

Safety Data Sheet



Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name

- **TO-14 Chlorinated Hydrocarbon Mix - Carbon tetrachloride(100 - 100 ppb), Chloroform(100 - 100 ppb), Methyl Chloride(100 - 100 ppb), 1,1-Dichloroethane(100 - 100 ppb), 1,2-Dichloroethane(100 - 100 ppb), 1,1-Dichloroethylene(100 - 100 ppb), 1,2-Dichloroethylene(100 - 100 ppb), 1,2-Dichloropropane(100 - 100 ppb), 1,3-Dichloropropene(trans)(100 - 100 ppb), 1,3-Dichloropropene(cis)(100 - 100 ppb), Ethyl chloride(100 - 100 ppb), Hexachloro-1,3-Butadiene(100 - 100 ppb), Methylene chloride(100 - 100 ppb), 1,1,2,2-Tetrachloroethane(100 - 100 ppb), Tetrachloroethylene(100 - 100 ppb), 1,1,1 Trichloroethane(100 - 100 ppb), 1,1,2-Trichloroethane(100 - 100 ppb), Trichloroethylene(100 - 100 ppb), Vinyl Chloride(100 - 100 ppb), Nitrogen (Balance)**

Product Code

- M-1902/E-1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s)

- Test Gas/Calibration Gas

1.3 Details of the supplier of the safety data sheet

Manufacturer

- Air Liquide
2700 Post Oak Blvd.
Houston, TX 77056
United States
www.us.airliquide.com
sds@airliquide.com

Telephone (Technical) • 713-896-2896

Telephone (Technical) • 800-819-1704

1.4 Emergency telephone number

Manufacturer

- 800-424-9300 - CHEMTREC

Manufacturer

- +1 703-527-3887 - Outside United States

Section 2: Hazards Identification

EU/EEC

According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP

- Compressed Gas - H280

DSD/DPD

- Not classified

2.2 Label Elements

CLP

WARNING



Hazard statements • H280 - Contains gas under pressure; may explode if heated

Precautionary statements

Storage/Disposal • P403 - Store in a well-ventilated place.

DSD/DPD

Risk phrases • No label element(s) required

2.3 Other Hazards

CLP

- This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces.
According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD

- This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces.
This preparation is not considered dangerous according to European Directive 1999/45/EC.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012

- Compressed Gas - H280
Simple Asphyxiant

2.2 Label elements

OSHA HCS 2012

WARNING



Hazard statements • Contains gas under pressure; may explode if heated - H280
May displace oxygen and cause rapid suffocation.

Precautionary statements

Storage/Disposal • Store in a well-ventilated place. - P403

2.3 Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Compressed Gas - A

2.2 Label elements

WHMIS



- Compressed Gas - A

2.3 Other hazards

WHMIS

- This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces.
In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

2.4 Other information

NFPA



Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition			
Chemical Name	Identifiers	%	Classifications According to Regulation/Directive
Nitrogen	CAS:7727-37-9 EINECS:231-783-9	Balance	EU DSD/DPD: None EU CLP: Self Classified - Press. Gas - Comp., H280 OSHA HCS 2012: Press. Gas - Comp.; Simp. Asphyx.

The following components are all present in 100 - 100 ppb: Carbon tetrachloride (56-23-5); Chloroform (67-66-3); Methyl Chloride (74-87-3); 1,1-Dichloroethane (75-34-3); 1,2-Dichloroethane (107-06-2); 1,1-Dichloroethylene (75-35-4); 1,2-Dichloroethylene (156-59-2); 1,2-Dichloropropane (78-87-5); 1,3-Dichloropropene (trans) (10061-01-5); 1,3-Dichloropropene (cis) (10061-02-6); Ethyl chloride (75-00-3); Hexachloro-1,3-Butadiene (87-68-3); Methylene chloride (75-09-2); 1,1,2,2-Tetrachloroethane (79-34-5); Tetrachloroethylene (127-18-4); 1,1,1 Trichloroethane (71-55-6); 1,1,2-Trichloroethane (79-00-5); Trichloroethylene (79-01-6); Vinyl Chloride (75-01-4). These components are present in amounts that are below cut-offs that are relevant for agency classification purposes.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin

- Although exposure is unlikely, in case of contact immediately flush skin with running

- Eye**
- water. If skin irritation develops get medical advice/attention.
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. If irritation develops and persists, get medical attention.
- Ingestion**
- Ingestion is not considered a potential route of exposure.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. A potential health hazard associated with this gas is anoxia.

4.4 Other information

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO GASES WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus must be worn. Victim(s) who experience any adverse effect after over-exposure to this gas mixture must be taken for medical attention. Rescuers should be taken for medical attention if necessary. Take a copy of the label and the MSDS to physician or other health professional with victim(s).

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media • Use extinguishing agent suitable for type of surrounding fire.

Unsuitable Extinguishing Media • No data available

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards • Containers may explode when heated.
Ruptured cylinders may rocket.

Hazardous Combustion Products • No data available

5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
Always wear thermal protective clothing when handling refrigerated/cryogenic liquids.
Wear positive pressure self-contained breathing apparatus (SCBA).
Move containers from fire area if you can do it without risk.
FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.
FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out.
FIRE INVOLVING TANKS: Do not direct water at source of leak or safety devices; icing may occur.
FIRE INVOLVING TANKS: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
FIRE INVOLVING TANKS: ALWAYS stay away from tanks engulfed in fire.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions

- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not touch or walk through spilled material. Ventilate the area before entry.

Emergency Procedures

- Stop leak if you can do it without risk. Keep unauthorized personnel away. Keep out of low areas. Stay upwind. Do not direct water at spill or source of leak. **LARGE SPILL:** Consider initial downwind evacuation for at least 500 meters (1/3 mile)

6.2 Environmental precautions

- Prevent spreading of vapors through sewers, ventilation systems and confined areas.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures

- Stop leak if you can do it without risk.
Do not direct water at spill or source of leak.
Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container.
If possible, turn leaking containers so that gas escapes rather than liquid.
Isolate area until gas has dispersed.
Ventilate the area.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Use only with adequate ventilation. Ventilate closed spaces before entering. Be aware of any signs of dizziness or fatigue, especially if work is done in a poorly ventilated area; exposures to fatal concentrations of this gas mixture could occur without any significant warning symptoms, due to olfactory fatigue or oxygen deficiency. Wear appropriate personal protective equipment, avoid direct contact. Cylinders should be firmly secured to prevent falling or being knocked-over. Do not attempt to repair, adjust, or in any other way modify cylinders. If there is a malfunction or another type of operational problem, contact nearest distributor immediately. Empty containers retain product residue and can be hazardous. Do not cut, weld, puncture or incinerate container.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Store in a cool, dry, well-ventilated place. Protect cylinders against physical damage. Cylinders should be firmly secured to prevent falling or being knocked-over.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Canada Ontario	Canada Quebec	China	China Highly Toxic Goods
Ethane, chloro-(75-00-3)	TWAs	100 ppm TWA	100 ppm TWA	1000 ppm TWA EV; 2640 mg/m3 TWA EV	Not established	Not established
Ethane, 1,2-dichloro-(107-06-2)	STELs	Not established	Not established	2 ppm STEV; 8 mg/m3 STEV	15 mg/m3 STEL	Not established
	TWAs	10 ppm TWA	10 ppm TWA	1 ppm TWA EV; 4 mg/m3 TWA EV	7 mg/m3 TWA	Not established

Methane, chloro- (74-87-3)	STELs	100 ppm STEL	100 ppm STEL	100 ppm STEV; 207 mg/m3 STEV	120 mg/m3 STEL	Not established
	TWAs	50 ppm TWA	50 ppm TWA	50 ppm TWAEV; 103 mg/m3 TWAEV	60 mg/m3 TWA	Not established
Vinyl Chloride (75-01-4)	STELs	Not established	Not established	Not established	20 mg/m3 STEL	25 mg/m3 STEL
	TWAs	1 ppm TWA	1 ppm TWA (designated substances regulation); 1 ppm TWA (applies to workplaces to which the designated substances regulation does not apply)	1 ppm TWAEV; 2.6 mg/m3 TWAEV	10 mg/m3 TWA	10 mg/m3 TWA
Chloroform (67-66-3)	STELs	Not established	Not established	Not established	40 mg/m3 STEL	Not established
	TWAs	10 ppm TWA	10 ppm TWA	5 ppm TWAEV; 24.4 mg/m3 TWAEV	20 mg/m3 TWA	Not established
Carbon tetrachloride (56-23-5)	STELs	10 ppm STEL	3 ppm STEL	10 ppm STEV; 63 mg/m3 STEV	25 mg/m3 STEL	Not established
	TWAs	5 ppm TWA	2 ppm TWA	5 ppm TWAEV; 31 mg/m3 TWAEV	15 mg/m3 TWA	Not established
Dichloromethane (75-09-2)	STELs	Not established	Not established	Not established	300 mg/m3 STEL	Not established
	TWAs	50 ppm TWA	50 ppm TWA	50 ppm TWAEV; 174 mg/m3 TWAEV	200 mg/m3 TWA	Not established
Ethylene, tetrachloro- (127-18-4)	STELs	100 ppm STEL	100 ppm STEL	100 ppm STEV; 685 mg/m3 STEV	300 mg/m3 STEL	Not established
	TWAs	25 ppm TWA	25 ppm TWA	25 ppm TWAEV; 170 mg/m3 TWAEV	200 mg/m3 TWA	Not established
Ethylene, trichloro- (79-01-6)	STELs	25 ppm STEL	25 ppm STEL	200 ppm STEV; 1070 mg/m3 STEV	60 mg/m3 STEL	Not established
	TWAs	10 ppm TWA	10 ppm TWA	50 ppm TWAEV; 269 mg/m3 TWAEV	30 mg/m3 TWA	Not established
Propane, 1,2-dichloro- (78-87-5)	STELs	Not established	Not established	110 ppm STEV; 508 mg/m3 STEV	500 mg/m3 STEL	Not established
	TWAs	10 ppm TWA	10 ppm TWA	75 ppm TWAEV; 347 mg/m3 TWAEV	350 mg/m3 TWA	Not established
1,3-Butadiene, hexachloro- (87-68-3)	STELs	Not established	Not established	Not established	0.6 mg/m3 STEL	Not established
	TWAs	0.02 ppm TWA	0.02 ppm TWA	0.02 ppm TWAEV; 0.21 mg/m3 TWAEV	0.2 mg/m3 TWA	Not established
Ethane, 1,1,1-trichloro- (71-55-6)	STELs	450 ppm STEL	450 ppm STEL	450 ppm STEV; 2460 mg/m3 STEV	1350 mg/m3 STEL	Not established
	TWAs	350 ppm TWA	350 ppm TWA	350 ppm TWAEV; 1910 mg/m3 TWAEV	900 mg/m3 TWA	Not established
Ethane, 1,1,2-trichloro- (79-00-5)	TWAs	10 ppm TWA	10 ppm TWA	10 ppm TWAEV; 55 mg/m3 TWAEV	Not established	Not established
Ethane, 1,1,2,2-tetrachloro- (79-34-5)	TWAs	1 ppm TWA	1 ppm TWA	1 ppm TWAEV; 6.9 mg/m3 TWAEV	Not established	Not established
Ethylene, 1,2-						

