

## Material Safety Data Sheet Dichloroethylene

### Section 1 - Product Identification

Synonym : trans-1,2-Dichloroethylene.  
Chemical Formula :  $C_2H_2Cl_2$   
Company Identification : Tradeasia International Pte. Limited  
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Recommended use : Laboratory chemicals Manufacture of substances Scientific research and development

### Section 2 – Hazards Identification

#### 2.1. Classification

Flam. Liq. 2 H225 - Highly flammable liquid and vapour  
Acute Tox. 4 (Oral) H302 - Harmful if swallowed  
Acute Tox. 4 (Inhalation:vapour) H332 - Harmful if inhaled  
Aquatic Acute 3 H402 - Harmful to aquatic life  
Aquatic Chronic 3 H412 - Harmful to aquatic life with long lasting effects

#### 2.2. Label elements

##### Symbols/Pictograms



##### Signal Word

Danger

##### Hazard Statements

H225 - Highly flammable liquid and vapor  
H302+H332 - Harmful if swallowed or if inhaled  
H412 - Harmful to aquatic life with long lasting effects

##### Precautionary Statements

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  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P264 - Wash skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P271 - Use only outdoors or in a well-ventilated area

P273 - Avoid release to the environment

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301+P312 - If swallowed: Call a POISON CENTER or doctor/ physician if you feel unwell

P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing

P312 - Call a POISON CENTER or doctor/physician if you feel unwell

P330 - Rinse mouth

P370+P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

P403+P235 - Store in a well-ventilated place. Keep cool

P501 - Dispose of contents/container to an approved waste disposal plant

### 2.3. Other hazards

Not available.

## Section 3 – Composition/Information on Ingredients

### 3.1 Composition comments

Chemical Name	EC No/CAS No	Purity, %
trans-1,2-Dichloroethylene	156-60-5	max. 100

## Section 4 – First-Aid Measures

### 4.1. Description of first aid measures

#### General advice

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Move the affected personnel away from the contaminated area.

#### Eyes

Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

#### Skin

Wash with plenty of soap and water. Get immediate medical advice/attention.

#### Ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get immediate medical advice/attention.

#### Inhalation

Remove the person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Get immediate medical advice/attention.

### 4.2. Most important symptoms and effects, both acute and delayed

N.A.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## Section 5 – Fire Fighting Measures

### 5.1. Suitable Extinguishing media

Alcohol resistant foam. Carbon dioxide. Dry powder. Water spray. Use extinguishing media appropriate for surrounding fire.

### 5.2. Specific hazards arising from the chemical

Thermal decomposition generates: Carbon oxides. Hydrogen chloride.

Risk of explosion if heated under confinement. Use water spray or fog for cooling exposed containers. May form flammable/explosive vapor-air mixture.

### 5.3. Special protective actions for fire-fighters

In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

Wear gas tight chemically protective clothing in combination with self contained breathing apparatus. For further information refer to section 8: "Exposure controls/personal protection".

## Section 6 – Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Evacuate unnecessary personnel. Ensure adequate air ventilation. Do not breathe gas, fumes, vapor or spray. Advice for non-emergency personnel: Only qualified personnel equipped with suitable protective equipment may intervene.

Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level. Consider the risk of potentially explosive atmospheres. Eliminate every possible source of ignition.

### 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let products enter drains. Discharge into the environment must be avoided.

### 6.3. Methods and material for containment and cleaning up

Stop leak if safe to do so. Dike for recovery or absorb with appropriate material. Take up large spills with a pump or vacuum and finish with dry chemical absorbent. Use explosion-proof equipment. Take up small spills with dry chemical absorbent. Sweep or shovel spills into appropriate containers for disposal. Ventilate area.

## Section 7 – Handling and Storage

### 7.1. Precautions for safe Handling

Handle empty containers with care because residual vapors are flammable. Do not handle until all safety precautions have been read and understood. Ensure good ventilation of the work station. Do not breathe fumes, mist, spray, vapors. Wear personal protective equipment. Avoid contact with skin and eyes. Keep away from ignition sources (including static discharges). Proper grounding procedures to avoid static electricity should be followed. Use only non-sparking tools. Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Comply with applicable regulations. Keep the container closed when not in use. Keep away from ignition sources. Air sensitive. Moisture sensitive. Light sensitive. Keep contents under inert gas. - 8 °C. Use an explosion-proof refrigerator.

## Section 8 – Exposure Controls/Personal Protection

### 8.1. Appropriate engineering controls

Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

### 8.2. Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Chemical goggles or safety glasses. Face shield. 29 CFR 1910.133: Eye and Face Protection.

#### Skin protection

Protective gloves. 29 CFR 1910.138: Hand Protection.

#### Body Protection

Wear suitable protective clothing.

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection. 29 CFR 1910.134: Respiratory Protection.

#### Other information

Safety shoes. 29 CFR 1910.136: Foot Protection.

