



Preparing for the New Era of Laboratories

# MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

## **ETHYLENE DICHLORIDE (1,2-DICHLOROETHANE) AR**

PRODUCT CODE : B-3035

CAS No : 107-06-2

FORMULA :  $C_2H_4Cl_2$

UN No : 1184

# MATERIAL SAFETY DATA SHEET (SDS/MSDS)

## ETHYLENE DICHLORIDE (1,2-DICHLOROETHANE) AR



MSDS Number : 0149

Date : Aug 23<sup>th</sup>, 2024

Version : 1.0

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

- 1.1 Product Name** : ETHYLENE DICHLORIDE (1,2-DICHLOROETHANE)AR  
**Synonyms** : 1,2-Dichloroethane, Ethylene chloride, Ethane dichloride, Ethylene dichloride,  
**CAS No.** : 107-06-2  
**HS Code** : 2903 15 00  
**Chemical Formula** : C<sub>2</sub>H<sub>4</sub>Cl<sub>2</sub>  
**Molecular Weight** : 98.96g/mol  
**Product Code** : B-3035  
**Brand** : Labotiq  
**1.2 Manufacturer** : Labotiq  
**Address** : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111  
**Website** : [www.labotiq.net](http://www.labotiq.net)  
**Email** : [labotiq.id@gmail.com](mailto:labotiq.id@gmail.com)  
**For information** : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710  
**Emergency number** : +6281316894650  
**1.3 Application** : Laboratory chemicals, Manufacture of substances, General Chemical reagent

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225  
 Acute toxicity, Oral (Category 4), H302  
 Acute toxicity, Inhalation (Category 3), H331  
 Skin irritation (Category 2), H315 Eye irritation (Category 2), H319  
 Carcinogenicity (Category 1B), H350  
 Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16

#### 2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H225

Highly flammable liquid and vapour.

H302

Harmful if swallowed.

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H331

Toxic if inhaled.

H335

May cause respiratory irritation.

H350

May cause cancer.

Precautionary statement(s)

P201

Obtain special instructions before use.

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P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P370 + P378	In case of fire: Use dry powder or dry sand to extinguish.
P403 + P235	Store in a well-ventilated place. Keep cool.
Supplemental Hazard Statements	none

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms	: Ethylene dichloride
Formula	: C <sub>2</sub> H <sub>4</sub> Cl <sub>2</sub>
Molecular weight	: 98.96g/mol
CAS-No.	: 107-06-2
EC-No.	: 203-458-1

### 3.2 Mixture

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Ethylene dichloride CAS-No. 107-06-2 EC-No. 203-458-1 Index-No.number : 602-012-00-7	Flam. Liq. 2; Acute Tox. 4; Acute Tox. 3; Skin Irrit. 2; Eye Irrit. 2; Carc. 1B; STOT SE 3; H225, H302, H331, H315, H319, H350, H335	<=100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### 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.

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**If swallowed**

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

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

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

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides, Hydrogen chloride gas

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

No data available

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

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. For personal protection see section 8.

**6.2 Environmental precautions**

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

**6.3 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).

**6.4 Reference to other sections**

For disposal see section 13.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling****Advice on safe handling**

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

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**Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

**Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

**Storage class**

Storage class (TRGS 510): 3: Flammable liquids

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****8.2 Exposure controls****Appropriate engineering controls**

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

**Personal protective equipment****Eye/face 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 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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Full contact**

Material: Viton

Minimum layer thickness: 0,7 mm

Break through time: 480 min

Material tested: Vitoject®

**Splash contact**

Material: Chloroprene

Minimum layer thickness: 0,65 mm

Break through time: 10 min

Material tested: KCL 720 Camapren

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### Body Protection

Flame retardant antistatic protective clothing.

### Respiratory protection

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented..

### Control of environmental exposure

Do not let product enter drains. Risk of explosion.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance	Form: liquid, clear Colour: colourless
Odour	No data available
Odour Threshold	No data available
pH	No data available
Melting point/freezingpoint	Melting point/range: -35 °C - lit.
Initial boiling point and boiling range	83 °C - lit.
Flash point	13.0 °C - closed cup - Tested according to Annex V of Directive 67/548/EEC.
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 16.2 %(V) Lower explosion limit: 6.2 %(V)
Vapour pressure	No data available 33.3 hPa at 0 °C 86 hPa at 20 °C - Tested according to Annex V of Directive 67/548/EEC. 312 hPa at 50 °C
Vapour density	No data available
Relative density	1.256 g/mL at 25 °C - lit.
Water solubility	8.69 g/l at 20 °C – Tested according to Annex V of Directive 67/548/EEC. - slightly soluble 10.3 g/l at 56 °C
Partition coefficient: octanol/water	log Pow: 1.48 at 20 °C – Tested according to Annex V of Directive 67/548/EEC.
Auto-ignition temperature	413.0 °C
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

### 9.2 Other safety information

Surface tension	32.9 mN/m at 15 °C 32.2 mN/m at 20 °C 30.8 mN/m at 30 °C
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## SECTION 10: Stability and reactivity

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### **10.1 Reactivity**

No data available

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No data available

### **10.2 Chemical stability**

Stable under recommended storage conditions.