dichloro-, (Z)- (156-59-2)	TWAs	200 ppm TWA	200 ppm TWA	Not established	Not established	Not established
Ethane, 1,1-dichloro- (75-34-3)	TWAs	100 ppm TWA	100 ppm TWA	100 ppm TWAEV; 405 mg/m3 TWAEV	Not established	Not established
Ethylene, 1,1-dichloro- (75-35-4)	STELs	Not established	20 ppm STEL; 80 mg/m3 STEL	Not established	Not established	Not established
	TWAs	5 ppm TWA	1 ppm TWA; 4 mg/m3 TWA	1 ppm TWAEV; 4 mg/m3 TWAEV	Not established	Not established
Exposure Limits/Guidelines (Con't.)						
	Result	Europe	France	Germany DFG	Germany TRGS	Ireland
Ethane, chloro- (75-00-3)	TWAs	100 ppm TWA; 268 mg/m3 TWA	100 ppm TWA [VME] (indicative limit); 268 mg/m3 TWA [VME] (indicative limit)	Not established	40 ppm TWA AGW (exposure factor 2); 110 mg/m3 TWA AGW (exposure factor 2)	100 ppm TWA; 268 mg/m3 TWA
Ethane, 1,2-dichloro- (107-06-2)	TWAs	Not established	10 ppm TWA [VME]; 40 mg/m3 TWA [VME]	Not established	Not established	5 ppm TWA; 20 mg/m3 TWA
	STELs	Not established	Not established	Not established	Not established	10 ppm STEL; 40 mg/m3 STEL
Methane, chloro- (74-87-3)	STELs	Not established	100 ppm STEL [VLCT]; 210 mg/m3 STEL [VLCT]	Not established	Not established	100 ppm STEL; 210 mg/m3 STEL
	TWAs	Not established	50 ppm TWA [VME]; 105 mg/m3 TWA [VME]	Not established	50 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2); 100 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2)	50 ppm TWA; 105 mg/m3 TWA
	Ceilings	Not established	Not established	100 ppm Peak; 200 mg/m3 Peak	Not established	Not established
	MAKs	Not established	Not established	50 ppm TWA MAK; 100 mg/m3 TWA MAK	Not established	Not established
Vinyl Chloride (75-01-4)	TWAs	Not established	1 ppm TWA [VME] (restrictive limit); 2.59 mg/m3 TWA [VME] (restrictive limit)	Not established	Not established	3 ppm TWA; 7.77 mg/m3 TWA
	STELs	Not established	50 ppm STEL [VLCT]; 250 mg/m3 STEL [VLCT]	Not established	Not established	Not established
					0.5 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW	

Chloroform (67-66-3)	TWAs	Not established	2 ppm TWA [VME] (restrictive limit); 10 mg/m3 TWA [VME] (restrictive limit)	Not established	and BGW values are observed, exposure factor 2); 2.5 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2)	2 ppm TWA; 9.8 mg/m3 TWA
	Ceilings	Not established	Not established	1 ppm Peak; 5 mg/m3 Peak	Not established	Not established
	MAKs	Not established	Not established	0.5 ppm TWA MAK; 2.5 mg/m3 TWA MAK	Not established	Not established
Carbon tetrachloride (56-23-5)	STELs	Not established	10 ppm STEL [VLCT]; 60 mg/m3 STEL [VLCT]	Not established	Not established	Not established
	TWAs	Not established	2 ppm TWA [VME]; 12 mg/m3 TWA [VME]	Not established	0.5 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2); 3.2 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2)	2 ppm TWA; 12.6 mg/m3 TWA
	Ceilings	Not established	Not established	1 ppm Peak; 6.4 mg/m3 Peak	Not established	Not established
	MAKs	Not established	Not established	0.5 ppm TWA MAK; 3.2 mg/m3 TWA MAK	Not established	Not established
Dichloromethane (75-09-2)	STELs	Not established	100 ppm STEL [VLCT]; 356 mg/m3 STEL [VLCT]	Not established	Not established	150 ppm STEL; 550 mg/m3 STEL
	TWAs	Not established	50 ppm TWA [VME]; 178 mg/m3 TWA [VME]	Not established	75 ppm TWA AGW (exposure factor 4); 260 mg/m3 TWA AGW (exposure factor 4)	50 ppm TWA; 174 mg/m3 TWA
Ethylene, tetrachloro- (127-18-4)	STELs	Not established	40 ppm STEL [VLCT]; 275 mg/m3 STEL [VLCT]	Not established	Not established	100 ppm STEL; 678 mg/m3 STEL
	TWAs	Not established	20 ppm TWA [VME]; 138 mg/m3 TWA [VME]	Not established	20 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2); 138 mg/m3 TWA AGW (The risk of damage to the	25 ppm TWA; 170 mg/m3 TWA

					embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2)	
Ethylene, trichloro- (79-01-6)	STELs	Not established	200 ppm STEL [VLCT]; 1080 mg/m3 STEL [VLCT]	Not established	Not established	25 ppm STEL
	TWAs	Not established	75 ppm TWA [VME]; 405 mg/m3 TWA [VME]	Not established	Not established	10 ppm TWA
Propane, 1,2-dichloro- (78-87-5)	TWAs	Not established	75 ppm TWA [VME]; 350 mg/m3 TWA [VME]	Not established	Not established	10 ppm TWA; 46 mg/m3 TWA
1,3-Butadiene, hexachloro- (87-68-3)	TWAs	Not established	Not established	Not established	Not established	0.02 ppm TWA; 0.21 mg/m3 TWA
Ethane, 1,1,1-trichloro- (71-55-6)	STELs	Not established	200 ppm STEL [VLCT] (restrictive limit); 1110 mg/m3 STEL [VLCT] (restrictive limit)	Not established	Not established	200 ppm STEL; 1110 mg/m3 STEL
	TWAs	Not established	100 ppm TWA [VME] (restrictive limit); 555 mg/m3 TWA [VME] (restrictive limit)	Not established	200 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 1); 1100 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 1)	100 ppm TWA; 555 mg/m3 TWA
	Ceilings	Not established	Not established	200 ppm Peak; 1100 mg/m3 Peak	Not established	Not established
	MAKS	Not established	Not established	200 ppm TWA MAK; 1100 mg/m3 TWA MAK	Not established	Not established
Ethane, 1,1,2-trichloro- (79-00-5)	STELs	Not established	Not established	Not established	Not established	20 ppm STEL; 90 mg/m3 STEL
	TWAs	Not established	Not established	Not established	10 ppm TWA AGW (exposure factor 2); 55 mg/m3 TWA AGW (exposure factor 2)	10 ppm TWA; 45 mg/m3 TWA
	Ceilings	Not established	Not established	20 ppm Peak; 110 mg/m3 Peak	Not established	Not established
	MAKS	Not established	Not established	10 ppm TWA MAK; 55 mg/m3 TWA MAK	Not established	Not established
	STELs	Not established	5 ppm STEL [VLCT]; 35 mg/m3 STEL [VLCT]	Not established	Not established	Not established

Ethane, 1,1,2,2-tetrachloro-(79-34-5)	TWAs	Not established	1 ppm TWA [VME]; 7 mg/m3 TWA [VME]	Not established	1 ppm TWA AGW (exposure factor 2); 7 mg/m3 TWA AGW (exposure factor 2)	1 ppm TWA; 6.9 mg/m3 TWA
	Ceilings	Not established	Not established	2 ppm Peak; 14.0 mg/m3 Peak	Not established	Not established
	MAKs	Not established	Not established	1 ppm TWA MAK; 7.0 mg/m3 TWA MAK	Not established	Not established
Ethylene, 1,2-dichloro-, (Z)- (156-59-2)	Ceilings	Not established	Not established	400 ppm Peak; 1600 mg/m3 Peak	Not established	Not established
	MAKs	Not established	Not established	200 ppm TWA MAK; 800 mg/m3 TWA MAK	Not established	Not established
Ethane, 1,1-dichloro-(75-34-3)	TWAs	Not established	100 ppm TWA [VME] (indicative limit); 412 mg/m3 TWA [VME] (indicative limit)	Not established	100 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2); 410 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2)	100 ppm TWA; 412 mg/m3 TWA
	Ceilings	Not established	Not established	200 ppm Peak; 820 mg/m3 Peak	Not established	Not established
	MAKs	Not established	Not established	100 ppm TWA MAK; 410 mg/m3 TWA MAK	Not established	Not established
Ethylene, 1,1-dichloro-(75-35-4)	TWAs	Not established	5 ppm TWA [VME]; 20 mg/m3 TWA [VME]	Not established	2 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2); 8 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2)	5 ppm TWA; 20 mg/m3 TWA
	Ceilings	Not established	Not established	4 ppm Peak; 16.0 mg/m3 Peak	Not established	Not established
	MAKs	Not established	Not established	2 ppm TWA MAK; 8.0 mg/m3 TWA MAK	Not established	Not established

Exposure Limits/Guidelines (Con't.)						
	Result	Israel	Italy	NIOSH	OSHA	OSHA Vacated
Ethane, chloro-(75-00-3)	TWAs	100 ppm TWA	100 ppm TWA; 268 mg/m3 TWA	Not established	1000 ppm TWA; 2600 mg/m3 TWA	1000 ppm TWA; 2600 mg/m3 TWA
Ethane, 1,2-dichloro-(107-06-2)	TWAs	10 ppm TWA	Not established	1 ppm TWA; 4 mg/m3 TWA	50 ppm TWA	1 ppm TWA; 4 mg/m3 TWA
	Ceilings	Not established	Not established	Not established	100 ppm Ceiling	Not established
	STELs	Not established	Not established	2 ppm STEL; 8 mg/m3 STEL	Not established	2 ppm STEL; 8 mg/m3 STEL
Methane, chloro-(74-87-3)	STELs	100 ppm STEL	Not established	Not established	Not established	100 ppm STEL; 210 mg/m3 STEL
	TWAs	50 ppm TWA	Not established	Not established	100 ppm TWA	50 ppm TWA; 105 mg/m3 TWA
	Ceilings	Not established	Not established	Not established	200 ppm Ceiling	Not established
Vinyl Chloride (75-01-4)	TWAs	1 ppm TWA; 1 ppm TWA (for pregnant and breastfeeding women)	3 ppm TWA; 7.77 mg/m3 TWA	Not established	1 ppm TWA	Not established
	STELs	5 ppm STEL	Not established	Not established	5 ppm STEL (see 29 CFR 1910.1017)	Not established
Chloroform (67-66-3)	TWAs	10 ppm TWA	2 ppm TWA; 10 mg/m3 TWA	Not established	Not established	2 ppm TWA; 9.78 mg/m3 TWA
	Ceilings	Not established	Not established	Not established	50 ppm Ceiling; 240 mg/m3 Ceiling	Not established
	STELs	Not established	Not established	2 ppm STEL (60 min); 9.78 mg/m3 STEL (60 min)	Not established	Not established
Carbon tetrachloride (56-23-5)	STELs	10 ppm STEL	Not established	2 ppm STEL (60 min); 12.6 mg/m3 STEL (60 min)	Not established	Not established
	TWAs	5 ppm TWA	Not established	Not established	10 ppm TWA	2 ppm TWA; 12.6 mg/m3 TWA
	Ceilings	Not established	Not established	Not established	25 ppm Ceiling	Not established
Dichloromethane (75-09-2)	TWAs	50 ppm TWA	Not established	Not established	25 ppm TWA	500 ppm TWA
	STELs	Not established	Not established	Not established	125 ppm STEL (see 29 CFR 1910.1052)	2000 ppm STEL (5 min in any 3 h)
	Ceilings	Not established	Not established	Not established	Not established	1000 ppm Ceiling
Ethylene, tetrachloro-(127-18-4)	STELs	100 ppm STEL	Not established	Not established	Not established	Not established
	TWAs	25 ppm TWA	Not established	Not established	100 ppm TWA	25 ppm TWA; 170 mg/m3 TWA
	Ceilings	Not established	Not established	Not established	200 ppm Ceiling	Not established
Ethylene, trichloro-(79-01-6)	STELs	100 ppm STEL	Not established	Not established	Not established	200 ppm STEL; 1080 mg/m3 STEL
	TWAs	10 ppm TWA	Not established	Not established	100 ppm TWA	50 ppm TWA; 270 mg/m3 TWA
	Ceilings	Not established	Not established	Not established	200 ppm Ceiling	Not established
Propane, 1,2-dichloro-	TWAs	10 ppm TWA	Not established	Not established	75 ppm TWA; 350 mg/m3 TWA	75 ppm TWA; 350 mg/m3 TWA

