

SAFETY DATA SHEET

Airgas

Nonflammable Gas Mixture: Cis-1,2-Dichloroethylene / Methane / Nitrogen /
Perchloroethylene / Trans-1,2-Dichloroethylene / Trichloroethylene / Vinyl Chloride

Section 1. Identification

GHS product identifier	: Nonflammable Gas Mixture: Cis-1,2-Dichloroethylene / Methane / Nitrogen / Perchloroethylene / Trans-1,2-Dichloroethylene / Trichloroethylene / Vinyl Chloride
Other means of identification	: Not available.
Product use	: Synthetic/Analytical chemistry.
SDS #	: 017393
Supplier's details	: Airgas USA, LLC and its affiliates 259 North Radnor-Chester Road Suite 100 Radnor, PA 19087-5283 1-610-687-5253
Emergency telephone number (with hours of operation)	: 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
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Classification of the substance or mixture	: GASES UNDER PRESSURE - Compressed gas
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GHS label elements

Hazard pictograms



Signal word	: Warning
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Hazard statements	: Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation.
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Precautionary statements

General	: Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction.
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Prevention	: Not applicable.
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Response	: Not applicable.
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Storage	: Protect from sunlight when ambient temperature exceeds 52°C/125°F. Store in a well-ventilated place.
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Disposal	: Not applicable.
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Hazards not otherwise classified	: In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.
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Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.
Product code : 017393

Ingredient name	%	CAS number
Nitrogen	98 - 99	7727-37-9
methane	0.0001 - 0.9999	74-82-8
cis-dichloroethylene	0.0001 - 0.0999	156-59-2
trans-dichloroethylene	0.0001 - 0.0999	156-60-5
vinyl chloride	0.0001 - 0.0999	75-01-4
trichloroethylene	0.0001 - 0.0999	79-01-6
tetrachloroethylene	0.0001 - 0.0999	127-18-4

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.
Inhalation : No known significant effects or critical hazards.
Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.
Frostbite : Try to warm up the frozen tissues and seek medical attention.
Ingestion : As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact : No specific data.
Inhalation : No specific data.

Section 4. First aid measures

- Skin contact** : No specific data.
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials: nitrogen oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Immediately contact emergency personnel. Stop leak if without risk.

Section 6. Accidental release measures

Large spill : Immediately contact emergency personnel. Stop leak if without risk. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
tetrachloroethylene	ACGIH TLV (United States, 3/2015). STEL: 685 mg/m ³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 170 mg/m ³ 8 hours. TWA: 25 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 170 mg/m ³ 8 hours. TWA: 25 ppm 8 hours. OSHA PEL Z2 (United States, 2/2013). AMP: 300 ppm 5 minutes. CEIL: 200 ppm TWA: 100 ppm 8 hours.
trichloroethylene	ACGIH TLV (United States, 3/2015). STEL: 25 ppm 15 minutes. TWA: 10 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). STEL: 1080 mg/m ³ 15 minutes. STEL: 200 ppm 15 minutes. TWA: 270 mg/m ³ 8 hours. TWA: 50 ppm 8 hours. OSHA PEL Z2 (United States, 2/2013). AMP: 300 ppm 5 minutes. CEIL: 200 ppm TWA: 100 ppm 8 hours.
vinyl chloride	ACGIH TLV (United States, 3/2015).

Section 8. Exposure controls/personal protection

trans-dichloroethylene	TWA: 1 ppm 8 hours. OSHA PEL (United States, 2/2013). STEL: 5 ppm 15 minutes. TWA: 1 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). STEL: 5 ppm 15 minutes. TWA: 1 ppm 8 hours. ACGIH TLV (United States, 3/2015). TWA: 200 ppm 8 hours. TWA: 793 mg/m ³ 8 hours.
cis-dichloroethylene	ACGIH TLV (United States, 3/2015). TWA: 200 ppm 8 hours. TWA: 793 mg/m ³ 8 hours.

