

SAFETY DATA SHEET

1. Identification

Product identifier: 1,2-Dichloroethane

Other means of identification

Product No.: 9302, 4966

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax:
Contact Person: Environmental Health & Safety
e-mail: info@avantormaterials.com

Emergency telephone number:

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard classification

Physical hazards

Flammable liquids Category 2

Health hazards

Acute toxicity (Oral) Category 4
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2
Carcinogenicity Category 1B
Specific target organ toxicity - single exposure Category 3

Label elements

Hazard symbol:



Signal word: Danger

Hazard statement: Highly flammable liquid and vapor.
Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.
May cause cancer.

Precautionary statement

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not eat, drink or smoke when using this product. Avoid breathing dust/fume/gas/mist/vapors. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling.

Response: In case of fire: Use water spray, foam, dry powder or carbon dioxide for extinction. IF exposed or concerned: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see this label).

Storage: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Substances

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
ETHYLENE DICHLORIDE		107-06-2	90 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion:	Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
Inhalation:	Move to fresh air. Get medical attention if symptoms persist.
Skin contact:	Wash with soap and water. If skin irritation occurs: Get medical advice/attention. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.
Eye contact:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: Irritating to eyes, respiratory system and skin. Narcotic effect.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed. Treat symptomatically.

5. Fire-fighting measures

General fire hazards: Flammable liquid and vapor.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. Heat may cause the containers to explode.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Keep upwind. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. See Section 8 of the MSDS for Personal Protective Equipment.

Methods and material for containment and cleaning up:

Eliminate all ignition sources if safe to do so. Take precautionary measures against static discharges. Stop leak if possible without any risk. Use only non-sparking tools. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures:

Prevent entry into waterways, sewer, basements or confined areas. Stop leak if you can do so without risk. Inform authorities if large amounts are involved.

Environmental precautions:

Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling:

DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take precautionary measures against static discharges. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities:

Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a cool, well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
ETHYLENE DICHLORIDE	TWA	10 ppm	US. ACGIH Threshold Limit Values (2011)
	REL	1 ppm 4 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	2 ppm 8 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	TWA	1 ppm 4 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	2 ppm 8 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	50 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	Ceiling	100 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	MAX. CONC	200 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)

Appropriate engineering controls

No data available.

Individual protection measures, such as personal protective equipment

General information:	Good general ventilation (typically 10 air changes per hour) 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. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.
Eye/face protection:	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection:	Chemical resistant gloves
Other:	Wear suitable protective clothing.
Respiratory protection:	In case of inadequate ventilation use suitable respirator.
Hygiene measures:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower.

9. Physical and chemical properties

Appearance

Physical state:	Liquid
Form:	Liquid
Color:	Colorless
Odor:	Chloroform-like odor
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	-35.3 °C
Initial boiling point and boiling range:	83 °C
Flash Point:	13 °C (Closed Cup)
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	15.9 %(V)
Flammability limit - lower (%):	6.2 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	10.52 kPa (25 °C)
Vapor density:	No data available.
Relative density:	1.24 (20 °C)
Solubility(ies)	
Solubility in water:	8.1 g/l (20 °C)
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	1.48
Auto-ignition temperature:	413 °C
Decomposition temperature:	No data available.
Viscosity:	No data available.

Other information

Molecular weight:	98.96 g/mol (C ₂ H ₄ Cl ₂)
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10. Stability and reactivity

Reactivity:	No data available.
Chemical stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Heat, sparks, flames. Contact with incompatible materials.
Incompatible materials:	Ammonia. Caustics. Reducing agents. Oxidizing agents. Alkali metals. Alkali earth metals. Organic peroxides/hydroperoxides. Amines.
Hazardous decomposition products:	By heating and fire, toxic vapors/gases may be formed.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	Harmful if swallowed.
Inhalation:	May cause irritation to the respiratory system. May cause drowsiness or dizziness.
Skin contact:	Causes skin irritation.
Eye contact:	Causes serious eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product:	LD 50 (Rat): 670 mg/kg
Dermal Product:	No data available.
Inhalation Product:	LD 50 (Rat, 7 h): 1,000 mg/l

Repeated dose toxicity Product:	No data available.
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Skin corrosion/irritation Product:	Causes skin irritation.
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Serious eye damage/eye irritation Product:	Causes serious eye irritation.
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Respiratory or skin sensitization Product:	Not a skin sensitizer.
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Carcinogenicity Product:	May cause cancer.
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IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

ETHYLENE Overall evaluation: 2B. Possibly carcinogenic to humans.
DICHLORIDE

US. National Toxicology Program (NTP) Report on Carcinogens:

ETHYLENE Reasonably Anticipated to be a Human Carcinogen.
DICHLORIDE

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ cell mutagenicity

In vitro

Product: No mutagenic components identified

In vivo

Product: No mutagenic components identified

Reproductive toxicity

Product: No data available.

