

SAFETY DATA SHEET

Version 4.7
 Revision Date 08/18/2014
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	1,1-Dichloroethene	
Product Number	:	48526	
Brand	:	Supelco	
Product Use	:	For laboratory research purposes.	
Supplier	:	Sigma-Aldrich Canada Co. 2149 Winston Park Drive OAKVILLE ON L6H 6J8 CANADA	Manufacturer : Sigma-Aldrich Corporation 3050 Spruce St. St. Louis, Missouri 63103 USA
Telephone	:	+1 9058299500	
Fax	:	+1 9058299292	
Emergency Phone # (For both supplier and manufacturer)	:	1-800-424-9300	
Preparation Information	:	Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956	

2. HAZARDS IDENTIFICATION

Emergency Overview

Other hazards which do not result in classification

May form explosive peroxides.

WHMIS Classification

B2	Flammable liquid	Flammable liquid
D1B	Toxic Material Causing Immediate and Serious Toxic Effects	Toxic by ingestion
D2A	Very Toxic Material Causing Other Toxic Effects	Carcinogen
D2B	Toxic Material Causing Other Toxic Effects	Moderate skin irritant Moderate eye irritant Mutagen

GHS Classification

Flammable liquids (Category 1)
 Acute toxicity, Oral (Category 3)
 Skin irritation (Category 2)
 Eye irritation (Category 2A)
 Carcinogenicity (Category 2)

GHS Label elements, including precautionary statements

Pictogram



Signal word: Danger

Hazard statement(s)

H224	Extremely flammable liquid and vapour.
H301	Toxic if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P281 Use personal protective equipment as required.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard: 2
Chronic Health Hazard: *
Flammability: 4
Physical hazards: 2

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 1,1-Dichloroethylene
Vinylidene chloride

Formula : C₂H₂Cl₂
Molecular weight : 96.94 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Vinylidene chloride			
75-35-4	200-864-0	602-025-00-8	<=100%

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media

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

Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

Explosion data - sensitivity to mechanical impact

No data available

Explosion data - sensitivity to static discharge

No data available

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage

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.

Air and moisture sensitive. Store under inert gas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Vinylidene chloride	75-35-4	TWA	5 ppm 20 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	1 ppm	Canada. British Columbia OEL
		TWA	1 ppm 4 mg/m ³	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
		STEL	20 ppm 80 mg/m ³	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
		TWAEV	1 ppm 4 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	5 ppm	USA. ACGIH Threshold Limit Values (TLV)

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 AXBEK (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

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.

Full contact

Material: Fluorinated rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min
Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

Splash contact
Material: butyl-rubber
Minimum layer thickness: 0.3 mm
Break through time: 30 min
Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid, clear
Colour	colourless

Safety data

pH	No data available
Melting point/freezing point	Melting point/range: -122 °C (-188 °F) - lit.
Boiling point	30 - 32 °C (86 - 90 °F) - lit.
Flash point	-19 °C (-2 °F) - closed cup
Ignition temperature	520 °C (968 °F)
Auto-ignition temperature	520.0 °C (968.0 °F) 580.0 °C (1,076.0 °F)
Lower explosion limit	6.5 %(V)
Upper explosion limit	15.5 %(V)
Vapour pressure	658.6 hPa (494.0 mmHg) 667.3 hPa (500.5 mmHg) at 20.0 °C (68.0 °F) 2,137.4 hPa (1,603.2 mmHg) at 55.0 °C (131.0 °F)
Density	1.213 g/cm ³ at 20 °C (68 °F)
Water solubility	0.2 g/l at 20 °C (68 °F)
Partition coefficient: n-octanol/water	No data available
Relative vapour	No data available

density	
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

Materials to avoid

Oxidizing agents, Copper, Aluminum, and its alloys, Peroxides, Strong bases, Oxygen

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas
Other decomposition products - No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

LD50 Oral - Rat - 200.0 mg/kg

Inhalation LC50

Lung irritation

Dermal LD50

No data available

Other information on acute toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Laboratory experiments have shown mutagenic effects.

Carcinogenicity

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Vinylidene chloride)

Reproductive toxicity

No data available

Teratogenicity

No data available

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

No data available

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

No data available

Aspiration hazard

No data available

Signs and Symptoms of Exposure

Nausea, Headache, Vomiting, Dizziness, Drowsiness, Confusion., Incoordination., Central nervous system depression, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects

No data available

Additional Information

RTECS: KV9275000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 - Daphnia magna (Water flea) - 11.60 - 11.79 mg/l
	LC50 - Pimephales promelas (fathead minnow) - 108.00 - 169.00 mg/l
	LC50 - Lepomis macrochirus (Bluegill) - 74.00 - 220.00 mg/l
	LC50 - Cyprinodon variegatus (sheepshead minnow) - 249.00 mg/l
	LC50 - other fish - 250.00 mg/l
	LC50 - other fish - 224.00 mg/l
	LC50 - Pimephales promelas (fathead minnow) - 108 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	NOEC - Cyprinodon variegatus (sheepshead minnow) - 80 mg/l - 96 h
	LC50 - Daphnia magna (Water flea) - 11.6 mg/l - 48 h

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Product

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

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 1303 Class: 3 Packing group: I
Proper shipping name: Vinylidene chloride, stabilized
Reportable Quantity (RQ): 100 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number: 1303 Class: 3 Packing group: I EMS-No: F-E, S-D
Proper shipping name: VINYLIDENE CHLORIDE, STABILIZED
Marine pollutant: Marine pollutant

IATA

UN number: 1303 Class: 3 Packing group: I
Proper shipping name: Vinylidene chloride, stabilized

15. REGULATORY INFORMATION

WHMIS Classification

B2	Flammable liquid	Flammable liquid
D1B	Toxic Material Causing Immediate and Serious Toxic Effects	Toxic by ingestion
D2A	Very Toxic Material Causing Other Toxic Effects	Carcinogen
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. OTHER INFORMATION

Further information

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