(78-87-5)	STELs	Not established	Not established	Not established	Not established	110 ppm STEL; 510 mg/m3 STEL
1,3-Butadiene, hexachloro-(87-68-3)	TWAs	0.02 ppm TWA	Not established	0.02 ppm TWA; 0.24 mg/m3 TWA	Not established	0.02 ppm TWA; 0.24 mg/m3 TWA
Ethane, 1,1,1-trichloro-(71-55-6)	STELs	350 ppm STEL	200 ppm STEL; 1110 mg/m3 STEL	Not established	Not established	450 ppm STEL; 2450 mg/m3 STEL
	TWAs	200 ppm TWA	100 ppm TWA; 555 mg/m3 TWA	Not established	350 ppm TWA; 1900 mg/m3 TWA	350 ppm TWA; 1900 mg/m3 TWA
	Ceilings	Not established	Not established	350 ppm Ceiling (15 min); 1900 mg/m3 Ceiling (15 min)	Not established	Not established
Ethane, 1,1,2-trichloro-(79-00-5)	TWAs	10 ppm TWA	Not established	10 ppm TWA; 45 mg/m3 TWA	10 ppm TWA; 45 mg/m3 TWA	10 ppm TWA; 45 mg/m3 TWA
Ethane, 1,1,2,2-tetrachloro-(79-34-5)	TWAs	1 ppm TWA	Not established	1 ppm TWA; 7 mg/m3 TWA	5 ppm TWA; 35 mg/m3 TWA	1 ppm TWA; 7 mg/m3 TWA
Ethylene, 1,2-dichloro-, (Z)-(156-59-2)	TWAs	200 ppm TWA	Not established	Not established	Not established	Not established
Ethane, 1,1-dichloro-(75-34-3)	TWAs	100 ppm TWA	100 ppm TWA; 412 mg/m3 TWA	100 ppm TWA; 400 mg/m3 TWA	100 ppm TWA; 400 mg/m3 TWA	100 ppm TWA; 400 mg/m3 TWA
Ethylene, 1,1-dichloro-(75-35-4)	TWAs	5 ppm TWA	Not established	Not established	Not established	1 ppm TWA; 4 mg/m3 TWA

Exposure Limits/Guidelines (Con't.)

	Result	Portugal	Spain	Sweden
Ethane, chloro-(75-00-3)	TWAs	100 ppm TWA [VLE-MP]	100 ppm TWA [VLA-ED] (indicative limit value); 268 mg/m3 TWA [VLA-ED] (indicative limit value)	500 ppm LLV; 1300 mg/m3 LLV
	STELs	Not established	Not established	700 ppm STV; 1900 mg/m3 STV
Ethane, 1,2-dichloro-(107-06-2)	TWAs	10 ppm TWA [VLE-MP]	5 ppm TWA [VLA-ED] (manufacturing, commercialization, and use restrictions under REACH); 20 mg/m3 TWA [VLA-ED] (manufacturing, commercialization, and use restrictions under REACH)	1 ppm LLV; 4 mg/m3 LLV
	STELs	Not established	Not established	5 ppm STV; 20 mg/m3 STV
Methane, chloro-(74-87-3)	STELs	100 ppm STEL [VLE-CD]	100 ppm STEL [VLA-EC]; 210 mg/m3 STEL [VLA-EC]	20 ppm STV; 40 mg/m3 STV
	TWAs	50 ppm TWA [VLE-MP]	50 ppm TWA [VLA-ED]; 105 mg/m3 TWA [VLA-ED]	10 ppm LLV; 20 mg/m3 LLV

Vinyl Chloride (75-01-4)	TWAs	1 ppm TWA [VLE-MP]	3 ppm TWA [VLA-ED] (manufacturing, commercialization, and use restrictions under REACH; worker protection to exposure to carcinogens and mutagens in the workplace); 7.8 mg/m3 TWA [VLA-ED] (manufacturing, commercialization, and use restrictions under REACH; worker protection to exposure to carcinogens and mutagens in the workplace)	1 ppm LLV; 2.5 mg/m3 LLV
	STELs	Not established	Not established	5 ppm STV; 13 mg/m3 STV
Chloroform (67-66-3)	TWAs	10 ppm TWA [VLE-MP]	2 ppm TWA [VLA-ED] (indicative limit value; manufacturing, commercialization, and use restrictions under REACH); 10 mg/m3 TWA [VLA-ED] (indicative limit value; manufacturing, commercialization, and use restrictions under REACH)	2 ppm LLV; 10 mg/m3 LLV
	STELs	Not established	Not established	5 ppm STV; 25 mg/m3 STV
Carbon tetrachloride (56-23-5)	STELs	10 ppm STEL	10 ppm STEL [VLA-EC]; 64 mg/m3 STEL [VLA-EC]	3 ppm STV; 19 mg/m3 STV
	TWAs	5 ppm TWA [VLE-MP]	5 ppm TWA [VLA-ED] (established restrictions in the manufacturing, import, export, use, commercialization, reclamation, recycling, regeneration, and elimination of ozone depleting substances); 32 mg/m3 TWA [VLA-ED] (established restrictions in the manufacturing, import, export, use, commercialization, reclamation, recycling, regeneration, and elimination of ozone depleting substances)	2 ppm LLV; 13 mg/m3 LLV
			50 ppm TWA [VLA-ED]	

Dichloromethane (75-09-2)	TWAs	50 ppm TWA [VLE-MP]	(manufacturing, commercialization, and use restrictions under REACH); 177 mg/m3 TWA [VLA-ED] (manufacturing, commercialization, and use restrictions under REACH)	35 ppm LLV; 120 mg/m3 LLV
	Biological Limit Values (BLV)	Not established	0.3 mg/L urine end of shift Dichloromethane (2)	Not established
	STELs	Not established	Not established	70 ppm STV; 250 mg/m3 STV
Ethylene, tetrachloro- (127-18-4)	STELs	100 ppm STEL [VLE-CD]	100 ppm STEL [VLA-EC]; 689 mg/m3 STEL [VLA-EC]	25 ppm STV; 170 mg/m3 STV
	TWAs	25 ppm TWA [VLE-MP]	25 ppm TWA [VLA-ED] (endocrine disruptor); 172 mg/m3 TWA [VLA-ED] (endocrine disruptor)	10 ppm LLV; 70 mg/m3 LLV
	Biological Limit Values (BLV)	Not established	3 ppm alveolar air start of last shift of workweek Perchloroethylene end-cut of exhaled air (5); 0.5 mg/L blood start of last shift of workweek Perchloroethylene (5)	Not established
Ethylene, trichloro- (79-01-6)	STELs	100 ppm STEL [VLE-CD]	Not established	25 ppm STV; 140 mg/m3 STV
	TWAs	50 ppm TWA [VLE-MP]	10 ppm TWA [VLA-ED] (manufacturing, commercialization, and use restrictions under REACH)	10 ppm LLV; 50 mg/m3 LLV
	Biological Limit Values (BLV)	Not established	15 mg/L urine end of workweek Trichloroacetic acid (1,I); 0.5 mg/L blood end of workweek Trichloroethanol (without hydrolysis) (1,I)	Not established
Propane, 1,2-dichloro- (78-87-5)	STELs	110 ppm STEL [VLE-CD]	Not established	Not established
	TWAs	10 ppm TWA [VLE-MP]	10 ppm TWA [VLA-ED]; 47 mg/m3 TWA [VLA-ED]	Not established
1,3-Butadiene, hexachloro- (87-68-3)	TWAs	0.02 ppm TWA [VLE-MP]	0.02 ppm TWA [VLA-ED]; 0.2 mg/m3 TWA [VLA-ED]	Not established
	STELs	450 ppm STEL [VLE-CD]	200 ppm STEL [VLA-EC]; 1110 mg/m3 STEL [VLA-EC]	90 ppm STV; 500 mg/m3 STV

Ethane, 1,1,1-trichloro- (71-55-6)	TWAs	350 ppm TWA [VLE-MP]	100 ppm TWA [VLA-ED] (indicative limit value; established restrictions in the manufacturing, import, export, use, commercialization, reclamation, recycling, regeneration, and elimination of ozone depleting substances); 555 mg/m3 TWA [VLA-ED] (indicative limit value; established restrictions in the manufacturing, import, export, use, commercialization, reclamation, recycling, regeneration, and elimination of ozone depleting substances)	50 ppm LLV; 300 mg/m3 LLV
	Biological Limit Values (BLV)	Not established	550 µg/L blood start of last shift of workweek Trichloroethane (5)	Not established
Ethane, 1,1,2-trichloro- (79-00-5)	TWAs	10 ppm TWA [VLE-MP]	10 ppm TWA [VLA-ED] (manufacturing, commercialization, and use restrictions under REACH); 56 mg/m3 TWA [VLA-ED] (manufacturing, commercialization, and use restrictions under REACH)	Not established
Ethane, 1,1,2,2-tetrachloro- (79-34-5)	TWAs	1 ppm TWA [VLE-MP]	1 ppm TWA [VLA-ED] (manufacturing, commercialization, and use restrictions under REACH); 7 mg/m3 TWA [VLA-ED] (manufacturing, commercialization, and use restrictions under REACH)	Not established
Ethylene, 1,2-dichloro-, (Z)- (156-59-2)	TWAs	200 ppm TWA [VLE-MP]	Not established	Not established
Ethane, 1,1-dichloro- (75-34-3)	TWAs	100 ppm TWA [VLE-MP]	100 ppm TWA [VLA-ED] (indicative limit value; manufacturing, commercialization, and use restrictions under REACH); 412 mg/m3 TWA [VLA-ED] (indicative limit value; manufacturing, commercialization, and	100 ppm LLV; 412 mg/m3 LLV

			use restrictions under REACH)	
Ethylene, 1,1-dichloro- (75-35-4)	TWAs	5 ppm TWA [VLE-MP]	5 ppm TWA [VLA-ED] (manufacturing, commercialization, and use restrictions under REACH); 20 mg/m3 TWA [VLA-ED] (manufacturing, commercialization, and use restrictions under REACH)	5 ppm LLV; 20 mg/m3 LLV
	STELs	Not established	Not established	10 ppm STV; 40 mg/m3 STV

