

SAFETY DATA SHEET

Dichloroethane, 1,2-

This MSDS is valid for all grades that start with catalog number 312

1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

Product Identifier: High Purity Chemicals
Synonyms: Ethylene dichloride; 1,2-Ethylene dichloride; Ethane dichloride
Other means of identification: CAS No. 107-06-2
EINECS No. 203-458-1

Recommended use of the chemical and restrictions on use:
General solvent use

Supplier Details:

Pharmco Products, Inc.
1101 Isaac Shelby Drive, Shelbyville,
KY 40065, USA.
Tel: 502.232.7600
Fax: 502.633.6100
CCN17213

Pharmco Products, Inc.
58 Vale Road, Brookfield,
CT 06804, USA.
Tel: 203.740.3471
Fax: 203.740.3481
CCN17213



Emergency Contact: CHEMTREC: 1.800.424.9300 (USA) / +1.703.527.3887 (International)

2. HAZARDS IDENTIFICATION

OSHA Hazards:

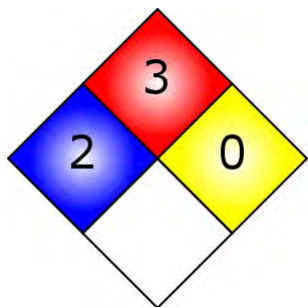
Carcinogen, Flammable liquid, Harmful by ingestion, Irritant

Target Organs:

Central nervous system, Heart, Kidney, Liver, Pancreas

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NFPA



GHS label elements, including precautionary statements



Signal Word:

DANGER!

Hazard statement(s)

H225	Highly flammable liquid and vapor.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H331	Toxic if inhaled
H313	May be harmful in contact with skin.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H350	May cause cancer.

Precautionary statement(s)

P261	Avoid breathing dust/fumes/gas/mist/vapors.
P201	Obtain special instructions before use.
P210	Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
P281	Use personal protective equipment as required.
P303 + P361 + P353	IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.

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P308 + P313
P311
P403 + P233

IF exposed or concerned: Get medical advice/ attention.
Call a POISON CENTER or doctor/ physician.
Store in a well-ventilated place. Keep container tightly closed.

GHS Classification(s)

Acute Toxicity, Dermal (Category 5)
Skin irritation (Category 2)
Flammable Liquids (Category 2)
Acute Toxicity, Inhalation (Category 3)
Acute toxicity, Oral (Category 4)
Specific target organ toxicity - single exposure (Category 3)
Carcinogenicity (Category 1B)
Eye irritation (Category 2A)

Other hazards which do not result in classification:

Potential Health Effects:

Organ	Description
Eyes	Causes eye irritation.
Ingestion	Harmful if swallowed.
Inhalation	Can be harmful if inhaled. Causes respiratory tract irritation.
Skin	Harmful if absorbed through skin. Causes skin irritation.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical identity: 1,2-Dichloroethane
Common name / Synonym: Ethylene dichloride; 1,2-Ethylene dichloride; Ethane dichloride
CAS number: 107-06-2
EINECS number: 203-458-1
ICSC number: 0250
RTECS #: KI0525000
UN #: 1184
EC #: 602-012-00-7

% Weight	Material	CAS
90-100	1,2-Dichloroethane	107-06-2

4. FIRST AID MEASURES

General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid.
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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Skin

Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing/shoes.

Inhalation

Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

Eyes

Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.

Ingestion

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

Carbon oxides and hydrogen chloride gas expected to be the primary hazardous combustion products.

Special protective equipment and precautions for firefighters:

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

Unusual Fire and Explosion Hazards:

- Vapors may settle in low or confined spaces.
- Vapors may travel to source of ignition and flash back.

Flammable Properties

Classification

OSHA/NFPA Class IB Flammable Liquid.

Flash point

13 °C (56 °F) - closed cup

Autoignition temperature

413 °C (775 °F)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear respiratory protection. Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of

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ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions:

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

Methods and materials for containment and cleaning up:

Contain spill, then collect with an electrically protected vacuum cleaner or by wet-brushing and put the material into a convenient waste disposal container. Keep container closed.

7. HANDLING AND STORAGE

Precautions for safe handling:

Do not get on skin or in eyes. Do not inhale vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge. Open and handle container with care. Metal containers involved in the transfer of this material should be grounded and bonded.

Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters, e.g., occupational exposure limit values or biological limit values:

Occupational Exposure Limits

Component	Source	Type	Value	Note
1,2-Dichloroethane	US (OSHA)	TWA	1ppm, 4 mg/m ³	29 CFR 1910.1000 Table Z-1 Limits for Air Contaminants
1,2-Dichloroethane	US (OSHA)	STEL	2 ppm, 8 mg/m ³	29 CFR 1910.1000 Table Z-1 Limits for Air Contaminants

Appropriate engineering controls:

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

Individual protection measures, such as personal protective equipment:

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection:

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Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection:

Wear impervious, flame retardant, antistatic protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Liquid. Colorless, clear.
Odor	Specific data not available
Odor threshold	Specific data not available
pH	Specific data not available
Freezing point	-35 °C (-31 °F)
Initial boiling point and boiling range	84 °C (183 °F)
Flash point	13 °C (56 °F) - closed cup
Evaporation rate	Specific data not available
Flammability (solid, gas)	Flammable
Upper / Lower flammability or explosive limits	16 %(V) / 6.2 %(V)
Vapor pressure	86 hPa (65 mmHg) at 20 °C (68 °F)
Vapor Density	3.4
Relative Density	1.256 g/cm ³ at 25 °C (77 °F)
Solubility(ies)	slightly soluble
Partition coefficient n-octanol/water(ies)	Specific data not available
Auto-ignition temperature	413 °C (775 °F)
Decomposition temperature	Specific data not available
Formula (1,2-DICHLOROETHANE)	C ₂ H ₄ Cl ₂
Molecular Weight (1,2-DICHLOROETHANE)	98.96 g/mol

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Vapors may form explosive mixture with air.

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Conditions to avoid (e.g., static discharge, shock or vibration)	Heat, flames, and sparks. Extreme temperatures and direct sunlight.
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	Carbon oxides and Hydrogen chloride gas are expected to be, under fire conditions, the primary hazardous decomposition products.

11. TOXICOLOGICAL INFORMATION

- 1,2-Dichloroethane 107-06-2

Product Summary:

Laboratory tests have shown mutagenic and reproductive effects. No data available for the teratogenic effects of the product. No data available to designate product as an aspiration hazard or to cause specific target organ toxicity through repeated exposure.

Acute Toxicity:

LC50 (Inhalation)	Rat	1,000 ppm	7 hours
LD50 (Dermal)	Rabbit	2,800 mg/kg	
LD50 (Oral)	Rat	670 mg/kg	

Irritation:

Eyes

Rabbit - moderate eye irritation

Respiratory or Skin Sensitization

No data available

Skin

Rabbit - skin irritation

Germ cell mutagenicity

Laboratory experiments have shown mutagenic effects.

Reproductive toxicity

Rat - Inhalation - Post implantation mortality

Specific target organ toxicity - single exposure (Globally Harmonized System)

Inhalation - May cause respiratory irritation - Respiratory tract

Carcinogenicity

IARC: Group 2B: Possibly carcinogenic to humans

ACGIH: No data is available.

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NTP: Reasonably anticipated to be a human carcinogen

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Rat - Oral - Tumors found on skin and appendages as well as in the gastrointestinal tract.

Other Hazards

Organ	Description
Eyes	Irritating to the eyes.
Ingestion	Harmful if ingested.
Inhalation	Can be harmful if inhaled. Irritating to the respiratory tract.
Skin	Harmful if absorbed through skin. Irritating to skin.

12. ECOLOGICAL INFORMATION

- 1,2-Dichloroethane 107-06-2

Ecotoxicity (aquatic and terrestrial, where available):

Acute Fish Toxicity (1,2-DICHLOROETHANE)

LC50 / 96 hours Rainbow Trout - 225 mg/L

Toxicity to Daphnia (1,2-DICHLOROETHANE)

EC50 / 24 hours Water flea - 540 mg/L

Persistence and degradability:

This product is not readily biodegradable.

Bioaccumulative potential:

Bioaccumulation: *Lepomis macrochirus* (Bluegill) - 14 days; Bioconcentration factor (BCF): 2

Other adverse effects:

No data available

13. DISPOSAL CONSIDERATIONS

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this

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material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION

Description of waste residues and information on their safe handling and methods of disposal:

UN number	1184
UN proper shipping name	Ethylene dichloride
Transport hazard class(es)	3 (6.1)
Packing group (if applicable)	II

Reportable Quantity

100 lbs.

IMDG

UN-Number: 1184 Class: 3 (6.1) Packing Group: II

EMS-No: F-E, S-D

Proper shipping name: ETHYLENE DICHLORIDE

Marine pollutant: No

IATA

UN-Number: 1184 Class: 3 (6.1) Packing Group: II

Proper shipping name: ETHYLENE DICHLORIDE

15. REGULATORY INFORMATION

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

OSHA Hazards

Carcinogen, Flammable liquid, Harmful by ingestion, Irritant

All ingredients are on the following inventories or are exempted from listing

Country	Notification
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
United States of America	TSCA

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard
Chronic Health Hazard
Fire Hazard

CERCLA

1,2-Dichloroethane CAS-No. 107-06-2, RQ: 100 lbs

Massachusetts Right To Know Components

1,2-Dichloroethane CAS-No. 107-06-2 Revision Date 2007-07-01

Pennsylvania Right To Know Components

1,2-Dichloroethane CAS-No. 107-06-2 Revision Date 2007-07-01

New Jersey Right To Know Components

1,2-Dichloroethane CAS-No. 107-06-2 Revision Date 2007-07-01

California Prop 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer.

1,2-DICHLOROETHANE CAS-No. 107-06-2 Revision Date 2007-09-28

16. OTHER INFORMATION: INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS

Disclaimer

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