

**Dense Non-Aqueous Phase Liquids (DNAPLs)
Prohibited From Use in the Time-of-Travel Zones
Identified in Springfield City Code**

Adopted by the Springfield Utility Board
March 28, 2005

Definition

Dense Non-aqueous Phase Liquids (DNAPLs) are:

- Heavier than water (specific gravity >1)
- Have a low solubility rate (<10g/l or 1%)
- Degrade to other compounds that are even more of a health hazard

For the purposes of Drinking Water Protection, DNAPL chemicals are defined as “all chemicals displaying the characteristics of a DNAPL chemical or a material containing a substance considered a DNAPL chemical”.

DNAPL Chemicals

DNAPL chemicals are commonly used as cleaners, de-greasers, coolants, pesticides, and for treating wood. The following DNAPL chemicals are identified specifically but are not a comprehensive list of chemicals considered DNAPLs. If a chemical meets the Definition above it is regulated and prohibited.

Common DNAPL chemicals are listed below.

Chemical Name	Alternative Name	CAS Number
1,1,2,2-tetrachloroethane	Acetylene tetrachloride; Symmetrical tetrachloroethane	79-34-5
1,1,2-trichloroethane	Ethane trichloride; B-trichloroethane; Vinyl trichloride	79-00-5
1,1-dichloroethylene	1,1- DCE; 1,1-Dichloroethene; asym-Dichloroethylene; NCI- C54262; RCA waste number U078; Sconatex; VC; VDC; Vinylidene chloride; Vinylidene chloride (II); Vinylidene dichloride; Vinylidene chloride;	75-35-4

1,1-Dichloroethane	Chlorinated hydrochloric ether; 1,1-Dichloroethane; asym-Dichloroethane; Ethylidene chloride; Ethylidenedichloride; 1,1-Ethylidene dichloride; NCI-C04535; RCRA waste number U076; UN 2362; Asymmetrical dichloroethane	75-34-3
1,2-Dichloropropane	Propylene dichloride; Dichloro-1,2-propane	78-87-5
1,1,1-Trichloroethane	1,1,1-TCA; Aerothene; Aerothene TT; Baltana; Chloroethene; Chloroethene NU; Chlorothane NU; Chloroethene; Chloroethene NU; Chloroethene VG; Chlorten; Genklene; Inhibisol; Methyl chloroform; Methyltrichloromethane; NCI-C04626; RCRA waste number U226; Solvent III; -T; 1,1,1-TCE; Trichloroethane; Tri-ethane; UN 2831	71-55-6
1,2,3-Trichloropropane	Allyl trichloride; Glycerol trichlorohydrin; Glyceryl trichlorohydrin; Trichlorohydrin	96-18-4
1,2,4-trichlorobenzene	Unsym-Trichlorobenzene; 1,2,4-Trichlorobenzol	120-82-1
1,2-dichloroethylene	Acetylene dichloride; cis-Acetylene dichloride; trans-Acetylene dichloride; sym-Dichloroethylene	540-59-0
Carbon tetrachloride	Carbon chloride; Carbon tet; Freon® 10; Halon® 104; Tetrachloromethane	56-23-5
Chlorodiphenyl	Aroclor® 1254; PCB; Polychlorinated biphenyl	11097-69-1
Chloroform	Methane trichloride; Trichloromethane	67-66-3
Dichloroethyl ether	bis (2-Chloroethyl)ether; 2,2-Dichlorodiethyl ether; 2,2-Dichloroethyl ether	111-44-4
Ethylene dibromide	1,2-Dibromoethane; Ethylene bromide; Glycol dibromide; EDB	106-93-4
Ethylene dichloride	1,2-Dichloroethane; Ethylene chloride; Glycol dichloride	107-06-2