Exposure Control Notations

Portugal

- Nitrogen (7727-37-9): **Simple Asphyxiants:** (Simple Asphyxiant)
- Carbon tetrachloride (56-23-5): **Carcinogens:** (A2 - Suspected Human Carcinogen) | **Skin:** (skin - potential for cutaneous exposure)
- Chloroform (67-66-3): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans)
- Methane, chloro- (74-87-3): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen) | **Skin:** (skin - potential for cutaneous exposure)
- Ethane, 1,1-dichloro- (75-34-3): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen)
- Ethane, 1,2-dichloro- (107-06-2): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen)
- Ethylene, 1,1-dichloro- (75-35-4): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen)
- Propane, 1,2-dichloro- (78-87-5): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen) | **Sensitizers:** (Sensitizer)
- Ethane, chloro- (75-00-3): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans) | **Skin:** (skin - potential for cutaneous exposure)
- 1,3-Butadiene, hexachloro- (87-68-3): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans) | **Skin:** (skin - potential for cutaneous exposure)
- Dichloromethane (75-09-2): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans)
- Ethane, 1,1,2,2-tetrachloro- (79-34-5): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans) | **Skin:** (skin - potential for cutaneous exposure)
- Ethylene, tetrachloro- (127-18-4): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans)
- Ethane, 1,1,1-trichloro- (71-55-6): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen)
- Ethane, 1,1,2-trichloro- (79-00-5): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans) | **Skin:** (skin - potential for cutaneous exposure)
- Ethylene, trichloro- (79-01-6): **Carcinogens:** (A5 - Not Suspected as a Human Carcinogen)
- Vinyl Chloride (75-01-4): **Carcinogens:** (A1 - Confirmed Human Carcinogen)

Italy

- Carbon tetrachloride (56-23-5): **Carcinogens:** (Category 3 Carcinogen)
- Chloroform (67-66-3): **Carcinogens:** (Category 3 Carcinogen) | **Skin:** (skin - potential for cutaneous absorption)
- Methane, chloro- (74-87-3): **Carcinogens:** (Category 3 Carcinogen)
- Ethane, 1,1-dichloro- (75-34-3): **Skin:** (skin - potential for cutaneous absorption)
- Ethane, 1,2-dichloro- (107-06-2): **Carcinogens:** (Category 2 Carcinogen)
- Ethane, chloro- (75-00-3): **Carcinogens:** (Category 3 Carcinogen) | **Skin:** (skin - potential for cutaneous absorption)
- Dichloromethane (75-09-2): **Carcinogens:** (Category 3 Carcinogen)
- Ethylene, tetrachloro- (127-18-4): **Carcinogens:** (Category 3 Carcinogen)
- Ethylene, trichloro- (79-01-6): **Carcinogens:** (Category 2 Carcinogen) | **Mutagens:** (Category 3 Mutagen)
- Vinyl Chloride (75-01-4): **Carcinogens:** (Category 1 Carcinogen)

France

- Carbon tetrachloride (56-23-5): **Carcinogens:** (Carcinogen category 3)
- Chloroform (67-66-3): **Carcinogens:** (Carcinogen category 3)
- Methane, chloro- (74-87-3): **Carcinogens:** (Carcinogen category 3)
- Ethane, 1,2-dichloro- (107-06-2): **Carcinogens:** (Carcinogen category 2)
- Ethylene, 1,1-dichloro- (75-35-4): **Carcinogens:** (Carcinogen category 3)

- Ethane, chloro- (75-00-3): **Carcinogens:** (Carcinogen category 3)
- Dichloromethane (75-09-2): **Carcinogens:** (Carcinogen category 3)
- Ethylene, tetrachloro- (127-18-4): **Carcinogens:** (Carcinogen category 3)
- Ethylene, trichloro- (79-01-6): **Carcinogens:** (Carcinogen category 2) | **Mutagens:** (Mutagen category 3)
- Vinyl Chloride (75-01-4): **Carcinogens:** (Carcinogen category 1)

Ireland

- Nitrogen (7727-37-9): **Simple Asphyxiants:** (Asphyxiant)
- Carbon tetrachloride (56-23-5): **Skin:** (Potential for cutaneous absorption)
- Chloroform (67-66-3): **Skin:** (Potential for cutaneous absorption)
- Ethane, 1,1-dichloro- (75-34-3): **Skin:** (Potential for cutaneous absorption)
- Ethane, 1,2-dichloro- (107-06-2): **Carcinogens:** (Carc1B) | **Skin:** (Potential for cutaneous absorption)
- 1,3-Butadiene, hexachloro- (87-68-3): **Skin:** (Potential for cutaneous absorption)
- Dichloromethane (75-09-2): **Skin:** (Potential for cutaneous absorption)
- Ethane, 1,1,2,2-tetrachloro- (79-34-5): **Skin:** (Potential for cutaneous absorption)
- Ethane, 1,1,2-trichloro- (79-00-5): **Skin:** (Potential for cutaneous absorption)
- Ethylene, trichloro- (79-01-6): **Carcinogens:** (Carc1B) | **Skin:** (Potential for cutaneous absorption)
- Vinyl Chloride (75-01-4): **Carcinogens:** (Carc1A)

Spain

- Nitrogen (7727-37-9): **Simple Asphyxiants:** (simple asphyxiant)
- Carbon tetrachloride (56-23-5): **Skin:** (skin - potential for cutaneous exposure)
- Chloroform (67-66-3): **Skin:** (skin - potential for cutaneous exposure)
- Methane, chloro- (74-87-3): **Skin:** (skin - potential for cutaneous exposure)
- Ethane, 1,1-dichloro- (75-34-3): **Skin:** (skin - potential for cutaneous exposure)
- Ethane, 1,2-dichloro- (107-06-2): **Carcinogens:** (Suspected human carcinogen)
- Propane, 1,2-dichloro- (78-87-5): **Sensitizers:** (sensitizer)
- 1,3-Butadiene, hexachloro- (87-68-3): **Skin:** (skin - potential for cutaneous exposure)
- Ethane, 1,1,2,2-tetrachloro- (79-34-5): **Skin:** (skin - potential for cutaneous exposure)
- Ethane, 1,1,2-trichloro- (79-00-5): **Skin:** (skin - potential for cutaneous exposure)
- Ethylene, trichloro- (79-01-6): **Carcinogens:** (Suspected human carcinogen)
- Vinyl Chloride (75-01-4): **Carcinogens:** (Known human carcinogen)

Sweden

- Carbon tetrachloride (56-23-5): **Carcinogens:** (Carcinogen) | **Skin:** (Skin notation)
- Chloroform (67-66-3): **Carcinogens:** (Carcinogen)
- Ethane, 1,1-dichloro- (75-34-3): **Skin:** (Skin notation)
- Ethane, 1,2-dichloro- (107-06-2): **Carcinogens:** (Carcinogen) | **Skin:** (Skin notation)
- Dichloromethane (75-09-2): **Carcinogens:** (Carcinogen) | **Skin:** (Skin notation)
- Ethylene, tetrachloro- (127-18-4): **Carcinogens:** (Carcinogen)
- Ethylene, trichloro- (79-01-6): **Carcinogens:** (Carcinogen)
- Vinyl Chloride (75-01-4): **Carcinogens:** (Carcinogen) | **Skin:** (Skin notation)

Germany TRGS

- Carbon tetrachloride (56-23-5): **Skin:** (skin notation)
- Chloroform (67-66-3): **Carcinogens:** (Category 2) | **Developmental Toxins:** (Category 3) | **Reproductive Toxins:** (Based on current data, this substance cannot be classified in categories 1-3) | **Germ Cell Mutagens:** (Category 3) | **Skin:** (skin notation)
- Methane, chloro- (74-87-3): **Skin:** (skin notation)
- 1,3-Butadiene, hexachloro- (87-68-3): **Carcinogens:** (Category 3)
- Ethane, 1,1,2,2-tetrachloro- (79-34-5): **Carcinogens:** (Category 3) | **Developmental Toxins:** (Based on current data, this substance cannot be classified in categories 1-3) | **Reproductive Toxins:** (Based on current data, this substance cannot be classified in categories 1-3) | **Germ Cell Mutagens:** (Category 3) | **Skin:** (skin notation)
- Ethylene, tetrachloro- (127-18-4): **Carcinogens:** (Category 3) | **Developmental Toxins:** (Category 3) | **Reproductive Toxins:** (Based on current data, this substance cannot be classified in categories 1-3) | **Germ Cell Mutagens:** (Based on current data, this substance cannot be classified in categories 1-3) | **Skin:** (skin notation)
- Ethane, 1,1,1-trichloro- (71-55-6): **Skin:** (skin notation)
- Ethane, 1,1,2-trichloro- (79-00-5): **Skin:** (skin notation)

Germany DFG

- Carbon tetrachloride (56-23-5): **Carcinogens:** (Category 4 (no significant contribution to human cancer)) | **Pregnancy:** (no risk to embryo/fetus)

if exposure limits adhered to) | **Skin:** (skin notation)

- Chloroform (67-66-3): **Carcinogens:** (Category 4 (no significant contribution to human cancer)) | **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to) | **Skin:** (skin notation)
- Methane, chloro- (74-87-3): **Carcinogens:** (Category 3B (could be carcinogenic for man)) | **Pregnancy:** (risk to embryo/fetus probable) | **Skin:** (skin notation)
- Ethane, 1,1-dichloro- (75-34-3): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to)
- Ethane, 1,2-dichloro- (107-06-2): **Carcinogens:** (Category 2 (considered to be carcinogenic for man)) | **Skin:** (skin notation)
- Ethylene, 1,1-dichloro- (75-35-4): **Carcinogens:** (Category 3B (could be carcinogenic for man)) | **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to)
- Propane, 1,2-dichloro- (78-87-5): **Carcinogens:** (Category 3B (could be carcinogenic for man))
- Ethane, chloro- (75-00-3): **Carcinogens:** (Category 3B (could be carcinogenic for man)) | **Skin:** (skin notation)
- 1,3-Butadiene, hexachloro- (87-68-3): **Carcinogens:** (Category 3B (could be carcinogenic for man)) | **Skin:** (skin notation)
- Dichloromethane (75-09-2): **Carcinogens:** (Category 3A (could be carcinogenic for man))
- Ethane, 1,1,2,2-tetrachloro- (79-34-5): **Carcinogens:** (Category 3B (could be carcinogenic for man)) | **Pregnancy:** (classification not yet possible) | **Skin:** (skin notation)
- Ethylene, tetrachloro- (127-18-4): **Carcinogens:** (Category 3B (could be carcinogenic for man)) | **Skin:** (skin notation)
- Ethane, 1,1,1-trichloro- (71-55-6): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to) | **Skin:** (skin notation)
- Ethane, 1,1,2-trichloro- (79-00-5): **Carcinogens:** (Category 3B (could be carcinogenic for man)) | **Skin:** (skin notation)
- Ethylene, trichloro- (79-01-6): **Carcinogens:** (Category 1 (causes cancer in man)) | **Skin:** (skin notation)
- Vinyl Chloride (75-01-4): **Carcinogens:** (Category 1 (causes cancer in man))

Exposure Limits Supplemental

Spain

- Propane, 1,2-dichloro- (78-87-5): **Under Review:** (10 ppm VLA-ED; sen)

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory

- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear safety glasses.

