

Safety Data Sheet



Section 1: Identification

Product identifier

Product Name • 1,1,1-Trichloroethane (0.0001 - 0.035%), Trichloroethylene(0.0001 - 0.01%), Carbon Tetrachloride (0.0001 - 0.001%), Air (Balance) [Nuclear Waste Partnership LLC]

Product Code • MSDS No. 90067

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

Recommended use • Calibration Gas

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

Emergency telephone number

Manufacturer • 800-424-9300 - CHEMTREC

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

Section 2: Hazard Identification

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012 • Compressed Gas - H280

Label elements

OSHA HCS 2012

WARNING



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

Precautionary statements

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

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

Classification of the substance or mixture

WHMIS

- Compressed Gas - A

Label elements

WHMIS



- Compressed Gas - A

Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance.

Mixtures

Hazardous Components					
Chemical Name	Identifiers	%(weight)	LD50/LC50	Classifications According to Regulation/Directive	Comments
Air	CAS:132259-10-0	99.954% TO 99.9997%	NDA	OSHA HCS 2012: Press. Gas - Comp.	Balance
1,1,1-Trichloroethane	CAS:71-55-6	0.0001% TO 0.035%	Inhalation-Rat LC50 • 14250 ppm 7 Hour(s) Ingestion/Oral-Rat LD50 • 10.3 g/kg	OSHA HCS 2012: Not applicable	1 - 350 ppm
Trichloroethylene	CAS:79-01-6	0.0001% TO 0.01%	Skin-Rabbit LD50 • >20 g/kg Inhalation-Rat LC50 • 140700 mg/m ³ 1 Hour(s) Ingestion/Oral-Rat LD50 • 4920 mg/kg	OSHA HCS 2012: Not applicable	1 - 100 ppm
Carbon tetrachloride	CAS:56-23-5	0.0001% TO 0.001%	Ingestion/Oral-Rat LD50 • 2350 mg/kg Skin-Rabbit LD50 • >20 g/kg Inhalation-Rat LC50 • 46000 mg/m ³ 6 Hour(s)	OSHA HCS 2012: Not applicable	1 - 10 ppm

Section 4: First-Aid Measures

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 water. If skin irritation develops get medical advice/attention.
- Eye**
- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. Get medical attention if symptoms occur. Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye.
- Ingestion**
- As this product is a gas, refer to the inhalation section. Never give anything by mouth to an unconscious person. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

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.

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: Fire-Fighting Measures

Extinguishing media

- Suitable Extinguishing Media**
- Use extinguishing agent suitable for type of surrounding fire.
SMALL FIRES: Dry chemical or CO₂.
LARGE FIRES: Water spray or fog.

- Unsuitable Extinguishing Media**
- No data available

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

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.
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

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)

Environmental precautions

- No special environmental precautions necessary.

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. Allow substance to evaporate.

Section 7 - Handling and Storage

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. 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.

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.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Canada Ontario	Canada Quebec	NIOSH	OSHA
Carbon tetrachloride (56-23-5)	STELs	10 ppm STEL	3 ppm STEL	10 ppm STEV; 63 mg/m3 STEV	2 ppm STEL (60 min); 12.6 mg/m3 STEL (60 min)	Not established
	TWAs	5 ppm TWA	2 ppm TWA	5 ppm TWAEV; 31 mg/m3 TWAEV	Not established	10 ppm TWA
	Ceilings	Not established	Not established	Not established	Not established	25 ppm Ceiling
Trichloroethylene (79-01-6)	STELs	25 ppm STEL	25 ppm STEL	200 ppm STEV; 1070 mg/m3 STEV	Not established	Not established
	TWAs	10 ppm TWA	10 ppm TWA	50 ppm TWAEV; 269 mg/m3 TWAEV	Not established	100 ppm TWA
	Ceilings	Not established	Not established	Not established	Not established	200 ppm Ceiling
1,1,1-Trichloroethane (71-55-6)	STELs	450 ppm STEL	450 ppm STEL	450 ppm STEV; 2460 mg/m3 STEV	Not established	Not established
	TWAs	350 ppm TWA	350 ppm TWA	350 ppm TWAEV; 1910 mg/m3 TWAEV	Not established	350 ppm TWA; 1900 mg/m3 TWA
	Ceilings	Not established	Not established	Not established	350 ppm Ceiling (15 min); 1900 mg/m3 Ceiling (15 min)	Not established

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. Use explosion-proof - electrical, ventilating and/or lighting equipment.

