10034-85-2	Toxic Gas
Hydrogen selenide \geq 0.07%	7783-07-5	Toxic Gas
Hydrogen sulfide \geq 23.73%	7783-06-4	Toxic Gas
Methyl mercaptan (synonym: [Methanethiol]) \geq 45%	74-93-1	Toxic Gas
Methylchlorosilane \geq 20%	993-00-0	Toxic Gas
Nitric oxide (synonym: [Nitrogen oxide (NO)]) \geq 3.83%	10102-43-9	Toxic Gas
Nitrogen trioxide \geq 3.83%	10544-73-7	Toxic Gas
Nitrosyl chloride \geq 1.17%	2696-92-6	Toxic Gas
Oxygen difluoride \geq 0.09%	7783-41-7	Toxic Gas
Perchloryl fluoride \geq 25.67%	7616-94-6	Toxic Gas
Phosgene (synonym: [Carbonic dichloride] or [Carbonyldichloride]) \geq 0.17%	75-44-5	Toxic Gas
Phosphine \geq 0.67%	7803-51-2	Toxic Gas
Phosphorus trichloride \geq 3.48%	7719-12-2	Toxic Gas
Selenium hexafluoride \geq 1.67%	7783-79-1	Toxic Gas
Silicon tetrafluoride \geq 15%	7783-61-1	Toxic Gas
Stibine \geq 0.67%	7803-52-3	Toxic Gas
Sulfur dioxide (anhydrous) \geq 84%	7446-09-5	Toxic Gas
Sulfur tetrafluoride (synonym: [Sulfur fluoride (SF ₄), (T-4)-]) \geq 1.33%	7783-60-0	Toxic Gas
Tellurium hexafluoride \geq 0.83%	7783-80-4	Toxic Gas

Policy	Chemical Hygiene Plan	Page:	53
Written by:	Michael D. Cimis	Revision date:	11/17/15

Titanium tetrachloride (synonym: [Titanium chloride (TiCl ₄) (T-4)-]) ≥ 13.33%	7550-45-0	Toxic Gas
Trifluoroacetyl chloride ≥ 6.93%	354-32-5	Toxic Gas
Trifluorochloroethylene (synonym: [Ethene, chlorotrifluoro]) ≥ 66.67%	79-38-9	Toxic Gas
Tungsten hexafluoride ≥ 7.1%	7783-82-6	Toxic Gas