Appropriate engineering controls

: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state	: Gas.
Color	: Not available.
Melting/freezing point	: -210.01°C (-346°F) This is based on data for the following ingredient: nitrogen.
Critical temperature	: Lowest known value: -146.95°C (-232.5°F) (nitrogen).
Odor	: Not available.
Odor threshold	: Not available.
pH	: Not available.
Flash point	: Not available.
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: Highest known value: 0.97 (Air = 1) (nitrogen).
Gas Density (lb/ft ³)	: Only known value: 0.072 (nitrogen).
Relative density	: Not applicable.
Solubility	: Not available.
Solubility in water	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
SADT	: Not available.
Viscosity	: Not applicable.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
tetrachloroethylene	LC50 Inhalation Vapor	Rat	14255 ppm	1 hours
	LD50 Oral	Rat	2629 mg/kg	-
trichloroethylene	LC50 Inhalation Vapor	Rat	140700 mg/m³	1 hours
	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	4920 mg/kg	-
trans-dichloroethylene	LC50 Inhalation Gas.	Rat	24100 ppm	4 hours
	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	1235 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
tetrachloroethylene	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	162 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 810 milligrams	-
trichloroethylene	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
trans-dichloroethylene	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
vinyl chloride	+	1	Known to be a human carcinogen.
trichloroethylene	-	1	Reasonably anticipated to be a human carcinogen.
tetrachloroethylene	-	2A	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
trichloroethylene	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
vinyl chloride	Category 2	Not determined	liver

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.
Inhalation : No known significant effects or critical hazards.
Skin contact : Contact with rapidly expanding gas may cause burns or frostbite.
Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
tetrachloroethylene	Acute EC50 504 ppm Marine water	Algae - <i>Skeletonema costatum</i>	96 hours
	Acute EC50 3.64 mg/l Fresh water	Algae - <i>Chlamydomonas reinhardtii</i> - Exponential growth phase	72 hours
	Acute EC50 7500 to 9000 µg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Instar	48 hours
	Acute LC50 3.5 mg/l Marine water	Crustaceans - <i>Elminius modestus</i>	48 hours
	Acute LC50 4000 µg/l Fresh water	Fish - <i>Jordanella floridae</i> - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic EC10 1.77 mg/l Fresh water	Algae - <i>Chlamydomonas reinhardtii</i> - Exponential growth phase	72 hours
trichloroethylene	Chronic NOEC >0.4 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days
	Chronic NOEC 500 µg/l Fresh water	Fish - <i>Pimephales promelas</i> - Larvae	32 days
	Acute EC50 95000 µg/l Marine water	Algae - <i>Skeletonema costatum</i>	96 hours
	Acute EC50 36.5 mg/l Fresh water	Algae - <i>Chlamydomonas reinhardtii</i> - Exponential growth phase	72 hours
	Acute LC50 20 mg/l Marine water	Crustaceans - <i>Elminius modestus</i>	48 hours
	Acute LC50 18 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
trans-dichloroethylene	Acute LC50 3100 µg/l Fresh water	Fish - <i>Jordanella floridae</i> - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic EC10 12.3 mg/l Fresh water	Algae - <i>Chlamydomonas reinhardtii</i> - Exponential growth phase	72 hours
	Chronic NOEC 10 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days
	Acute LC50 220000 to 290000 µg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Nitrogen	0.67	-	low
methane	1.09	-	low
tetrachloroethylene	2.53	49	low
trichloroethylene	2.53	17	low
vinyl chloride	1.38	-	low
trans-dichloroethylene	2.09	-	low
cis-dichloroethylene	1.86	-	low

