

SAFETY DATA SHEET

1. Identification

GHS Product identifier: Ethylene Dichloride

Other means of identification

Product No.: 9301

Recommended use of the chemical and restrictions on use

Recommended use: Not available.

Recommended restrictions: Not known.

Supplier's details

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 identification

Classification of the substance or mixture:

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

GHS label elements, including precautionary statements:

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 classification:	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment.

3. Composition/information on ingredients
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Substances

Chemical Identity	Common name and synonyms	CAS number	Concentration*
ETHYLENE DICHLORIDE	No data available.	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.

Description of necessary first-aid measures

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.

Notes to the physician

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 action for fire fighters

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.

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

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

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	Time Weighted Average (TWA):	39 ppm 156 mg/m3	Brazil. OELs (Ordinance No. 3214, 6/8/78, NR-15, Annex 11 (amended through ACGIH)03 2013
ETHYLENE DICHLORIDE	TWA	10 ppm	US. ACGIH Threshold Limit Values (2011)

Biological Limit Values

None of the components have assigned exposure limits.

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:	11.6 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)

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
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:	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.

Carcinogenicity	
Product:	May cause cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

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

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

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 methods

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

IATA

UN Number:	UN 1184
Proper Shipping Name:	Ethylene dichloride
Transport Hazard Class(es):	
Class:	3
Label(s):	3, 6.1
Packing Group:	II
Environmental Hazards	
Marine pollutant:	Not a Marine Pollutant
Special precautions for user:	–
Other information	
Passenger and cargo aircraft:	Allowed.
Cargo aircraft only:	Allowed.

ADR

Special precautions for user: –

IMDG

UN Number: UN 1184
 UN Proper Shipping Name: ETHYLENE DICHLORIDE
 Transport Hazard Class(es)
 Class: 3
 Label(s): 3, 6.1
 EmS No.: F-E, S-D
 Packing Group: II
 Environmental Hazards
 Marine Pollutant: Not a Marine Pollutant
 Special precautions for user: –

15. Regulatory information

Safety, health and environmental regulations specific for the product in question

Brazil. Use and physiological efforts of chemical products (Decree No. 3665, Annex 3)
Not Regulated

Brazil. Controlled products for the Army (Decree No. 3665, Annex I)
Not Applicable

Brazil. Drug precursors (Ordinance No. 1.274)

Brazil. Ozone depleting substances (Decree No. 99.280, Annexes A, B, C and E, as amended)
Not Regulated

International regulations

Montreal protocol

Not Applicable

Stockholm convention

Not Applicable

Rotterdam convention

Chemical Identity	
ETHYLENE DICHLORIDE	- -Pesticide

Kyoto protocol

Not Applicable

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

Issue Date: 10-24-2014

Revision Date: No data available.No data available.

Version #: 1.1

Source of information: No data available.

Further Information: No data available.

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