Skin/Body

- Wear leather gloves when handling cylinders.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste. Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene	STEL = Short Term Exposure Limits are based on 15-minute exposures
LLV = Limit Level Value is the exposure limit for 8-hour work day	STEV = Short Term Exposure Value
MAK = Maximale Arbeitsplatz Konzentration is the maximum permissible concentration	TWAEV = Time-Weighted Average Exposure Value
NIOSH = National Institute of Occupational Safety and Health	TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures
OSHA = Occupational Safety and Health Administration	

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Gas	Appearance/Description	Colorless gas with no odor.
Color	Colorless	Odor	Odorless
Odor Threshold	Data lacking		
General Properties			
Boiling Point	-196 C(-320.8 F) Nitrogen	Melting Point	-210 C(-346 F) Nitrogen
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Water Solubility	1.485 cm3/100cm3
Viscosity	Data lacking	Explosive Properties	Not explosive.
Oxidizing Properties:	Not an oxidizing gas.		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	0.967 Air=1
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Not relevant	UEL	Not relevant
LEL	Not relevant	Autoignition	Not relevant
Flammability (solid, gas)	Not flammable.		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Excess heat.

10.5 Incompatible materials

- Nitrogen reacts with Li, Nd, and Ti at high temperatures.

10.6 Hazardous decomposition products

- None known.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

GHS Properties	Classification
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Acute toxicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Aspiration Hazard	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin corrosion/Irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Skin sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
STOT-RE	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
STOT-SE	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	EU/CLP • Classification criteria not met OSHA HCS 2012 • Classification criteria not met

Potential Health Effects

Inhalation

Acute (Immediate)

- This material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces. If this material is released in a small, poorly ventilated area (i.e. an enclosed or confined space), an oxygen-deficient environment may occur. Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in ears, dizziness, drowsiness, unconsciousness, nausea, vomiting, and depression of all the senses. Under some circumstances of over-exposure, death may occur. The following effects associated with decreased levels of oxygen: increase in breathing and pulse rate, emotional upset, abnormal fatigue, nausea, vomiting, collapse, loss of consciousness, convulsive movements, respiratory collapse and death.

Chronic (Delayed)

- No data available

Skin

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- Under normal conditions of use, no health effects are expected.

Eye

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- Under normal conditions of use, no health effects are expected.

Ingestion

Acute (Immediate)

- Ingestion is not anticipated to be a likely route of exposure to this product.

Chronic (Delayed)

- Ingestion is not anticipated to be a likely route of exposure to this product.

Carcinogenic Effects

- Material level data is not available however this gas mixture contains ingredients which may cause carcinogenic effects upon prolonged and repeated exposure. The carcinogenic components are below thresholds that result in classification of the material as a carcinogen.

Carcinogenic Effects				
	CAS	OSHA	IARC	NTP
Carbon tetrachloride	56-23-5	Not Listed	Group 2B-Possible Carcinogen	Reasonably Anticipated to be Human Carcinogen
Chloroform	67-66-3	Not Listed	Group 2B-Possible Carcinogen	Reasonably Anticipated to be Human Carcinogen
Dichloromethane	75-09-2	Specifically Regulated Carcinogen	Group 2B-Possible Carcinogen	Reasonably Anticipated to be Human Carcinogen
Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed	Group 2B-Possible Carcinogen	Not Listed
Ethane, 1,2-dichloro-	107-06-2	Not Listed	Group 2B-Possible Carcinogen	Reasonably Anticipated to be Human Carcinogen
Ethylene, tetrachloro-	127-18-4	Not Listed	Group 2A-Probable Carcinogen	Reasonably Anticipated to be Human Carcinogen
Ethylene, trichloro-	79-01-6	Not Listed	Group 1-Carcinogenic	Reasonably Anticipated to be Human Carcinogen
Vinyl Chloride	75-01-4	Specifically Regulated Carcinogen	Group 1-Carcinogenic	Known Human Carcinogen

Key to abbreviations

LC = Lethal Concentration

LD = Lethal Dose

TC = Toxic Concentration

TD = Toxic Dose

Section 12 - Ecological Information

12.1 Toxicity

- Material data lacking.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- PBT and vPvB assessment has not been conducted for this material.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or

international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN1956	Compressed gas, n.o.s. (Nitrogen)	2.2	NDA	NDA
TDG	UN1956	COMPRESSED GAS, N.O.S. (Nitrogen)	2.2	NDA	NDA
IMO/IMDG	UN1956	COMPRESSED GAS N.O.S. (Nitrogen)	2.2	NDA	NDA
IATA/ICAO	UN1956	Compressed gas, n.o.s. (Nitrogen)	2.2	NDA	NDA

14.6 Special precautions for user

- Cylinders should be transported in a secure position, in a well-ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards. If transporting these cylinders in vehicles, ensure these cylinders are not exposed to extremely high temperatures (as may occur in an enclosed vehicle on a hot day). Additionally, the vehicle should be well-ventilated during transportation.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Not relevant.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

- Pressure(Sudden Release of), Acute

State Right To Know				
Component	CAS	MA	NJ	PA
1,3-Butadiene, hexachloro-	87-68-3	Yes	Yes	Yes
Carbon tetrachloride	56-23-5	Yes	Yes	Yes
Chloroform	67-66-3	Yes	Yes	Yes
Dichloromethane	75-09-2	Yes	Yes	Yes
Ethane, 1,1,1-trichloro-	71-55-6	Yes	Yes	Yes
Ethane, 1,1,2,2-tetrachloro-	79-34-5	Yes	Yes	Yes
Ethane, 1,1,2-trichloro-	79-00-5	Yes	Yes	Yes
Ethane, 1,1-dichloro-	75-34-3	Yes	Yes	Yes
Ethane, 1,2-dichloro-	107-06-2	Yes	Yes	Yes
Ethane, chloro-	75-00-3	Yes	Yes	Yes

Ethylene, 1,1-dichloro-	75-35-4	Yes	Yes	Yes
Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Yes	No	Yes
Ethylene, tetrachloro-	127-18-4	Yes	Yes	Yes
Ethylene, trichloro-	79-01-6	Yes	Yes	Yes
Methane, chloro-	74-87-3	Yes	Yes	Yes
Nitrogen	7727-37-9	Yes	Yes	Yes
Propane, 1,2-dichloro-	78-87-5	Yes	Yes	Yes
Propene, 1,3-dichloro-, (E)-	10061-02-6	Yes	Yes	No
Propene, 1,3-dichloro-, (Z)-	10061-01-5	Yes	No	Yes
Vinyl Chloride	75-01-4	Yes	Yes	Yes

Inventory						
Component	CAS	Canada DSL	Canada NDSL	China	EU EINECS	EU ELNICS
1,3-Butadiene, hexachloro-	87-68-3	Yes	No	Yes	Yes	No
Carbon tetrachloride	56-23-5	Yes	No	Yes	Yes	No
Chloroform	67-66-3	Yes	No	Yes	Yes	No
Dichloromethane	75-09-2	Yes	No	Yes	Yes	No
Ethane, 1,1,1-trichloro-	71-55-6	Yes	No	Yes	Yes	No
Ethane, 1,1,2,2-tetrachloro-	79-34-5	Yes	No	Yes	Yes	No
Ethane, 1,1,2-trichloro-	79-00-5	Yes	No	Yes	Yes	No
Ethane, 1,1-dichloro-	75-34-3	No	Yes	Yes	Yes	No
Ethane, 1,2-dichloro-	107-06-2	Yes	No	Yes	Yes	No
Ethane, chloro-	75-00-3	Yes	No	Yes	Yes	No
Ethylene, 1,1-dichloro-	75-35-4	Yes	No	Yes	Yes	No
Ethylene, 1,2-dichloro-, (Z)-	156-59-2	No	Yes	Yes	Yes	No
Ethylene, tetrachloro-	127-18-4	Yes	No	Yes	Yes	No
Ethylene, trichloro-	79-01-6	Yes	No	Yes	Yes	No
Methane, chloro-	74-87-3	Yes	No	Yes	Yes	No
Nitrogen	7727-37-9	Yes	No	Yes	Yes	No
Propane, 1,2-dichloro-	78-87-5	Yes	No	Yes	Yes	No
Propene, 1,3-dichloro-, (E)-	10061-02-6	No	Yes	Yes	No	No

Propene, 1,3-dichloro-, (Z)-	10061-01-5	No	No	No	Yes	No
Vinyl Chloride	75-01-4	Yes	No	Yes	Yes	No
Inventory (Con't.)						
Component	CAS		TSCA			
1,3-Butadiene, hexachloro-	87-68-3		Yes			
Carbon tetrachloride	56-23-5		Yes			
Chloroform	67-66-3		Yes			
Dichloromethane	75-09-2		Yes			
Ethane, 1,1,1-trichloro-	71-55-6		Yes			
Ethane, 1,1,2,2-tetrachloro-	79-34-5		Yes			
Ethane, 1,1,2-trichloro-	79-00-5		Yes			
Ethane, 1,1-dichloro-	75-34-3		Yes			
Ethane, 1,2-dichloro-	107-06-2		Yes			
Ethane, chloro-	75-00-3		Yes			
Ethylene, 1,1-dichloro-	75-35-4		Yes			
Ethylene, 1,2-dichloro-, (Z)-	156-59-2		Yes			
Ethylene, tetrachloro-	127-18-4		Yes			
Ethylene, trichloro-	79-01-6		Yes			
Methane, chloro-	74-87-3		Yes			
Nitrogen	7727-37-9		Yes			
Propane, 1,2-dichloro-	78-87-5		Yes			
Propene, 1,3-dichloro-, (E)-	10061-02-6		Yes			
Propene, 1,3-dichloro-, (Z)-	10061-01-5		No			
Vinyl Chloride	75-01-4		Yes			

Canada

Labor

Canada - WHMIS - Classifications of Substances

Ethane, 1,1,2-trichloro-	79-00-5	D1A, D2B
Ethane, 1,2-dichloro-	107-06-2	B2, D1A, D2A
Methane, chloro-	74-87-3	Not Listed
Vinyl Chloride	75-01-4	A, B1, D2A, D2B, F
Ethane, chloro-	75-00-3	A, B1
Ethane, 1,1,2,2-tetrachloro-	79-34-5	D1A
Chloroform	67-66-3	D1B, D2A, D2B
Carbon tetrachloride	56-23-5	D1A, D2A, D2B
Dichloromethane	75-09-2	D1B, D2A, D2B

• Ethylene, tetrachloro-	127-18-4	D1B, D2A, D2B
• Ethylene, trichloro-	79-01-6	D1B, D2A, D2B
• Nitrogen	7727-37-9	A
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	B2, D2B
• Ethane, 1,1-dichloro-	75-34-3	B2
• Ethylene, 1,1-dichloro-	75-35-4	B2, D1B, D2B, F
• Propane, 1,2-dichloro-	78-87-5	B2
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	D1B, D2B
• Ethane, 1,1,1-trichloro-	71-55-6	D1B, D2B

