

# SAFETY DATA SHEET

## 1. PRODUCT AND COMPANY IDENTIFICATION

**A. Product name:** Ethylene Dichloride

**Product No.:** 9301

### B. Recommended use and restriction on use

**Recommended use:**

**Restrictions on use:**

### C. Manufacturer/Importer/Distributor Information

#### Manufacturer

Avantor Performance Materials, Inc.  
3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034

#### Telephone:

Customer Service: 855-282-6867

**Contact Person:** Environmental Health & Safety

**e-mail:** info@avantormaterials.com

#### Emergency telephone number:

24 Hour Emergency: 908-859-2151

**Emergency telephone number:** Chemtrec: 800-424-9300

## 2. HAZARDS IDENTIFICATION

### A. 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 - Category 3

Single Exposure

### B. Warning label items including precautionary statement

**Contains:** ETHYLENE DICHLORIDE

#### o Pictogram



**o Signal Words:** Danger

**o Hazard Statement(s):** H225: Highly flammable liquid and vapor.  
H302: Harmful if swallowed.  
H315: Causes skin irritation.  
H319: Causes serious eye irritation.  
H335: May cause respiratory irritation.  
H350: May cause cancer.

**o Precautionary Statement**

**Prevention:** P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking. P233: Keep container tightly closed. P240: Ground/bond container and receiving equipment. P241: Use explosion-proof electrical/ventilating/lighting/equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P270: Do not eat, drink or smoke when using this product. P280: Wear protective gloves/protective clothing/eye protection/face protection. P261: Avoid breathing dust/fume/gas/mist/vapors/spray. P271: Use only outdoors or in a well-ventilated area. P264: Wash hands thoroughly after handling.

**Response:** P370+P378: In case of fire: Use water spray, foam, dry powder or carbon dioxide for extinction. P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P330: Rinse mouth. P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P362: Take off contaminated clothing and wash before reuse. P332+P313: If skin irritation occurs: Get medical advice/attention. P308+P313: IF exposed or concerned: Get medical advice/attention. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313: If eye irritation persists: Get medical advice/attention. P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312: Call a POISON CENTER/doctor if you feel unwell.

**Storage:** P403+P235: Store in a well-ventilated place. Keep cool. P405: Store locked up. P233: Keep container tightly closed.

**Disposal:** P501: 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.

**C. Other hazards not included in the hazard category criteria (e.g. dust explosion hazard)** No data available.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

**Substances**

**General information:**

<b>Chemical name</b>	ETHYLENE DICHLORIDE
<b>KECI No.</b>	KE-10121
<b>CAS-No.:</b>	107-06-2
<b>Synonyms:</b>	-

**4. FIRST AID MEASURES**

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

- A. In case of 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.
- B. In case of 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.
- C. In case of inhalation:** Move to fresh air. Get medical attention if symptoms persist.
- D. In case of swallowing:** Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

**E. Notes to the physician**

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

**Treatment:** Symptoms may be delayed. Treat symptomatically.

<b>5. FIRE-FIGHTING MEASURES</b>
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**General Fire Hazards:** Flammable liquid and vapor.

**A. 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.

**B. Special hazards arising from the substance or mixture:** 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.

**C. 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.

<b>6. ACCIDENTAL RELEASE MEASURES</b>
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**A. 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.

**B. Environmental Precautions:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

**C. 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.

**7. HANDLING AND STORAGE**

**A. 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.

**B. 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**

**A. Exposure limit values, biological values, etc.**

**Occupational Exposure Limits**

Chemical name	Type	Exposure Limit Values	Source
ETHYLENE DICHLORIDE	TWA	10 ppm 40 mg/m3	Korea. OELs. Standards for Exposure to Chemical Substances and Physically Hazardous Factors (03 2011)

**B. Appropriate engineering controls:** No data available.

**C. Personal protective equipment (ppe)**

- o Eye Protection** Wear safety glasses with side shields (or goggles).
- o Hand Protection:** Chemical resistant gloves
- o Respiratory Protection:** In case of inadequate ventilation use suitable respirator.
- o Body protection** Wear suitable protective clothing.