### **10.3 Possibility of hazardous reactions**

Exothermic reaction with:

Alkaline earth metals

alkali amides

Nitric acid

nitrogen oxides

Oxidizing agents

Chlorine powdered

magnesium

Zinc

Risk of explosion with:

Alkali metals

powdered aluminium

Powdered metals

Potassium nitrogen dioxide

### **10.4 Conditions to avoid**

Warming.

### **10.5 Incompatible materials**

various plastics, Light metals, Iron

### **10.6 Hazardous decomposition products**

In the event of fire: see section 5

## **SECTION 11: Toxicological information**

### **11.1 Information on toxicological effects**

#### **Acute toxicity**

LD50 Oral - Rat - 670.0 mg/kg(Ethylene dichloride)

LC50 Inhalation - Rat - 4 h - 3.879 mg/l(Ethylene dichloride)

LD50 Dermal - Rabbit - 2,800 mg/kg(Ethylene dichloride)

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Lacrimation.

#### **Skin corrosion/irritation**

Skin - Rabbit(Ethylene dichloride)

Result: irritating - 72 h (Draize Test)

#### **Serious eye damage/eye irritation**

Eyes - Rabbit(Ethylene dichloride)

Result: Moderate eye irritation

#### **Respiratory or skin sensitisation**

No data available

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**Germ cell mutagenicity**

Laboratory experiments have shown mutagenic effects.

(Ethylene dichloride)

Ames test(Ethylene dichloride) S. typhimurium Result: positive

**Carcinogenicity**

This product is or contains a component that has been reported to be proba EPA classification.

(Ethylene dichloride) Possible human carcinogen(Ethylene dichloride)

IARC: 2B -

Group 2B: Possibly carcinogenic to humans (Ethylene dichloride)

**Reproductive toxicity**

No data available(1,1,2,2-Tetrachloroethane)

**Specific target organ toxicity - single exposure**

May cause respiratory irritation.(Ethylene dichloride)

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

RTECS: KI0525000

Acts as a simple asphyxiant by displacing air., anesthetic effects, Difficulty in breathing, Headache, Dizziness, Prolonged or repeated contact with skin may cause:, defatting, Dermatitis, Contact with eyes can cause:, Redness, Blurred vision, Provokes tears., Effects due to ingestion may include:, Gastrointestinal discomfort, Central nervous system depression, Paresthesia., Drowsiness, Convulsions, Conjunctivitis., Pulmonary edema. Effects may be delayed., Irregular breathing, Stomach/intestinal

**SECTION 12: Ecological information****12.1 Toxicity***Toxicity to fish*

LC50 - Oncorhynchus mykiss (rainbow trout) - 225.00 mg/l - 96 h(Ethylene dichloride)

NOEC - Cyprinodon variegatus (sheepshead minnow) - 130 mg/l - 96 h(Ethylene dichloride)

*Toxicity to daphnia and other aquatic invertebrates Immobilization*

EC50 - Daphnia magna (Water flea) - 540.00 mg/l - 24 h(Ethylene dichloride) Immobilization

EC50 - Daphnia magna (Water flea) - 160 mg/l - 48 h(Ethylene dichloride)

**12.2 Persistence and degradability**

Biodegradability Biotic/Aerobic - Exposure time 21 d(Ethylene dichloride)

Result: &lt; 20 % - Not readily biodegradable.

Remarks: Not applicable

**12.3 Bioaccumulative potential**

Bioaccumulation Lepomis macrochirus (Bluegill) - 14 d - 95.6 µg/l(Ethylene dichloride)

Bioconcentration factor (BCF): 2



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### 12.4 Mobility in soil

No data available(Ethylene dichloride)

### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

#### Contaminated packaging

Dispose of as unused product.

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 1184

IMDG: 1184

IATA: 1184

### 14.2 UN proper shipping name

ADR/RID: ETHYLENE DICHLORIDE

IMDG: ETHYLENE DICHLORIDE

IATA: ETHYLENE DICHLORIDE

### 14.3 Transport hazard class(es)

ADR/RID: 3 (6.1)

IMDG: 3 (6.1)

IATA: 3 (6.1)

### 14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

### 14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

### 14.6 Special precautions for user

#### Further information

No data available

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

## SECTION 16: Other information

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**Full text of H-Statements referred to under sections 2 and 3.**

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H350	May cause cancer

**National Fire Protection Association (U.S.A.):**

Health: 2

Flammability: 3

Reactivity: 0

**Further information**

*The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Labotiq shall not be held liable for any damage resulting from handling or from contact with the above product.*

Version : 1.0

Revision Date : August 23, 2024