Canada - WHMIS - Ingredient Disclosure List

• Ethane, 1,1,2-trichloro-	79-00-5	1 %
• Ethane, 1,2-dichloro-	107-06-2	1 %
• Methane, chloro-	74-87-3	1 %
• Vinyl Chloride	75-01-4	0.1 %
• Ethane, chloro-	75-00-3	1 %
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	1 %
• Chloroform	67-66-3	0.1 %
• Carbon tetrachloride	56-23-5	0.1 %
• Dichloromethane	75-09-2	0.1 %
• Ethylene, tetrachloro-	127-18-4	1 %
• Ethylene, trichloro-	79-01-6	1 %
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	1 %
• Ethylene, 1,1-dichloro-	75-35-4	1 %
• Propane, 1,2-dichloro-	78-87-5	1 %
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	0.1 %
• Ethane, 1,1,1-trichloro-	71-55-6	0.1 %

Environment

Canada - CEPA - Priority Substances List

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Priority Substance List 1 (substance considered toxic)
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Priority Substance List 1 (substance not considered toxic)
• Chloroform	67-66-3	Priority Substance List 2 (substance not considered toxic)
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Priority Substance List 1 (substance considered toxic)
• Ethylene, tetrachloro-	127-18-4	Priority Substance List 1 (substance considered toxic)
• Ethylene, trichloro-	79-01-6	Priority Substance List 1 (substance considered toxic)

• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Priority Substance List 2 (substance considered toxic, substance added to Virtual Elimination List)
• Ethane, 1,1,1-trichloro-	71-55-6	Priority Substance List 1 (substance considered toxic, added to CEPA's Schedule 1, List of Toxic Substances)

China

Environment

China - Ozone Depleting Substances - First Schedule

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Forbidden from import 2903.1400
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

China - Ozone Depleting Substances - Second Schedule

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Export license management Product Number: 2903.1400 R- code: CTC
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed

• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Import/Export Quota license management Product Number: 2903.1910 R-code: TCA

China - Ozone Depleting Substances - Third Schedule

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

Other

China - Annex I & II - Controlled Chemicals Lists

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed

• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed
China - Dangerous Goods List		
• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	
• Methane, chloro-	74-87-3	
• Vinyl Chloride	75-01-4	
• Ethane, chloro-	75-00-3	
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	
• Chloroform	67-66-3	
• Carbon tetrachloride	56-23-5	
• Dichloromethane	75-09-2	
• Ethylene, tetrachloro-	127-18-4	
• Ethylene, trichloro-	79-01-6	
• Nitrogen	7727-37-9	(compressed or refrigerated liquid)
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	
• Ethylene, 1,1-dichloro-	75-35-4	
• Propane, 1,2-dichloro-	78-87-5	
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	
• Ethane, 1,1,1-trichloro-	71-55-6	
China - Export Control List - Part I Chemicals		
• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

• Ethane, 1,1,2-trichloro-	79-00-5	Xn; R20/21/22 Carc.Cat.3; R40 R66
• Ethane, 1,2-dichloro-	107-06-2	F; R11 Xn; R22 Xi; R36/37/38 Carc.Cat.2; R45
• Methane, chloro-	74-87-3	F+; R12 Carc.Cat.3; R40 Xn; R48/20
• Vinyl Chloride	75-01-4	F+; R12 Carc.Cat.1; R45
• Ethane, chloro-	75-00-3	F+; R12 Carc.Cat.3; R40 R52-53
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	T+; R26/27 N; R51-53
• Chloroform	67-66-3	Xn; R22-48/20/22 Xi; R38 Carc.Cat.3; R40
• Carbon tetrachloride	56-23-5	T; R23/24/25-48/23 Carc.Cat.3; R40 R52-53 N; R59
• Dichloromethane	75-09-2	Carc.Cat.3; R40
• Ethylene, tetrachloro-	127-18-4	Carc.Cat.3; R40 N; R51-53
• Ethylene, trichloro-	79-01-6	Xi; R36/38 Carc.Cat.2; R45 R52-53 R67 Muta.Cat.3; R68
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	F; R11 Xn; R20 R52-53
• Ethane, 1,1-dichloro-	75-34-3	F; R11 Xn; R22 Xi; R36/37 R52-53
• Ethylene, 1,1-dichloro-	75-35-4	F+; R12 Xn; R20 Carc.Cat.3; R40
• Propane, 1,2-dichloro-	78-87-5	F; R11 Xn; R20/22
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	R10 Xn; R20-65 T; R24/25 Xi; R36/37/38 R43 N; R50-53
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Xn; R20 N; R59
EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits		
• Ethane, 1,1,2-trichloro-	79-00-5	5%≤C: Xn; R:20/21/22
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	5%≤C: Xn; R:22 5%≤C: Xn; R:48/20/22
• Carbon tetrachloride	56-23-5	1%≤C: T; R:23/24/25 0.2% ≤C<1%: Xn; R:20/21/22 1% ≤C: T; R:48/23 0.2%≤C<1%: Xn; R:48/20
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	12.5%≤C: Xn; R:20
• Ethane, 1,1-dichloro-	75-34-3	12.5%≤C: Xn; R:22
• Ethylene, 1,1-dichloro-	75-35-4	12.5%≤C: Xn; R:20
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed

• Ethane, 1,1,1-trichloro-

71-55-6

Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Ethane, 1,1,2-trichloro-

79-00-5

Xn R:20/21/22-40-66 S:(2)-9-36/37-46

• Ethane, 1,2-dichloro-

107-06-2

F T R:45-11-22-36/37/38 S:53-45

• Methane, chloro-

74-87-3

F+ Xn R:12-40-48/20 S:(2)-9-16-33

• Vinyl Chloride

75-01-4

F+ T R:45-12 S:53-45

• Ethane, chloro-

75-00-3

F+ Xn R:12-40-52/53 S:(2)-9-16-33-36/37-61

• Ethane, 1,1,2,2-tetrachloro-

79-34-5

T+ N R:26/27-51/53 S:(1/2)-38-45-61

• Chloroform

67-66-3

Xn R:22-38-40-48/20/22 S:(2)-36/37

• Carbon tetrachloride

56-23-5

T N R:23/24/25-40-48/23-59-52/53 S:(1/2)-23-36/37-45-59-61

• Dichloromethane

75-09-2

Xn R:40 S:(2)-23-24/25-36/37

• Ethylene, tetrachloro-

127-18-4

Xn N R:40-51/53 S:(2)-23-36/37-61

• Ethylene, trichloro-

79-01-6

T R:45-36/38-52/53-67 S:53-45-61

• Nitrogen

7727-37-9

Not Listed

• Ethylene, 1,2-dichloro-, (Z)-

156-59-2

F Xn R:11-20-52/53 S:(2)-7-16-29-61

• Ethane, 1,1-dichloro-

75-34-3

F Xn R:11-22-36/37-52/53 S:(2)-16-23-61

• Ethylene, 1,1-dichloro-

75-35-4

F+ Xn R:12-20-40 S:(2)-7-16-29-36/37-46

• Propane, 1,2-dichloro-

78-87-5

F Xn R:11-20/22 S:(2)-16-24

• Propene, 1,3-dichloro-, (Z)-

10061-01-5

T N R:10-20-24/25-36/37/38-43-65-50/53 S:(1/2)-36/37-45-60-61

• Propene, 1,3-dichloro-, (E)-

10061-02-6

Not Listed

• 1,3-Butadiene, hexachloro-

87-68-3

Not Listed

• Ethane, 1,1,1-trichloro-

71-55-6

Xn N R:20-59 S:(2)-24/25-59-61

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• Ethane, 1,1,2-trichloro-

79-00-5

Not Listed

• Ethane, 1,2-dichloro-

107-06-2

E

• Methane, chloro-

74-87-3

Not Listed

• Vinyl Chloride

75-01-4

D

• Ethane, chloro-

75-00-3

Not Listed

• Ethane, 1,1,2,2-tetrachloro-

79-34-5

Not Listed

• Chloroform

67-66-3

Not Listed

• Carbon tetrachloride

56-23-5

Not Listed

• Dichloromethane

75-09-2

Not Listed

• Ethylene, tetrachloro-

127-18-4

Not Listed

• Ethylene, trichloro-

79-01-6

Not Listed

• Nitrogen

7727-37-9

Not Listed

• Ethylene, 1,2-dichloro-, (Z)-

156-59-2

C

• Ethane, 1,1-dichloro-

75-34-3

Not Listed

• Ethylene, 1,1-dichloro-	75-35-4	D
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	C, D
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	F

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• Ethane, 1,1,2-trichloro-	79-00-5	S:(2)-9-36/37-46
• Ethane, 1,2-dichloro-	107-06-2	S:53-45
• Methane, chloro-	74-87-3	S:(2)-9-16-33
• Vinyl Chloride	75-01-4	S:53-45
• Ethane, chloro-	75-00-3	S:(2)-9-16-33-36/37-61
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	S:(1/2)-38-45-61
• Chloroform	67-66-3	S:(2)-36/37
• Carbon tetrachloride	56-23-5	S:(1/2)-23-36/37-45-59-61
• Dichloromethane	75-09-2	S:(2)-23-24/25-36/37
• Ethylene, tetrachloro-	127-18-4	S:(2)-23-36/37-61
• Ethylene, trichloro-	79-01-6	S:53-45-61
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	S:(2)-7-16-29-61
• Ethane, 1,1-dichloro-	75-34-3	S:(2)-16-23-61
• Ethylene, 1,1-dichloro-	75-35-4	S:(2)-7-16-29-36/37-46
• Propane, 1,2-dichloro-	78-87-5	S:(2)-16-24
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	S:(1/2)-36/37-45-60-61
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	S:(2)-24/25-59-61

Germany

Environment

Germany - TA Luft - Types and Classes

• Ethane, 1,1,2-trichloro-	79-00-5	organic Substance: 5.2.5, Class I
• Ethane, 1,2-dichloro-	107-06-2	carcinogenic Substance: 5.2.7.1.1.1, Class III
• Methane, chloro-	74-87-3	organic Substance: 5.2.5, Class I
• Vinyl Chloride	75-01-4	carcinogenic Substance: 5.2.7.1.1.1, Class III
• Ethane, chloro-	75-00-3	organic Substance: 5.2.5, Class I
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	organic Substance: 5.2.5, Class I
• Chloroform	67-66-3	organic Substance: 5.2.5, Class I
• Carbon tetrachloride	56-23-5	organic Substance: 5.2.5, Class I
• Dichloromethane	75-09-2	organic Substance: 5.2.5, Class I
• Ethylene, tetrachloro-	127-18-4	organic Substance: 5.2.5, Class I
• Ethylene, trichloro-	79-01-6	organic Substance: 5.2.5, Class I; carcinogenic Substance: 5.2.7.1.1.1, Class III

• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	organic Substance: 5.2.5, Class II
• Ethylene, 1,1-dichloro-	75-35-4	organic Substance: 5.2.5, Class I
• Propane, 1,2-dichloro-	78-87-5	organic Substance: 5.2.5, Class I
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	organic Substance: 5.2.5, Class I
• Ethane, 1,1,1-trichloro-	71-55-6	organic Substance: 5.2.5, Class II