Section 12. Ecological information

Mobility in soil






Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1956	UN1956	UN1956	UN1956	UN1956
UN proper shipping name	COMPRESSED GAS, N.O.S. (nitrogen, cis-1, 2-dichloroethene)	COMPRESSED GAS, N.O.S. (nitrogen, cis-1, 2-dichloroethene)	COMPRESSED GAS, N.O.S. (nitrogen, cis-1, 2-dichloroethene)	COMPRESSED GAS, N.O.S. (nitrogen, cis-1, 2-dichloroethene)	COMPRESSED GAS, N.O.S. (nitrogen, cis-1, 2-dichloroethene)
Transport hazard class(es)	2.2 	2.2 	2.2 	2.2 	2.2 
Packing group	-	-	-	-	-
Environment	No.	No.	No.	No.	No.
Additional information	Reportable quantity 1001 lbs / 454.45 kg Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2). Explosive Limit and Limited Quantity Index 0.125 Passenger Carrying Road or Rail Index 75	-	-	-

“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 14. Transport information

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 5(a)2 proposed significant new use rules: trichloroethylene
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted.
Clean Water Act (CWA) 307: cis-dichloroethylene; trans-dichloroethylene; vinyl chloride; trichloroethylene; tetrachloroethylene
Clean Water Act (CWA) 311: trichloroethylene

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Sudden release of pressure

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Nitrogen	98 - 99	No.	Yes.	No.	No.	No.
methane	0.0001 - 0.9999	Yes.	Yes.	No.	No.	No.
tetrachloroethylene	0.0001 - 0.0999	No.	No.	No.	Yes.	Yes.
trichloroethylene	0.0001 - 0.0999	No.	No.	No.	Yes.	Yes.
vinyl chloride	0.0001 - 0.0999	Yes.	Yes.	No.	No.	Yes.
trans-dichloroethylene	0.0001 - 0.0999	Yes.	No.	No.	Yes.	No.
cis-dichloroethylene	0.0001 - 0.0999	Yes.	No.	No.	Yes.	No.

State regulations

Section 15. Regulatory information

Massachusetts : The following components are listed: NITROGEN

New York : None of the components are listed.

New Jersey : The following components are listed: NITROGEN

Pennsylvania : The following components are listed: NITROGEN

California Prop. 65

WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
vinyl chloride trichloroethylene	Yes. Yes.	No. Yes.	Yes. 14 µg/day (ingestion) 50 µg/day (inhalation)	No. No.
tetrachloroethylene	Yes.	No.	Yes.	No.

Canada inventory : At least one component is not listed in DSL but all such components are listed in NDSL.

International regulations

International lists

Australia inventory (AICS): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): Not determined.
Taiwan inventory (CSNN): All components are listed or exempted.

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Canada

WHMIS (Canada)

: Class A: Compressed gas.

CEPA Toxic substances: None of the components are listed.

Canadian ARET: None of the components are listed.

Canadian NPRI: None of the components are listed.

Alberta Designated Substances: None of the components are listed.

Ontario Designated Substances: None of the components are listed.

Quebec Designated Substances: None of the components are listed.

Section 16. Other information

Canada Label requirements : Class A: Compressed gas.

Hazardous Material Information System (U.S.A.)

Health	1
Flammability	0
Physical hazards	3

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

Date of printing : 3/25/2016

Date of issue/Date of revision : 3/25/2016

Date of previous issue : No previous validation

Version : 1

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations
ACGIH – American Conference of Governmental Industrial Hygienists
AIHA – American Industrial Hygiene Association
CAS – Chemical Abstract Services
CEPA – Canadian Environmental Protection Act
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act (EPA)
CFR – United States Code of Federal Regulations

Section 16. Other information

CPR – Controlled Products Regulations
DSL – Domestic Substances List
GWP – Global Warming Potential
IARC – International Agency for Research on Cancer
ICAO – International Civil Aviation Organisation
Inh – Inhalation
LC – Lethal concentration
LD – Lethal dosage
NDSL – Non-Domestic Substances List
NIOSH – National Institute for Occupational Safety and Health
TDG – Canadian Transportation of Dangerous Goods Act and Regulations
TLV – Threshold Limit Value
TSCA – Toxic Substances Control Act
WEEL – Workplace Environmental Exposure Level
WHMIS – Canadian Workplace Hazardous Material Information System

References : Not available.

 Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.