

Department of Homeland Security Chemicals of Interest List (COI)

On November 2, 2007, the Department of Homeland Security (DHS) released a final list of 300 chemicals that, if a facility possesses in certain quantities, triggers a requirement for an assessment, known as Top Screen, to be completed. DHS will use the Top Screens to determine whether the facility should be regulated as a high-level risk.

<http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=65889784a49874d0c06df97bf085acaa&rgn=div5&view=text&node=6:1.0.1.1.10&idno=6>

To determine the type and quantity of chemicals that will be subject to the preliminary screening process, DHS examined the following three security issues:

1. Release – quantities of toxic, flammable, or explosive chemicals that have the potential to create significant adverse consequences for human life or health if intentionally released or detonated;
2. Theft and diversion – chemicals that have the potential, if stolen or diverted, to be used or converted into weapons; and
3. Sabotage and contamination – chemicals that, if mixed with other readily available materials, have the potential to create significant adverse consequences for human life or health.

The department identified these chemicals in the specific amounts for preliminary screening based on their potential to create significant human life or health consequences.

College and University Laboratories

All facilities that possess chemicals listed in Appendix A in quantities at or above the STQs will have to complete and submit a Top-Screen. The Appendix A requirements for Top-Screen may require colleges and universities to comply

Chemicals of Interest List

Acetaldehyde
Acetone cyanohydrin, stabilized
Acetyl bromide
Acetyl chloride
Acetyl iodide
Acetylene
Acrolein
Acrylonitrile

Acrylyl chloride
Allyl alcohol
Allylamine
Allyltrichlorosilane, stabilized
Aluminum (powder)
Aluminum bromide, anhydrous
Aluminum chloride, anhydrous
Aluminum phosphide

Ammonia (anhydrous)
Ammonia (conc. 20% or greater)
Ammonium nitrate, [with more than 0.2 percent combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance]
Ammonium nitrate, solid [nitrogen concentration of 23% nitrogen or greater]
Ammonium perchlorate
Ammonium picrate
Amyltrichlorosilane
Antimony pentafluoride
Arsenic trichloride
Arsine
Barium azide
1,4-Bis(2-chloroethylthio)-nbutane
Bis(2-chloroethylthio)methane
Bis(2-chloroethylthiomethyl)ether
1,5-Bis(2-chloroethylthio)-npentane
1,3-Bis(2-chloroethylthio)-npropane
Boron tribromide
Boron trichloride
Boron trifluoride
Boron trifluoride compound with methyl ether (1:1)
Bromine

Bromine chloride
Bromine pentafluoride
Bromine trifluoride
Bromotrifluorethylene
1,3-Butadiene
Butane
Butene
1-Butene
2-Butene
2-Butene-cis
2-Butene-trans
Butyltrichlorosilane
Calcium hydrosulfite
Calcium phosphide
Carbon disulfide
Carbon oxysulfide
Carbonyl fluoride
Carbonyl sulfide
Chlorine
Chlorine dioxide
Chlorine monoxide
Chlorine pentafluoride
Chlorine trifluoride
Chloroacetyl chloride
2-Chloroethylchloromethylsulfide

Chloroform
Chloromethyl ether
Chloromethyl methyl ether
1-Chloropropylene
2-Chloropropylene
Chlorosarin
Chlorosoman
Chlorosulfonic acid
Chromium oxychloride
Crotonaldehyde
Crotonaldehyde, (E)-
Cyanogen
Cyanogen chloride
Cyclohexylamine
Cyclohexyltrichlorosilane
Cyclopropane
DF
Diazodinitrophenol
Diborane
Dichlorosilane
N,N-(2-diethylamino)ethanethiol
Diethyldichlorosilane
o,o-Diethyl S-[2-(diethylamino)ethyl] phosphorothiolate
Diethyleneglycol dinitrate

Diethyl methylphosphonite
N,N-Diethyl phosphoramidic dichloride
N,N-(2-diisopropylamino)ethanethiol N,N-diisopropyl-(beta)-aminoethane thiol
Difluoroethane
N,N-Diisopropyl phosphoramidic dichloride
1,1-Dimethylhydrazine
Dimethylamine
N,N-(2-dimethylamino)ethanethiol
Dimethyldichlorosilane
N,N-Dimethyl phosphoramidic dichloride Dimethylphosphoramidodichloridate
2,2-Dimethylpropane
Dingu
Dinitrogen tetroxide
Dinitrophenol
Dinitroresorcinol
Diphenyldichlorosilane
Dipicryl sulfide
Dipicrylamine [or] Hexyl
N,N-(2-dipropylamino)ethanethiol
N,N-Dipropyl phosphoramidic dichloride
Dodecyltrichlorosilane

Epichlorohydrin
Ethane
Ethyl acetylene
Ethyl chloride
Ethyl ether
Ethyl mercaptan
Ethyl nitrite
Ethyl phosphonyl difluoride
Ethylamine
Ethyldiethanolamine
Ethylene
Ethylene oxide
Ethylenediamine
Ethyleneimine
Ethylphosphonothioic dichloride
Ethyltrichlorosilane
Fluorine
Fluorosulfonic acid
Formaldehyde (solution)
Furan
Germane
Germanium tetrafluoride
Guanyl nitrosaminoguanlylidene hydrazine
Hexaethyl tetraphosphate and compressed gas mixtures

