

SAFETY DATA SHEET

1 PRODUCT AND COMPANY IDENTIFICATION

Product name: Ethylene Dichloride

Product No.: 9301

Manufacturer:

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

Telephone:

Customer Service: 855-282-6867

Contact Person:

Emergency telephone:

24 Hour Emergency: 908-859-2151
Chemtrec: 800-424-9300

2 HAZARDS IDENTIFICATION

GHS 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

GHS label elements:

Symbol(s):



Signal Words:

Danger

Hazard Statement(s):

Highly flammable liquid and vapor.
Harmful if swallowed.
Causes skin irritation.
Causes serious eye 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. 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.

Storage: Store in a well-ventilated place. Keep cool. 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: None.

3 COMPOSITION / INFORMATION ON INGREDIENTS

Substance/mixture:

Chemical name	CAS-No.	Concentration
ETHYLENE DICHLORIDE	107-06-2	90 - 100%

4 FIRST AID MEASURES

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

Inhalation: Move to fresh air. Get medical attention if symptoms persist.

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.

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.

Ingestion Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

Expected acute symptoms and delayed symptoms: Irritating to eyes, respiratory system and skin. Narcotic effect.

Notes to the physician: Symptoms may be delayed. Treat symptomatically.

5 FIRE-FIGHTING MEASURES

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

Extinguishing media to avoid: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards: 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 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.
- Protection of 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:** 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.
- Environmental Precautions:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.
- Clean-up methods and materials and containment measures:** 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.
- Prevention of secondary hazards:** 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

- 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.
- Storage:** 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

- Engineering measures:** 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.

Exposure Limits:

Chemical name	Type	Exposure Limit Values	Source
ETHYLENE DICHLORIDE	STEL	15 mg/m ³	China. OELs (Occupational Exposure Limits for Hazardous Agents in the Workplace) (GBZ 2.1) (03 2008)
	TWA	7 mg/m ³	China. OELs (Occupational Exposure Limits for Hazardous Agents in the Workplace) (GBZ 2.1) (03 2008)

Personal protective equipment (ppe):

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

Appearance

- Physical State:** Liquid
- Form:** Liquid
- Color:** Colorless
- Odor:** Chloroform-like odor
- Odor Threshold:** No data available.
- pH:** No data available.
- Freezing point:** -35.3 °C
- Boiling Point:** 83 °C
- Flash Point:** 13 °C (Closed Cup)
- Evaporation Rate:** No data available.
- Flammability (solid, gas):** No data available.
- Flammability Limit - Upper (%)-:** 15.9 %(V)
- Flammability Limit - Lower (%)-:** 6.2 %(V)
- Vapor pressure:** 11.6 kPa (25 °C)
- Vapor density (air=1):** 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
- Autoignition Temperature:** 413 °C
- Decomposition Temperature:** No data available.
- Viscosity:** No data available.
- Explosive properties:** No data available.

Oxidizing properties: No data available.

10 STABILITY AND REACTIVITY

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

Inhalation: May cause irritation to the respiratory system. May cause drowsiness or dizziness.

Ingestion: Harmful if swallowed.

Skin Contact: Causes skin irritation.

Eye contact: Causes serious eye irritation.

Information on toxicological effects

Acute Toxicity

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
LC 50 (Rat, 31.8 min): 12000 ppm
LC 50 (Rat, 432 min): 1000 ppm

Repeated Dose Toxicity Product: No data available.

Skin Corrosion/Irritation: Product: Causes skin irritation.

Serious Eye Damage/Eye Irritation: Product: Causes serious eye irritation.

Respiratory or Skin

Sensitization:

Product: Not a skin sensitizer.

Germ Cell Mutagenicity

In vitro

Product: No mutagenic components identified

In vivo

Product: No mutagenic components identified

Carcinogenicity

Product: May cause cancer.

Reproductive Toxicity

Product: No data available.

Specified substance(s)

ETHYLENE
DICHLORIDE 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.

Specified substance(s)

ETHYLENE
DICHLORIDE No data available.

Aspiration Hazard

Product: Not classified

Other Adverse Effects:

None known.

12 ECOLOGICAL INFORMATION

General information:

Not Applicable

Ecotoxicity

Acute toxicity

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 Toxicity

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.

Persistence and Degradability

Biodegradation

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

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Product: No data available on bioaccumulation.

12.4 Mobility in Soil:

No data available.

Results of PBT and vPvB assessment:

Not 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 methods:

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

14 TRANSPORT INFORMATION

China

UN Number	UN1184
Proper Shipping Name	ETHYLENE DICHLORIDE
Class	3
Subsidiary risk label	6.1
Packing Group	II

IMDG - International Maritime Dangerous Goods Code

UN Number	UN1184
Proper Shipping Name	ETHYLENE DICHLORIDE
Class	3
Packing Group	II
Label(s)	3, 6.1
Subsidiary risk label	6.1
Marine Pollutant	No
EmS No.	F-E; S-D

IATA

UN Number	UN1184
Proper Shipping Name	ETHYLENE DICHLORIDE
Class	3
Packing Group	II
Label(s)	3, 6.1
Subsidiary risk label	6.1

15 REGULATORY INFORMATION

Applicable regulations:

Provisions of the Regulations for the Safe Handling of Chemicals in the Workplace, particularly those relating to the safe use, production, storage and transportation of dangerous chemicals.
Regulations on the Control over the Safety of Dangerous Chemicals
Code of Practice for Safe Management of Dangerous Chemicals (Ministry of Labor, No.677-1992).

16 OTHER INFORMATION

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.

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