**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**

#### A. Appearance

**Physical State:** Liquid  
**Form:** Liquid  
**Color:** Colorless

**B. Odor:** Chloroform-like odor

**C. Odor Threshold:** No data available.

**D. pH:** No data available.

**E. Melting point/freezing point** -35.3 °C

**F. Boiling point, initial boiling point, and boiling range** 83 °C

**G. Flash Point:** 13 °C (Closed Cup)

**H. Evaporation Rate:** No data available.

**I. Flammability (solid, gas):** No data available.

#### J. Upper/lower limit on flammability or explosive limits

**Flammability Limit - Upper (%)** 15.9 %(V)

**Flammability Limit - Lower (%)—:** 6.2 %(V)

**Dust Explosion Limit, Upper:** No data available.

**Dust Explosion Limit, Lower:** No data available.

**K. Vapor pressure:** 11.6 kPa (25 °C)

**L. Vapor density (air=1):** No data available.

**M. Specific Gravity:** 1.24 (20 °C)

#### N. Solubility(ies)

**Solubility in Water:** 8.1 g/l (20 °C)

**Solubility (other):** No data available.

**O. Partition coefficient (n-octanol/water):** 1.48

**P. Autoignition Temperature:** 413 °C

**Q. Decomposition Temperature:** No data available.

**R. Viscosity:** No data available.

**S. Molecular weight:** 98.96 g/mol (C<sub>2</sub>H<sub>4</sub>Cl<sub>2</sub>)

### 10. STABILITY AND REACTIVITY

#### A. Stability and hazardous reaction potential:

**Stability** Material is stable under normal conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur.

**B. Conditions to Avoid:** Heat, sparks, flames. Contact with incompatible materials.

**C. Incompatible Materials:** Ammonia. Caustics. Reducing agents. Oxidizing agents. Alkali metals. Alkali earth metals. Organic peroxides/hydroperoxides. Amines.

**D. Hazardous Decomposition Products:** By heating and fire, toxic vapors/gases may be formed.

### 11. TOXICOLOGICAL INFORMATION

#### A. Information on likely routes of exposure

**o Respiratory organs:** May cause irritation to the respiratory system. May cause drowsiness or dizziness.

**o Oral:** Harmful if swallowed.

- o **Skin:** Causes skin irritation.
- o **Eye:** Causes serious eye irritation.

**B. Information on health hazards**

**o Acute toxicity (list all possible routes of exposure)**

**Oral**

**Product:** LD 50 (Rat): 670 mg/kg

**Dermal**

**Product:** No data available.

**Specified substance(s)**

ETHYLENE  
DICHLORIDE No data available.

**Inhalation**

**Product:** LC 50 (Rat, 165 min): 3000 ppm  
LD 50 (Rat, 7 h): 1000 ppm  
ATEmix (, 4 h): 3 mg/l Vapour  
LC 50 (Rat, 31.8 min): 12000 ppm  
LC 50 (Rat, 432 min): 1000 ppm

**Repeated Dose Toxicity**

**Product:** No data available.

**o Corrosivity or irritation to the skin:**

**Product:** Causes skin irritation.

**o Serious Eye Damage/Eye Irritation:**

**Product:** Causes serious eye irritation.

**o Respiratory or Skin Sensitization:**

**Product:** Not a skin sensitizer.

**o Mutagenesis**

**In vitro**

**Product:** No mutagenic components identified

**In vivo**

**Product:** No mutagenic components identified

**o Carcinogenicity**

**Product:** May cause cancer.

**o Reproductive Toxicity**

**Product:** No data available.

**Specified substance(s)**

ETHYLENE  
DICHLORIDE No data available.

**o Specific Target Organ Toxicity - Single Exposure**

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

**o Specific Target Organ Toxicity - Repeated Exposure**

**Product:** No data available.

**Specified substance(s)**  
ETHYLENE  
DICHLORIDE

No data available.

**o Aspiration Hazard**  
**Product:**

Not classified

**Other Adverse Effects:**

None known.

<b>12. ECOLOGICAL INFORMATION</b>
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**General information:**

Not Applicable

**A. Ecotoxicity**

**Acute hazards to the aquatic environment**

**Fish**

**Product:**

No data available.

**Specified substance(s)**

ETHYLENE  
DICHLORIDE

LC 50 (Sheepshead minnow (Cyprinodon variegatus), 96 h): > 130 - < 230 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  
DICHLORIDE

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

**Chronic hazards to the aquatic environment**

**Fish**

**Product:**

No data available.

**Specified substance(s)**

ETHYLENE  
DICHLORIDE

No data available.

**Aquatic Invertebrates**

**Product:**

No data available.

**Specified substance(s)**

ETHYLENE  
DICHLORIDE

No data available.