Personal Protective Equipment

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment.

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

STEV = Short Term 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

TWAEV = Time-Weighted Average Exposure Value

STEL = Short Term Exposure Limits are based on 15-minute exposures

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Gas	Appearance/Description	Colorless gas with a sweet ether-like odor.
Color	Colorless	Odor	Sweet ether-like odor.

Odor Threshold	Data lacking		
General Properties			
Boiling Point	-194.5 C(-318.1 F)	Melting Point	-213.4 C(-352.12 F)
Decomposition Temperature	Data lacking	pH	Not relevant
Specific Gravity/Relative Density	1 Water=1 @ 21 C(69.8 F)	Water Solubility	Moderately soluble 1 to 10 %
Viscosity	0.0002 Poise (P, Ps) or dyne-second/cm ² @ 0 C(32 F)		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	< 1.002 Air=1
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Not relevant	UEL	Not relevant
LEL	Not relevant	Autoignition	Not relevant
Environmental			
Octanol/Water Partition coefficient	Data lacking		

Section 10: Stability and Reactivity

Reactivity

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- Excess heat.

Incompatible materials

- None

Hazardous decomposition products

- HCl gas, phosgene gas, CO and oxides of chlorine.

Section 11 - Toxicological Information

Information on toxicological effects

Component Name	CAS	Data
1,1,1-Trichloroethane (0.0001% TO 0.035%)	71-55-6	Acute Toxicity: orl-rbt LD50:5660 mg/kg; ihl-rat LC50:17000 ppm/4H; ihl-rat TCLo:8000 ppm/7H; Irritation: eye-rbt 2 mg/24H SEV; skn-rbt 20 mg/24H MOD; Reproductive: orl-rat TDLo:43 mg/kg (1-22D preg/21D post); ihl-rat TCLo:2100 ppm/6H (1-20D preg)
Trichloroethylene (0.0001% TO 0.01%)	79-01-6	Acute Toxicity: orl-rat LD50:4920 mg/kg; ihl-rat LC50:140700 mg/m ³ /1H; skn-rbt LD50:20 mL/kg; Irritation: eye-rbt 20 mg/24H MOD; skn-rbt 2 mg/24H SEV; Mutagen: mnt-rat-ori 4 mmol/kg; spm-mus-ihl 100 ppm; mnt-rat-ihl 5 ppm/6H-C
		Acute Toxicity: orl-rat LD50:2350 mg/kg; orl-rat TDLo:0.25 mL/kg; orl-rat TDLo:0.66 mg/kg; ihl-

Carbon tetrachloride (0.0001% TO 0.001%)	56-23-5	rat LC50:8000 ppm/4H; ihl-cat TClO:6300 mg/m3/15M; skn-rbt LD50:>20 gm/kg; Irritation: eye-rbt 2200 ug/30S MLD; skn-rbt 500 mg/24H MLD; Reproductive: ihl-rat TClO:300 ppm/7H (6-15D preg)
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GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • Classification criteria not met
Aspiration Hazard	OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin corrosion/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin sensitization	OSHA HCS 2012 • Classification criteria not met
STOT-RE	OSHA HCS 2012 • Classification criteria not met
STOT-SE	OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012 • Classification criteria not met

Route(s) of entry/exposure • Inhalation

Potential Health Effects

Inhalation

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • No data available

Skin

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • No data available

Eye

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • No data available

Ingestion

- Acute (Immediate)** • Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)** • No data available

Mutagenic Effects

- Trichloroethylene has demonstrated mutagenic effects in animal tests.

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	IARC	NTP
Carbon tetrachloride	56-23-5	Group 2B-Possible Carcinogen	Reasonably Anticipated to be Human Carcinogen
Trichloroethylene	79-01-6	Group 2A-Probable Carcinogen	Reasonably Anticipated to be Human Carcinogen

Key to abbreviations

LC = Lethal Concentration MLD = Mild
 LD = Lethal Dose MOD = Moderate
 TC = Toxic Concentration SEV = Severe
 TD = Toxic Dose

Section 12 - Ecological Information

Toxicity

- Material data lacking.