Germany - Water Classification (VwVwS) - Annex 1

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	ID Number 1351, not considered hazardous to water
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes

• Ethane, 1,1,2-trichloro-	79-00-5	ID Number 796, hazard class 3 - severe hazard to waters
• Ethane, 1,2-dichloro-	107-06-2	ID Number 102, hazard class 3 - severe hazard to waters
• Methane, chloro-	74-87-3	ID Number 265, hazard class 2 - hazard to waters
• Vinyl Chloride	75-01-4	ID Number 462, hazard class 2 - hazard to waters
• Ethane, chloro-	75-00-3	ID Number 793, hazard class 2 - hazard to waters
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	ID Number 797, hazard class 3 - severe hazard to waters
• Chloroform	67-66-3	ID Number 54, hazard class 3 - severe hazard to waters

• Carbon tetrachloride	56-23-5	ID Number 189, hazard class 3 - severe hazard to waters
• Dichloromethane	75-09-2	ID Number 149, hazard class 2 - hazard to waters
• Ethylene, tetrachloro-	127-18-4	ID Number 287, hazard class 3 - severe hazard to waters
• Ethylene, trichloro-	79-01-6	ID Number 199, hazard class 3 - severe hazard to waters
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	ID Number 795, hazard class 2 - hazard to waters
• Ethane, 1,1-dichloro-	75-34-3	ID Number 895, hazard class 3 - severe hazard to waters
• Ethylene, 1,1-dichloro-	75-35-4	ID Number 794, hazard class 3 - severe hazard to waters
• Propane, 1,2-dichloro-	78-87-5	ID Number 446, hazard class 3 - severe hazard to waters
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	ID Number 245, hazard class 3 - severe hazard to waters
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	ID Number 123, hazard class 3 - severe hazard to waters
• Ethane, 1,1,1-trichloro-	71-55-6	ID Number 198, hazard class 3 - severe hazard to waters
Germany - Water Classification (VwVwS) - Annex 3		
• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

Other

Germany - Specifically Regulated Chemicals in TRGS

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed

• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	TRGS 612 (February 2007)
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

Portugal

Other

Portugal - Prohibited Substances

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

United Kingdom

Environment

United Kingdom - Pollution Inventory - Schedule 1 - Thresholds for Releases to Air

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	1000 kg
• Methane, chloro-	74-87-3	1000 kg
• Vinyl Chloride	75-01-4	1000 kg
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	10 kg
• Chloroform	67-66-3	100 kg
• Carbon tetrachloride	56-23-5	10 kg
• Dichloromethane	75-09-2	1000 kg
• Ethylene, tetrachloro-	127-18-4	100 kg
• Ethylene, trichloro-	79-01-6	1000 kg

• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	10 kg

Other

United Kingdom - Workplace Exposure Limits (WELs) - Substances in Review

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

United Kingdom - List of Dangerous Substances in Water

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	2000 g
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	20 g

• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed
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United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	15000 lb TQ
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	0.5 ppm Action Level (See 29 CFR 1910.1017); 1 ppm TWA (See 29 CFR 1910.1017); 5 ppm STEL (See 29 CFR 1910.1017, 15 min)
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	125 ppm STEL (See 29 CFR 1910.1052, 15 min); 12.5 ppm Action Level (See 29 CFR 1910.1052); 25 ppm TWA (See 29 CFR 1910.1052)
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed

• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed
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Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Ethane, 1,1,2-trichloro-	79-00-5	
• Ethane, 1,2-dichloro-	107-06-2	
• Methane, chloro-	74-87-3	
• Vinyl Chloride	75-01-4	
• Ethane, chloro-	75-00-3	
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	
• Chloroform	67-66-3	
• Carbon tetrachloride	56-23-5	
• Dichloromethane	75-09-2	
• Ethylene, tetrachloro-	127-18-4	
• Ethylene, trichloro-	79-01-6	
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	
• Ethylene, 1,1-dichloro-	75-35-4	
• Propane, 1,2-dichloro-	78-87-5	
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	
• Ethane, 1,1,1-trichloro-	71-55-6	

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Ethane, 1,1,2-trichloro-	79-00-5	100 lb final RQ; 45.4 kg final RQ
• Ethane, 1,2-dichloro-	107-06-2	100 lb final RQ; 45.4 kg final RQ
• Methane, chloro-	74-87-3	100 lb final RQ; 45.4 kg final RQ
• Vinyl Chloride	75-01-4	1 lb final RQ; 0.454 kg final RQ
• Ethane, chloro-	75-00-3	100 lb final RQ; 45.4 kg final RQ
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	100 lb final RQ; 45.4 kg final RQ
• Chloroform	67-66-3	10 lb final RQ; 4.54 kg final RQ
• Carbon tetrachloride	56-23-5	10 lb final RQ; 4.54 kg final RQ
• Dichloromethane	75-09-2	1000 lb final RQ; 454 kg final RQ
• Ethylene, tetrachloro-	127-18-4	100 lb final RQ; 45.4 kg final RQ
• Ethylene, trichloro-	79-01-6	100 lb final RQ; 45.4 kg final RQ
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	1000 lb final RQ; 454 kg final RQ
• Ethane, 1,1-dichloro-	75-34-3	1000 lb final RQ; 454 kg final RQ
• Ethylene, 1,1-dichloro-	75-35-4	100 lb final RQ; 45.4 kg final RQ
• Propane, 1,2-dichloro-	78-87-5	1000 lb final RQ; 454 kg final RQ
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed

• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	1 lb final RQ; 0.454 kg final RQ
• Ethane, 1,1,1-trichloro-	71-55-6	1000 lb final RQ; 454 kg final RQ

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	10 lb EPCRA RQ
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed

• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	10000 lb TPQ
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Ethane, 1,1,2-trichloro-	79-00-5	1.0 % de minimis concentration
• Ethane, 1,2-dichloro-	107-06-2	0.1 % de minimis concentration
• Methane, chloro-	74-87-3	1.0 % de minimis concentration
• Vinyl Chloride	75-01-4	0.1 % de minimis concentration
• Ethane, chloro-	75-00-3	1.0 % de minimis concentration
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	1.0 % de minimis concentration
• Chloroform	67-66-3	0.1 % de minimis concentration
• Carbon tetrachloride	56-23-5	0.1 % de minimis concentration
• Dichloromethane	75-09-2	0.1 % de minimis concentration
• Ethylene, tetrachloro-	127-18-4	0.1 % de minimis concentration
• Ethylene, trichloro-	79-01-6	0.1 % de minimis concentration
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	1.0 % de minimis concentration
• Ethylene, 1,1-dichloro-	75-35-4	1.0 % de minimis concentration
• Propane, 1,2-dichloro-	78-87-5	1.0 % de minimis concentration
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	0.1 % de minimis concentration
• 1,3-Butadiene, hexachloro-	87-68-3	1.0 % de minimis concentration
• Ethane, 1,1,1-trichloro-	71-55-6	1.0 % de minimis concentration

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

U.S. - RCRA (Resource Conservation & Recovery Act) - Basis for Listing - Appendix VII

• Ethane, 1,1,2-trichloro-	79-00-5	Included in waste streams: F002, F024, F025, F039, K019, K020, K095, K096
• Ethane, 1,2-dichloro-	107-06-2	Included in waste streams: F024, F025, F039, K018, K019, K020, K029, K030, K096
• Methane, chloro-	74-87-3	Included in waste streams: F024, F025, F039, K009, K010, K149, K150, K157
• Vinyl Chloride	75-01-4	Included in waste streams: F024, F025, F039, K019, K020, K028, K029
• Ethane, chloro-	75-00-3	Included in waste stream: F039
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Included in waste streams: F024, F025, F039, K019, K020, K030, K073, K095, K150
• Chloroform	67-66-3	Included in waste streams: F024, F025, F039, K009, K010, K019, K020, K021, K029, K073, K116, K149, K150, K151, K158
• Carbon tetrachloride	56-23-5	Included in waste streams: F001, F024, F025, F039, K016, K019, K020, K021, K073, K116, K150, K151, K157
• Dichloromethane	75-09-2	Included in waste streams: F001, F002, F024, F025, F039, K009, K010, K156, K157, K158
• Ethylene, tetrachloro-	127-18-4	Included in waste streams: F001, F002, F024, F025, F039, K016, K019, K020, K073, K116, K150, K151

• Ethylene, trichloro-	79-01-6	Included in waste streams: F001, F002, F024, F025, F039, K018, K019, K020
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Included in waste streams: F024, F025, F039
• Ethylene, 1,1-dichloro-	75-35-4	Included in waste streams: F024, F025, F039, K019, K020, K029
• Propane, 1,2-dichloro-	78-87-5	Included in waste stream: F039
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Included in waste stream: F039
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Included in waste stream: F039
• 1,3-Butadiene, hexachloro-	87-68-3	Included in waste streams: F024, F025, F039, K016, K018, K030
• Ethane, 1,1,1-trichloro-	71-55-6	Included in waste streams: F001, F002, F024, F025, F039, K019, K020, K028, K029, K096

U.S. - RCRA (Resource Conservation & Recovery Act) - Constituents for Detection Monitoring

• Ethane, 1,1,2-trichloro-	79-00-5	
• Ethane, 1,2-dichloro-	107-06-2	
• Methane, chloro-	74-87-3	
• Vinyl Chloride	75-01-4	
• Ethane, chloro-	75-00-3	
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	
• Chloroform	67-66-3	
• Carbon tetrachloride	56-23-5	
• Dichloromethane	75-09-2	
• Ethylene, tetrachloro-	127-18-4	
• Ethylene, trichloro-	79-01-6	
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	
• Ethane, 1,1-dichloro-	75-34-3	
• Ethylene, 1,1-dichloro-	75-35-4	
• Propane, 1,2-dichloro-	78-87-5	
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	
• Propene, 1,3-dichloro-, (E)-	10061-02-6	
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	

U.S. - RCRA (Resource Conservation & Recovery Act) - D Series Wastes - Max Conc of Contaminants for the Toxic Characteristic

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	0.5 mg/L regulatory level
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	0.2 mg/L regulatory level
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	6.0 mg/L regulatory level

• Carbon tetrachloride	56-23-5	0.5 mg/L regulatory level
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	0.7 mg/L regulatory level
• Ethylene, trichloro-	79-01-6	0.5 mg/L regulatory level
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	0.7 mg/L regulatory level
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	0.5 mg/L regulatory level
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

U.S. - RCRA (Resource Conservation & Recovery Act) - Hazardous Constituents - Appendix VIII to 40 CFR 261

• Ethane, 1,1,2-trichloro-	79-00-5	waste number U227
• Ethane, 1,2-dichloro-	107-06-2	waste number U077
• Methane, chloro-	74-87-3	waste number U045
• Vinyl Chloride	75-01-4	waste number U043
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	waste number U209
• Chloroform	67-66-3	waste number U044
• Carbon tetrachloride	56-23-5	waste number U211
• Dichloromethane	75-09-2	waste number U080
• Ethylene, tetrachloro-	127-18-4	waste number U210
• Ethylene, trichloro-	79-01-6	waste number U228
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	waste number U076
• Ethylene, 1,1-dichloro-	75-35-4	waste number U078
• Propane, 1,2-dichloro-	78-87-5	waste number U083
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	waste number U128
• Ethane, 1,1,1-trichloro-	71-55-6	waste number U226