Hexafluoroacetone
Hexanitrostilbene
Hexolite
Hexyltrichlorosilane
HMX
HN1 (nitrogen mustard-1)
HN2 (nitrogen mustard-2)
HN3 (nitrogen mustard-3)
Hydrazine
Hydrochloric acid (conc. 37% or greater)
Hydrocyanic acid
Hydrofluoric acid (conc. 50% or greater)
Hydrogen
Hydrogen bromide (anhydrous)
Hydrogen chloride (anhydrous)
Hydrogen cyanide
Hydrogen fluoride (anhydrous)
Hydrogen iodide, anhydrous
Hydrogen peroxide (concentration of at least 35%)
Hydrogen selenide
Hydrogen sulfide
Iodine pentafluoride
Iron, pentacarbonyl-

Isobutane
Isobutyronitrile
Isopentane
Isoprene
Isopropyl chloride
Isopropyl chloroformate
Isopropylamine
Isopropylphosphonothioic dichloride
Isopropylphosphonyl difluoride
Lead azide
Lead styphnate
Lewisite 1
Lewisite 2
Lewisite 3
Lithium amide
Lithium nitride
Magnesium (powder)
Magnesium diamide
Magnesium phosphide
MDEA
Mercury fulminate
Methacrylonitrile
Methane
2-Methyl-1-butene
3-Methyl-1-butene

Methyl chloride
Methyl chloroformate
Methyl ether
Methyl formate
Methyl hydrazine
Methyl isocyanate
Methyl mercaptan
Methyl thiocyanate
Methylamine
Methylchlorosilane
Methyldichlorosilane
Methylphenyldichlorosilane
Methylphosphonothioic dichloride
2-Methylpropene
Methyltrichlorosilane
Sulfur mustard (Mustard gas(H))
O-Mustard (T)
Nickel Carbonyl
Nitric acid
Nitric oxide
Nitrobenzene
5-Nitrobenzotriazol
Nitrocellulose
Nitrogen mustard hydrochloride
Nitrogen trioxide

Nitroglycerine
Nitromannite
Nitromethane
Nitrostarch
Nitrosyl chloride
Nitrotriazolone
Nonyltrichlorosilane
Octadecyltrichlorosilane
Octolite
Octonal
Octyltrichlorosilane
Oleum (Fuming Sulfuric acid)
Oxygen difluoride
1,3-Pentadiene
Pentane
1- Pentene
2-Pentene, (E)-
2-Pentene, (Z)-
Pentolite
Peracetic acid
Perchloromethylmercaptan
Perchloryl fluoride
PETN
Phenyltrichlorosilane
Phosgene

Phosphine
Phosphorus
Phosphorus oxychloride
Phosphorus pentabromide
Phosphorus pentachloride
Phosphorus pentasulfide
Phosphorus trichloride
Picrite
Piperidine
Potassium chlorate
Potassium cyanide
Potassium nitrate
Potassium perchlorate
Potassium permanganate
Potassium phosphide
Propadiene
Propane
Propionitrile
Propyl chloroformate
Propylene [1-Propene]
Propylene oxide
Propyleneimine
Propylphosphonothioic dichloride
Propylphosphonyl difluoride
Propyltrichlorosilane

Propyne
QL
RDX
RDX and HMX mixtures
Sarin
Selenium hexafluoride
Sesquimustard
Silane
Silicon tetrachloride
Silicon tetrafluoride
Sodium azide
Sodium chlorate
Sodium cyanide
Sodium hydrosulfite
Sodium nitrate
Sodium phosphide
Soman
Stibine
Strontium phosphide
Sulfur dioxide (anhydrous)
Sulfur tetrafluoride
Sulfur trioxide
Sulfuryl chloride

Tabun
Tellurium hexafluoride
Tetrafluoroethylene
Tetramethyllead
Tetramethylsilane
Tetranitroaniline
Tetranitromethane
Tetrazene
1H-Tetrazole
Thiodiglycol
Thionyl chloride
Titanium tetrachloride
TNT
Torpex
Trichlorosilane
Triethanolamine
Triethanolamine hydrochloride
Triethyl phosphate
Trifluoroacetyl chloride
Trifluorochloroethylene
Trimethylamine
Trimethylchlorosilane
Trimethyl phosphate
Trinitroaniline

Trinitroanisoole
Trinitrobenzene
Trinitrobenzenesulfonic acid
Trinitrobenzoic acid
Trinitrochlorobenzene
Trinitrofluorenone
Trinitro-meta-cresol
Trinitronaphthalene
Trinitrophenetole
Trinitrophenol
Trinitroresorcinol
Tritonal
Tungsten hexafluoride
Vinyl acetate monomer
Vinyl acetylene
Vinyl chloride
Vinyl ethyl ether
Vinyl fluoride
Vinyl methyl ether
Vinylidene chloride
Vinylidene fluoride
Vinyltrichlorosilane
VX
Zinc hydrosulfite

http://www.dhs.gov/xlibrary/assets/chemsec_appendixa-chemicalofinterestlist.pdf