Persistence and degradability

- Material data lacking.

Bioaccumulative potential

- Material data lacking.

Mobility in Soil

- Material data lacking.

Other adverse effects

- Methyl Chloroform (C₂H₃Cl₃); 1,1,1-trichloroethane; is listed by the EPA as a Class I ozone-depleting chemical in Group V (from section 602 of the CAA). 1,1,1-trichloroethane is listed on Schedule 2 of Ozone-Depleting Substances Regulations, 1998. Carbon tetrachloride is listed by the US EPA as a Class I Ozone-depleting Substances. Carbon tetrachloride is listed on Schedule 2 of Ozone-Depleting Substances Regulations, 1998.

Section 13 - Disposal Considerations

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, Oxygen)	2.2	NDA	NDA
TDG	UN1956	COMPRESSED GAS, N.O.S. (Nitrogen, Oxygen)	2.2	NDA	NDA
IMO/IMDG	UN1956	COMPRESSED GAS, N.O.S. (Nitrogen, Oxygen)	2.2	NDA	NDA
IATA/ICAO	UN1956	Compressed gas, n.o.s (Nitrogen, Oxygen)	2.2	NDA	NDA

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.

Transport in bulk according

- Not relevant.

**to Annex II of MARPOL 73/78
and the IBC Code**

Section 15 - Regulatory Information

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

SARA Hazard Classifications • Pressure(Sudden Release of)

State Right To Know				
Component	CAS	MA	NJ	PA
Air	132259-10-0	No	No	No
1,1,1-Trichloroethane	71-55-6	Yes	Yes	Yes
Trichloroethylene	79-01-6	Yes	Yes	Yes
Carbon tetrachloride	56-23-5	Yes	Yes	Yes

Inventory				
Component	CAS	Canada DSL	Canada NDSL	TSCA
Air	132259-10-0	No	No	No
1,1,1-Trichloroethane	71-55-6	Yes	No	Yes
Trichloroethylene	79-01-6	Yes	No	Yes
Carbon tetrachloride	56-23-5	Yes	No	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

- Air 132259-10-0 99.954% TO 99.9997% A
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% D1A, D2A, D2B
- Trichloroethylene 79-01-6 0.0001% TO 0.01% D1B, D2A, D2B
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% D1B, D2B

Canada - WHMIS - Ingredient Disclosure List

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% 0.1 %
- Trichloroethylene 79-01-6 0.0001% TO 0.01% 1 %
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% 0.1 %

Environment

Canada - CEPA - Priority Substances List

- Air 132259-10-0 99.954% TO 99.9997% Not Listed

• Carbon tetrachloride	56-23-5	0.0001% TO 0.001%	Not Listed
• Trichloroethylene	79-01-6	0.0001% TO 0.01%	Priority Substance List 1 (substance considered toxic)
• 1,1,1-Trichloroethane	71-55-6	0.0001% TO 0.035%	Priority Substance List 1 (substance considered toxic, added to CEPA's Schedule 1, List of Toxic Substances)

United States

Labor

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

• Air	132259-10-0	99.954% TO 99.9997%	Not Listed
• Carbon tetrachloride	56-23-5	0.0001% TO 0.001%	Not Listed
• Trichloroethylene	79-01-6	0.0001% TO 0.01%	Not Listed
• 1,1,1-Trichloroethane	71-55-6	0.0001% TO 0.035%	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Air	132259-10-0	99.954% TO 99.9997%	Not Listed
• Carbon tetrachloride	56-23-5	0.0001% TO 0.001%	Not Listed
• Trichloroethylene	79-01-6	0.0001% TO 0.01%	Not Listed
• 1,1,1-Trichloroethane	71-55-6	0.0001% TO 0.035%	Not Listed

Environment

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

• Air	132259-10-0	99.954% TO 99.9997%	Not Listed
• Carbon tetrachloride	56-23-5	0.0001% TO 0.001%	
• Trichloroethylene	79-01-6	0.0001% TO 0.01%	
• 1,1,1-Trichloroethane	71-55-6	0.0001% TO 0.035%	