U.S. - RCRA (Resource Conservation & Recovery Act) - List for Hazardous Constituents

• Ethane, 1,1,2-trichloro-	79-00-5	
• Ethane, 1,2-dichloro-	107-06-2	
• Methane, chloro-	74-87-3	
• Vinyl Chloride	75-01-4	
• Ethane, chloro-	75-00-3	
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	
• Chloroform	67-66-3	
• Carbon tetrachloride	56-23-5	
• Dichloromethane	75-09-2	
• Ethylene, tetrachloro-	127-18-4	
• Ethylene, trichloro-	79-01-6	
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	
• Ethane, 1,1-dichloro-	75-34-3	
• Ethylene, 1,1-dichloro-	75-35-4	
• Propane, 1,2-dichloro-	78-87-5	
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	

• Propene, 1,3-dichloro-, (E)-	10061-02-6
• 1,3-Butadiene, hexachloro-	87-68-3
• Ethane, 1,1,1-trichloro-	71-55-6

U.S. - RCRA (Resource Conservation & Recovery Act) - Part 268 Appendix III - Halogenated Organic Compounds (HOCs)

• Ethane, 1,1,2-trichloro-	79-00-5	Category I - Volatiles
• Ethane, 1,2-dichloro-	107-06-2	Category I - Volatiles
• Methane, chloro-	74-87-3	Category I - Volatiles
• Vinyl Chloride	75-01-4	Category I - Volatiles
• Ethane, chloro-	75-00-3	Category I - Volatiles
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Category I - Volatiles
• Chloroform	67-66-3	Category I - Volatiles
• Carbon tetrachloride	56-23-5	Category I - Volatiles
• Dichloromethane	75-09-2	Category I - Volatiles
• Ethylene, tetrachloro-	127-18-4	Category I - Volatiles
• Ethylene, trichloro-	79-01-6	Category I - Volatiles
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Category I - Volatiles
• Ethylene, 1,1-dichloro-	75-35-4	Category I - Volatiles
• Propane, 1,2-dichloro-	78-87-5	Category I - Volatiles
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Category I - Volatiles
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Category I - Volatiles
• 1,3-Butadiene, hexachloro-	87-68-3	Category II - Semi-volatiles
• Ethane, 1,1,1-trichloro-	71-55-6	Category I - Volatiles

U.S. - RCRA (Resource Conservation & Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards

• Ethane, 1,1,2-trichloro-	79-00-5	0.054 mg/L (wastewater); 6.0 mg/kg (nonwastewater)
• Ethane, 1,2-dichloro-	107-06-2	0.21 mg/L (wastewater); 6.0 mg/kg (nonwastewater)
• Methane, chloro-	74-87-3	0.19 mg/L (wastewater); 30 mg/kg (nonwastewater)
• Vinyl Chloride	75-01-4	0.27 mg/L (wastewater); 6.0 mg/kg (nonwastewater)
• Ethane, chloro-	75-00-3	0.27 mg/L (wastewater); 6.0 mg/kg (nonwastewater)
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	0.057 mg/L (wastewater); 6.0 mg/kg (nonwastewater)
• Chloroform	67-66-3	0.046 mg/L (wastewater); 6.0 mg/kg (nonwastewater)
• Carbon tetrachloride	56-23-5	0.057 mg/L (wastewater); 6.0 mg/kg (nonwastewater)
• Dichloromethane	75-09-2	0.089 mg/L (wastewater); 30 mg/kg (nonwastewater)
• Ethylene, tetrachloro-	127-18-4	0.056 mg/L (wastewater); 6.0 mg/kg (nonwastewater)
• Ethylene, trichloro-	79-01-6	0.054 mg/L (wastewater); 6.0 mg/kg (nonwastewater)
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	0.059 mg/L (wastewater); 6.0 mg/kg (nonwastewater)
• Ethylene, 1,1-dichloro-	75-35-4	0.025 mg/L (wastewater); 6.0 mg/kg (nonwastewater)

• Propane, 1,2-dichloro-	78-87-5	0.85 mg/L (wastewater); 18 mg/kg (nonwastewater)
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	0.036 mg/L (wastewater); 18 mg/kg (nonwastewater)
• Propene, 1,3-dichloro-, (E)-	10061-02-6	0.036 mg/L (wastewater); 18 mg/kg (nonwastewater)
• 1,3-Butadiene, hexachloro-	87-68-3	0.055 mg/L (wastewater); 5.6 mg/kg (nonwastewater)
• Ethane, 1,1,1-trichloro-	71-55-6	0.054 mg/L (wastewater); 6.0 mg/kg (nonwastewater)

U.S. - RCRA (Resource Conservation & Recovery Act) - TSD Facilities Ground Water Monitoring

• Ethane, 1,1,2-trichloro-	79-00-5	
• Ethane, 1,2-dichloro-	107-06-2	
• Methane, chloro-	74-87-3	
• Vinyl Chloride	75-01-4	
• Ethane, chloro-	75-00-3	
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	
• Chloroform	67-66-3	
• Carbon tetrachloride	56-23-5	
• Dichloromethane	75-09-2	
• Ethylene, tetrachloro-	127-18-4	
• Ethylene, trichloro-	79-01-6	
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	
• Ethylene, 1,1-dichloro-	75-35-4	
• Propane, 1,2-dichloro-	78-87-5	
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	
• Propene, 1,3-dichloro-, (E)-	10061-02-6	
• 1,3-Butadiene, hexachloro-	87-68-3	
• Ethane, 1,1,1-trichloro-	71-55-6	

U.S. - RCRA (Resource Conservation & Recovery Act) - U Series Wastes - Acutely Toxic Wastes & Other Hazardous Characteristics

• Ethane, 1,1,2-trichloro-	79-00-5	waste number U227
• Ethane, 1,2-dichloro-	107-06-2	waste number U077
• Methane, chloro-	74-87-3	waste number U045 (Ignitable waste, Toxic waste)
• Vinyl Chloride	75-01-4	waste number U043
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	waste number U209
• Chloroform	67-66-3	waste number U044
• Carbon tetrachloride	56-23-5	waste number U211
• Dichloromethane	75-09-2	waste number U080
• Ethylene, tetrachloro-	127-18-4	waste number U210
• Ethylene, trichloro-	79-01-6	waste number U228
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	waste number U076
• Ethylene, 1,1-dichloro-	75-35-4	waste number U078
• Propane, 1,2-dichloro-	78-87-5	waste number U083
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	waste number U128

• Ethane, 1,1,1-trichloro-	71-55-6	waste number U226
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U.S. - RCRA (Resource Conservation & Recovery Act) - Waste Minimization Priority Chemicals

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Ethane, 1,1,2-trichloro-	79-00-5	carcinogen, initial date 10/1/90
• Ethane, 1,2-dichloro-	107-06-2	carcinogen, initial date 10/1/87
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	carcinogen, initial date 2/27/87
• Ethane, chloro-	75-00-3	carcinogen, initial date 7/1/90
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	carcinogen, initial date 7/1/90
• Chloroform	67-66-3	carcinogen, initial date 10/1/87
• Carbon tetrachloride	56-23-5	carcinogen, initial date 10/1/87
• Dichloromethane	75-09-2	carcinogen, initial date 4/1/88
• Ethylene, tetrachloro-	127-18-4	carcinogen, initial date 4/1/88
• Ethylene, trichloro-	79-01-6	carcinogen, initial date 4/1/88
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	carcinogen, initial date 1/1/90
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	carcinogen, initial date 1/1/90
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	carcinogen, initial date 5/3/11
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	developmental toxicity, initial date 3/10/00

• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	developmental toxicity, initial date 8/7/09
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Ethane, 1,1,2-trichloro-	79-00-5	10 µg/day NSRL
• Ethane, 1,2-dichloro-	107-06-2	10 µg/day NSRL
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	3 µg/day NSRL
• Ethane, chloro-	75-00-3	150 µg/day NSRL
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	3 µg/day NSRL
• Chloroform	67-66-3	20 µg/day NSRL (oral); 40 µg/day NSRL (inhalation)
• Carbon tetrachloride	56-23-5	5 µg/day NSRL
• Dichloromethane	75-09-2	200 µg/day NSRL (inhalation); 50 µg/day NSRL
• Ethylene, tetrachloro-	127-18-4	14 µg/day NSRL

• Ethylene, trichloro-	79-01-6	14 µg/day NSRL (oral); 50 µg/day NSRL (inhalation)
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	100 µg/day NSRL
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	9.7 µg/day NSRL
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	Not Listed
• Methane, chloro-	74-87-3	male reproductive toxicity, initial date 8/7/09
• Vinyl Chloride	75-01-4	Not Listed
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	Not Listed
• Carbon tetrachloride	56-23-5	Not Listed
• Dichloromethane	75-09-2	Not Listed
• Ethylene, tetrachloro-	127-18-4	Not Listed
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed

• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• Ethane, 1,1,2-trichloro-	79-00-5	
• Ethane, 1,2-dichloro-	107-06-2	
• Methane, chloro-	74-87-3	
• Vinyl Chloride	75-01-4	
• Ethane, chloro-	75-00-3	
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	
• Chloroform	67-66-3	
• Carbon tetrachloride	56-23-5	
• Dichloromethane	75-09-2	
• Ethylene, tetrachloro-	127-18-4	
• Ethylene, trichloro-	79-01-6	
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	
• Ethylene, 1,1-dichloro-	75-35-4	
• Propane, 1,2-dichloro-	78-87-5	
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	
• Ethane, 1,1,1-trichloro-	71-55-6	

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Ethane, 1,1,2-trichloro-	79-00-5	Not Listed
• Ethane, 1,2-dichloro-	107-06-2	
• Methane, chloro-	74-87-3	Not Listed
• Vinyl Chloride	75-01-4	
• Ethane, chloro-	75-00-3	Not Listed
• Ethane, 1,1,2,2-tetrachloro-	79-34-5	Not Listed
• Chloroform	67-66-3	
• Carbon tetrachloride	56-23-5	
• Dichloromethane	75-09-2	
• Ethylene, tetrachloro-	127-18-4	
• Ethylene, trichloro-	79-01-6	Not Listed
• Nitrogen	7727-37-9	Not Listed
• Ethylene, 1,2-dichloro-, (Z)-	156-59-2	Not Listed
• Ethane, 1,1-dichloro-	75-34-3	Not Listed
• Ethylene, 1,1-dichloro-	75-35-4	Not Listed
• Propane, 1,2-dichloro-	78-87-5	Not Listed
• Propene, 1,3-dichloro-, (Z)-	10061-01-5	Not Listed
• Propene, 1,3-dichloro-, (E)-	10061-02-6	Not Listed
• 1,3-Butadiene, hexachloro-	87-68-3	Not Listed
• Ethane, 1,1,1-trichloro-	71-55-6	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

- Last Revision Date**
- 16/October/2014
- Preparation Date**
- 25/July/2012
- Disclaimer/Statement of Liability**
- To the best of Air Liquide's knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this gas mixture is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.

Key to abbreviations

NDA = No Data Available