

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** Ethylene Dichloride

**Other means of identification**

**Product No.:** 9301

**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 2A  
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. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. 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 SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention. IF exposed or concerned: 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.

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

**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

<b>General information:</b>	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.
<b>Eye/face protection:</b>	Wear safety glasses with side shields (or goggles).
<b>Skin Protection</b>	
<b>Hand Protection:</b>	Chemical resistant gloves
<b>Other:</b>	Wear suitable protective clothing.
<b>Respiratory Protection:</b>	In case of inadequate ventilation use suitable respirator.
<b>Hygiene measures:</b>	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

<b>Physical state:</b>	Liquid
<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Chloroform-like odor
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	No data available.
<b>Melting point/freezing point:</b>	-35.3 °C
<b>Initial boiling point and boiling range:</b>	83 °C
<b>Flash Point:</b>	13 °C (Closed Cup)
<b>Evaporation rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	15.9 %(V)
<b>Flammability limit - lower (%):</b>	6.2 %(V)
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	11.6 kPa (25 °C)
<b>Vapor density:</b>	No data available.
<b>Relative density:</b>	1.24 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	8.1 g/l (20 °C)
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	1.48
<b>Auto-ignition temperature:</b>	413 °C
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.

### Other information

<b>Molecular weight:</b>	98.96 g/mol (C <sub>2</sub> H <sub>4</sub> Cl <sub>2</sub> )
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## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical Stability:</b>	Material is stable under normal conditions.
<b>Possibility of Hazardous Reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to Avoid:</b>	Heat, sparks, flames. Contact with incompatible materials.
<b>Incompatible Materials:</b>	Ammonia. Caustics. Reducing agents. Oxidizing agents. Alkali metals. Alkali earth metals. Organic peroxides/hydroperoxides. Amines.
<b>Hazardous Decomposition Products:</b>	By heating and fire, toxic vapors/gases may be formed.

## 11. Toxicological information

### Information on likely routes of exposure

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

### Information on toxicological effects

#### Acute toxicity (list all possible routes of exposure)

<b>Oral Product:</b>	LD 50 (Rat): 670 mg/kg
<b>Dermal Product:</b>	No data available.
<b>Inhalation Product:</b>	LC 50 (Rat, 165 min): 3000 ppm LD 50 (Rat, 7 h): 1000 ppm LC 50 (Rat, 31.8 min): 12000 ppm LC 50 (Rat, 432 min): 1000 ppm

<b>Repeated Dose Toxicity Product:</b>	No data available.
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<b>Skin Corrosion/Irritation Product:</b>	Causes skin irritation.
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<b>Serious Eye Damage/Eye Irritation Product:</b>	Causes serious eye irritation.
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<b>Respiratory or Skin Sensitization Product:</b>	Not a skin sensitizer.
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<b>Carcinogenicity Product:</b>	May cause cancer.
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**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

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

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

ETHYLENE  
DICHLORIDE Reasonably Anticipated to be a Human Carcinogen.

**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 mg/l Mortality  
DICHLORIDE 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:**

No data available.

**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**

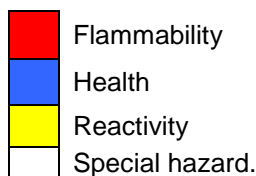
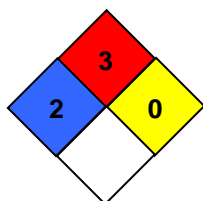
ETHYLENE DICHLORIDE Listed

**Inventory Status:**

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or 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

<b>Issue Date:</b>	10-24-2014
<b>Revision Date:</b>	No data available.
<b>Version #:</b>	1.1
<b>Further Information:</b>	No data available.

**Disclaimer:**

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