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

• Air	132259-10-0	99.954% TO 99.9997%	Not Listed
• Carbon tetrachloride	56-23-5	0.0001% TO 0.001%	10 lb final RQ; 4.54 kg final RQ
• Trichloroethylene	79-01-6	0.0001% TO 0.01%	100 lb final RQ; 45.4 kg final RQ
• 1,1,1-Trichloroethane	71-55-6	0.0001% TO 0.035%	1000 lb final RQ; 454 kg final RQ

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

• Air	132259-10-0	99.954% TO 99.9997%	Not Listed
• Carbon tetrachloride	56-23-5	0.0001% TO 0.001%	Not Listed
• Trichloroethylene	79-01-6	0.0001% TO 0.01%	Not Listed
• 1,1,1-Trichloroethane	71-55-6	0.0001% TO 0.035%	Not Listed

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% Not Listed
- Trichloroethylene 79-01-6 0.0001% TO 0.01% Not Listed
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% Not Listed

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% Not Listed
- Trichloroethylene 79-01-6 0.0001% TO 0.01% Not Listed
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% Not Listed

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% 0.1 % de minimis concentration
- Trichloroethylene 79-01-6 0.0001% TO 0.01% 0.1 % de minimis concentration
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% 1.0 % de minimis concentration

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% Not Listed
- Trichloroethylene 79-01-6 0.0001% TO 0.01% Not Listed
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% Not Listed

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% Included in waste streams: F001, F024, F025, F039, K016, K019, K020, K021, K073, K116, K150, K151, K157
- Trichloroethylene 79-01-6 0.0001% TO 0.01% Included in waste streams: F001, F002, F024, F025, F039, K018, K019, K020
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% 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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001%
- Trichloroethylene 79-01-6 0.0001% TO 0.01%
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035%

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed

- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% 0.5 mg/L regulatory level
- Trichloroethylene 79-01-6 0.0001% TO 0.01% 0.5 mg/L regulatory level
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% Not Listed

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% waste number U211
- Trichloroethylene 79-01-6 0.0001% TO 0.01% waste number U228
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% waste number U226

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001%
- Trichloroethylene 79-01-6 0.0001% TO 0.01%
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035%

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% Category I - Volatiles
- Trichloroethylene 79-01-6 0.0001% TO 0.01% Category I - Volatiles
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% Category I - Volatiles

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% 0.057 mg/L (wastewater); 6.0 mg/kg (nonwastewater)
- Trichloroethylene 79-01-6 0.0001% TO 0.01% 0.054 mg/L (wastewater); 6.0 mg/kg (nonwastewater)
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% 0.054 mg/L (wastewater); 6.0 mg/kg (nonwastewater)

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001%
- Trichloroethylene 79-01-6 0.0001% TO 0.01%
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035%

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% waste number U211
- Trichloroethylene 79-01-6 0.0001% TO 0.01% waste number U228
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% waste number U226

United States - California

Environment

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% carcinogen, initial date 10/1/87
- Trichloroethylene 79-01-6 0.0001% TO 0.01% carcinogen, initial date 4/1/88
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% Not Listed

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% Not Listed
- Trichloroethylene 79-01-6 0.0001% TO 0.01% Not Listed
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% Not Listed

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% Not Listed
- Trichloroethylene 79-01-6 0.0001% TO 0.01% Not Listed
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% Not Listed

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% 5 µg/day NSRL
- Trichloroethylene 79-01-6 0.0001% TO 0.01% 50 µg/day NSRL (oral); 80 µg/day NSRL (inhalation)
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% Not Listed

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% Not Listed
- Trichloroethylene 79-01-6 0.0001% TO 0.01% Not Listed
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% Not Listed

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001% Not Listed
- Trichloroethylene 79-01-6 0.0001% TO 0.01% Not Listed
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% Not Listed

United States - Pennsylvania

Labor

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001%
- Trichloroethylene 79-01-6 0.0001% TO 0.01%
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035%

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

- Air 132259-10-0 99.954% TO 99.9997% Not Listed
- Carbon tetrachloride 56-23-5 0.0001% TO 0.001%
- Trichloroethylene 79-01-6 0.0001% TO 0.01% Not Listed
- 1,1,1-Trichloroethane 71-55-6 0.0001% TO 0.035% Not Listed

Section 16 - Other Information

Last Revision Date

- 07/December/2012

Preparation Date

- 07/December/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