**Toxicity to Aquatic Plants**

**Product:**

No data available.

**Specified substance(s)**

ETHYLENE  
DICHLORIDE

No data available.

**B. Persistence and Degradability**

**Biodegradation**

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

**BOD/COD Ratio Product** No data available.

**C. Bioaccumulative Potential Product:** No data available on bioaccumulation.

**D. Mobility in Soil:** No data available.

**E. 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

**General information:** No data available.

**A. Disposal methods:** Discharge, treatment, or disposal may be subject to national, state, or local laws.

**B. Disposal considerations (including disposal of contaminated containers or packaging)** No data available.

### 14. TRANSPORT INFORMATION

#### IMDG

UN Number: UN 1184  
 UN Proper Shipping Name: ETHYLENE DICHLORIDE  
 Transport Hazard Class(es): 3  
 Subsidiary risk label: 6.1  
 Packing Group: II  
 Label(s): 3, 6.1  
 Marine Pollutant: No  
 EmS No.: F-E; S-D  
 F. Special precautions, which a user needs to be aware of, or needs for transportation and transport methods: None known.

#### IATA

UN Number: UN 1184  
 Proper Shipping Name: Ethylene dichloride  
 Transport Hazard Class(es): 3  
 Subsidiary risk label: 6.1  
 Packing Group: II  
 Label(s): 3, 6.1  
 E. F. Special precautions, which a user needs to be aware of, or needs for transportation and transport methods: None known.

### 15. REGULATORY INFORMATION

#### A. Restriction under the Industrial Safety and Health Law

##### Controlled Hazardous Substances

Chemical name

ETHYLENE DICHLORIDE      Listed



(107-06-2)

**Harmful Substances Prohibited from Manufacturing**

Not regulated.

**Harmful Substances Requiring Permission for Manufacture or Use**

Not regulated.

**B. Restrictions under the Toxic Chemicals Control Law**

**Accidental Release Prevention Substances**

Not regulated.

**Banned Toxic Chemicals**

Not regulated.

**Observational Chemicals**

Not regulated.

**Restricted Chemical Substances**

Not regulated.

**Toxic Chemicals**

Chemical name

ETHYLENE DICHLORIDE (107-06-2)	Listed
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**Toxic release inventory**

<u>Chemical name</u>	<u>Group</u>	<u>Threshold limit value</u>
ETHYLENE DICHLORIDE (107-06-2)	Group 2.	10 ton

**C. Restrictions under the Dangerous Substances Safety Management Act**

<u>Chemical name</u>	<u>Class</u>	<u>Threshold limit value</u>
ETHYLENE DICHLORIDE (107-06-2)	Class 4: Flammable liquid.	200 liters

**D. Restrictions under the Wastes Control Act Designated waste code numbers**

<u>Chemical name</u>	<u>Code number</u>
ETHYLENE DICHLORIDE (107-06-2)	04-00-00  04-01-00

**Halogenated Materials in Waste Organic Solvents**

Chemical name

ETHYLENE DICHLORIDE (107-06-2)	Listed
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**Hazardous Substances**

Not regulated.

**E. Restrictions under other foreign or domestic laws**

**Clean Air Conservation Act**

**Air Pollutants**

Chemical name

ETHYLENE DICHLORIDE (107-06-2)	Listed
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**Specific Air Pollutants**

**Chemical name**

ETHYLENE DICHLORIDE      Listed  
(107-06-2)

**Inventory Status**

AICS	On or in compliance with the inventory
DSL	On or in compliance with the inventory
EU INV	On or in compliance with the inventory
ENCS (JP)	On or in compliance with the inventory
IECSC	Not in compliance with the inventory.
KECI (KR)	On or in compliance with the inventory
NDSL	Not in compliance with the inventory.
PICCS (PH)	On or in compliance with the inventory
TSCA	On or in compliance with the inventory
NZIOC	On or in compliance with the inventory
ISHL (JP)	On or in compliance with the inventory
PHARM (JP)	Not in compliance with the inventory.

<b>16. OTHER INFORMATION</b>
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|---|-------------------------|
| <b>A. Source of information:</b>                                | No data available.      |
| <b>B. Issue Date</b>  | 10/24/2014              |
| <b>C. Number of revisions and date of most recent revision:</b> | ARGLO_INVSTS; ARGHS_KR; |
| <b>D. Other:</b>  | No data available.      |

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