## Section 9 – Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

Physical State: Liquid

Appearance: Not available

Odor: Not available

pH: Not available

Vapor Pressure: 5.16 psig (@ 20 °C)

Vapor Density: Not available

Viscosity: Not available

Boiling Point: 48 °C

Melting Point: 48 °C

Flash Point: 6 °C

Decomposition Temperature: Not available

Solubility: Water: 600 mg/l (at 20 °C)

Specific Gravity/Density: 1.257 g/ml (@ 25 °C)

Auto Ignition Temperature: 460 °C

Molar mass: 96.94 g/mol

Log Pow: 1.48

Refractive index: 1.446 (@ 20 °C)

## Section 10 – Stability and Reactivity

### 10.1. Reactivity

Not available.

### 10.2. Chemical stability

Stable under normal temperatures and pressures.

### 10.3. Possibility of hazardous reactions

Not available.

### 10.4. Conditions to avoid:

Keep away from heat, sparks and flame.

### 10.5. Incompatible materials

Acids. Oxidizing agents.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11 – Toxicological Information

### 11.1 Health effects associated with ingredients

#### Acute toxicity

LD50 oral rat 1235 mg/kg

LD50 dermal rabbit 5000 mg/kg

#### Skin corrosion/irritation

Not available.

#### Serious eye damage/eye irritation

Not available.

#### Respiratory or skin sensitization

Not available.

#### Germ cell mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Reproductive toxicity

Not available.

#### Specific target organ toxicity - single exposure

Not available.

#### Specific target organ toxicity - repeated exposure

Not available.

#### Aspiration hazard

Not available.

## Section 12 – Ecological Information

### 12.1. Ecotoxicity

LC50 fish 1: 135 mg/l (Exposure time: 96 h - Species: *Lepomis macrochirus* [static])

### 12.2. Bioaccumulative potential

Log Pow: 1.48

### 12.3. Mobility in soil

Not available.

### 12.4. Persistence and Degradability

Not available.

## 12.5. Other adverse effects

Not available.

## Section 13 – Disposal Considerations

### 13.1. Disposal methods

Waste from residues/unused products:

Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber. Dispose of contents/container in accordance with licensed collector's sorting instructions.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Incinerate at a licensed installation.

## Section 14 – Transport Information

### 14.1. DOT

UN number	UN1150
UN proper shipping name	1,2-DICHLOROETHYLENE
Transport hazard class(es)	3 - Flammable Liquids
Packing Group	II

### 14.2. IMDG Sea transport

UN number	UN1150
UN proper shipping name	1,2-DICHLOROETHYLENE
Transport hazard class(es)	3 - Flammable Liquids
Packing Group	II

### 14.3. IATA Air transport

UN number	UN1150
UN proper shipping name	1,2-DICHLOROETHYLENE
Transport hazard class(es)	3 - Flammable Liquids
Packing Group	II

## Section 15 – Regulatory Information

### 15.1. Safety, health and environmental regulations

Listed on the Canadian DSL (Domestic Substances List)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the Korean ECL (Existing Chemicals List)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on INSQ (Mexican national Inventory of Chemical Substances)

U.S. - Massachusetts - Right To Know List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

U.S. - Pennsylvania - RTK (Right to Know) List

## Section 16 : Additional Information

### 16.1. List of abbreviation and acronyms used in this MSDS

**SDS** : Safety Data Sheets

**Index N°** : atomic number of the element most characteristic of the properties of the substance

**CAS No** : Chemical Abstracts Service number

**EC No** : EINECS Number : European Inventory of Existing Commercial Substances

**Repr. Cat. 2** : Substance presumed human reproductive toxicant

**Acute Oral Cat. 5** : Substance which is of relatively low acute oral toxicity.

**GHS** : Globally Harmonised System of Classification and Labelling

**LD<sub>50</sub>** : Median Lethal Dose

**LC<sub>50</sub>** : Lethal Concentration, 50%

**N.A.** : Not Applicable

**OSHA** : Occupational Safety & Health Administration

**Cal OSHA** : The State of California Division of Occupational Safety and Health (DOSH)

**PEL** : Permissible Exposure Limits

**ACGIH** : American Conference of Governmental Industrial Hygienists

**TLV** : Threshold Limit Value

**Japanese MITI** : Japanese Ministry of International Trade and Industry

**EC<sub>50</sub>** : Half maximal effective concentration

**UN** : United Nations

**U.S. EPA TSCA Inventory**: Inventory of the chemical substances manufactured or processed in the United States according to Toxic Substances Control Act compiled and published under the authority of the Environmental Protection Agency

**Canadian DSL**: Canadian Domestic Substances List

### 16.2. List of relevant hazard statements and precautionary statements used in this MSDS

#### Hazard Statement

**H225** - Highly flammable liquid and vapor

**H302+H332** - Harmful if swallowed or if inhaled

**H412** - Harmful to aquatic life with long lasting effects

#### Precautionary Statements

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**P330** - Rinse mouth

**P370+P378** - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

**P403+P235** - Store in a well-ventilated place. Keep cool

**P501** - Dispose of contents/container to an approved waste disposal plant

### **16.3. Disclaimer of Liability**

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