Specific target organ toxicity - single exposure

Product: Inhalation - vapor: Respiratory System - Respiratory tract irritation.

Specific target organ toxicity - repeated exposure

Product: No data available.

Aspiration hazard

Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

ETHYLENE LC 50 (Sheepshead minnow (Cyprinodon variegatus), 96 h): > 130 - < 230
DICHLORIDE mg/l Mortality
LC 50 (Fathead minnow (Pimephales promelas), 96 h): 110 - 123 mg/l
Mortality
LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 96 h): 225
mg/l Mortality
LC 50 (Bluegill (Lepomis macrochirus), 96 h): 230 - 710 mg/l Mortality

Aquatic invertebrates

Product: No data available.

Specified substance(s):

ETHYLENE EC 50 (Water flea (Daphnia magna), 48 h): 140 - 190 mg/l Intoxication
DICHLORIDE LC 50 (Water flea (Daphnia magna), 48 h): 160 - 280 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and degradability

Biodegradation

Product: There are no data on the degradability of this product.

BOD/COD ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration factor (BCF)

Product: No data available on bioaccumulation.

Partition coefficient n-octanol / water (log Kow)

Product: Log Kow: 1.48

Mobility in soil:

The product is partly soluble in water. May spread in the aquatic environment.

Other adverse effects:

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13. Disposal considerations

Disposal instructions:

Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated packaging:

Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number: UN 1184
 UN proper shipping name: Ethylene dichloride
 Transport hazard class(es)
 Class(es): 3, 6.1
 Label(s): 3, 6.1
 Packing group: II
 Marine Pollutant: No

IMDG

UN number: UN 1184
 UN proper shipping name: ETHYLENE DICHLORIDE
 Transport hazard class(es)
 Class(es): 3, 6.1
 Label(s): 3, 6.1
 EmS No.: F-E, S-D
 Packing group: II
 Marine Pollutant: No

IATA

UN number: UN 1184
 Proper Shipping Name: Ethylene dichloride
 Transport hazard class(es):
 Class(es): 3, 6.1
 Label(s): 3, 6.1
 Marine Pollutant: No
 Packing group: II

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
 None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
 ETHYLENE DICHLORIDE Reportable quantity: 100 lbs.

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories

Acute (Immediate) Chronic (Delayed) Fire Reactive Pressure Generating

SARA 302 Extremely hazardous substance
 None present or none present in regulated quantities.

SARA 304 Emergency release notification

Chemical identity	RQ
ETHYLENE DICHLORIDE	100 lbs.

SARA 311/312 Hazardous chemical

Chemical identity	Threshold Planning Quantity
ETHYLENE DICHLORIDE	500 lbs

SARA 313 (TRI reporting)

Chemical identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
ETHYLENE DICHLORIDE	10000 lbs	25000 lbs.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
 ETHYLENE DICHLORIDE Reportable quantity: 100 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
 None present or none present in regulated quantities.

US state regulations

US. California Proposition 65
 ETHYLENE DICHLORIDE Carcinogenic.

US. New Jersey Worker and Community Right-to-Know Act
 ETHYLENE DICHLORIDE Listed

US. Massachusetts RTK - Substance List
 ETHYLENE DICHLORIDE Listed

US. Pennsylvania RTK - Hazardous Substances

ETHYLENE DICHLORIDE Listed

US. Rhode Island RTK

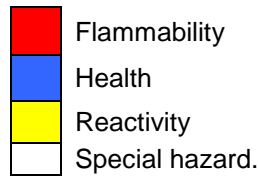
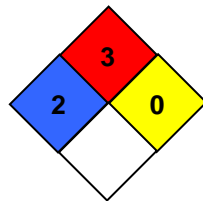
ETHYLENE DICHLORIDE Listed

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EU EINECS List:	On or in compliance with the inventory
EU ELINCS List:	Not in compliance with the inventory.
Japan (ENCS) List:	Not in compliance with the inventory.
EU No Longer Polymers List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue date:	04-11-2014
Revision date:	No data available.
Version #:	1.0
Further information:	No data available.

Disclaimer:

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