Methylene chloride	Aerothene MM; DCM; Dichloromethane; Freon 30; Methane dichloride; Methylene bichloride; Methylene dichloride; Narcotil; NCI-C50102; RCRA waste number U080; Solaesthin; Somethine; UN 1593	75-09-2
o-dichlorobenzene	o-DCB; 1,2-Dichlorobenzene; ortho-Dichlorobenzene; o-Dichlorobenzol	95-50-1
pentachloroethane	Ethane pentachloride; Pentalin	76-01-7
pentachloronaphthalene	Halowax® 1013; 1,2,3,4,5- Pentachloronaphthalene	1321-64-8
pentachlorophenol	PCP; Penta; 2,3,4,5,6- Pentachlorophenol	87-86-5
perchloromethyl mercaptan	PCM; PMM; Trichloromethane sulfenyl chloride; Trichloromethyl sulfur chloride	594-42-3
Tetrachloroethylene	PCE; PERC; Perchlorethylene; Ankilostin; Antisol 1; Carbon bichloride; Carbon dichloride; Dee-Solv; Didakene; Dow-per; ENT 1,860; Ethylene tetrachloride; Fedal-UN; NCI- CO4580; Nema; PER; Perawin; Perchlor; Perchloroethylene; Perclene; Perclene D; Percosolv; Perk; Perklone; Persec; RCRA waste number U210; Tetlen; Tetracap; Tetrachlorethylene; Tetrachloroethene; 1,1,2,2- Tetrachloroethylene; Tetraleno; Tetralex; Tetravec; Tetroguer; Tetropil; UN 1897	127-18-4
Trans-1,2-dichloroethylene	Acetylene dicloride; trans- Acetylene dichloride; 1,2- Dichloroethyene; (E)-1,2- Dichloroethene; trans- Dichloroethylene; 1,2- trans- Dichloroethene; 1,2-trans- dichloroethylene; sym- Dichloroethylene; Dioform	540-59-0

Trichloroethylene	TCE; Acetylene trichloride; Algylen; Anamenth; benzinol; Blacosolv; Blancosolv; Cecolene; Chlorilen; 1-Chloro-2,2-dichloroethylene; Chlorylea; Chlorylen; Circosolv; Crawhaspol; Densinfluat; 1,1-Dichloro-2-chloroethylene; Dow-tri; Dukeron; Ethinyl trichloride; Ethylene trichloride; Fleck-flip; Flock-flip; Fluate; Gemaglène; Germalgene; Lanadin; Lethurin; Narcogen; Narkogen; Narkosoid; NCI-CO4546; Nialk; Perm-a-chlor; Perm-a-clor; Petzinol; Philex; RCRA waste number U228; Threthylen; Threthylene; Trethylene; Tri; Triad; Trial; Triasol; Trichloran; Trichloroethene; 1,1,2-Trichlororthene; 1,2,2-Trichloroethene; 1,1,2-Trichloroethylene; 1,2,2-Trichloro-ethylene; Tri-clene; Trielene; Trieline; Triklone; Trilen; Trilene; Triline; Trimar; Triol; Tri-plus; Tri-plus M; UN 1710; Vestrol; Vitran; Westersol	79-01-6
trichloronaphthalene	Halowax®; Nibren wax; Seekay wax	1321-65-9
Vinyl chloride	Chlorethene; Chlorethylene; Chloroethene; 1-Chlorethene; Chloroethylene; 1-Chloroetyne; Ethylene monochloride; Monochloroethene; Monochloroethylene; MVC; RCRA waste number U043; Trovidur; UN 1086; VC; VCM; Vinyl C monomer; Vinyl chloride monomer	75-01-4
bromodichloromethane		75-27-4
Dibromochloromethane		124-48-1
Bromoform	tribromomethane	75-25-2
Trichlorofluoromethane		75-69-4
Cis-1,2-dichloroethylene		

Trans-1,3-dichloropropylene		
bis (chloro) methylether		
bis (2-chloroethyl) ether		111-44-4
bis (2-chloroisopropyl) ether		39638-32-9
2-chloroethylvinylether	Ethane; 2-chloroethoxy	110-75-8
chlorobenzene		108-90-7
bromomethane	methyl bromide	74-83-9
m-dichlorobenzene	1,3-Dichlorobenzene	541-73-1
dibromomethane		74-95-3
chloroethane		75-00-3
hexachloroethane		67-72-1
tetrachloronapthalene	Halowax®; Nibren wax; Seekay wax	1335-88-2
Dichlorofluoromethane (in compressed form)		75-71-8
1,1,1,2-Tetrafluoroethane	1112-TFE	811-97-2
1,1,1,3,3-Pentafluoropropane	PFP	460-73-1

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