



Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: 1,2-Dichloroethane

SDS No. : 2293E-2

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Safety Management Dept. of Chemicals

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product**Classification of the substance or mixture****PHYSICAL AND CHEMICAL HAZARDS**

Flammable liquids: Category 2

HEALTH HAZARDS

Acute toxicity (Oral): Category 4

Acute toxicity (Inhalation): Category 3

Serious eye damage/eye irritation: Category 2B

Carcinogenicity: Category 1B

Specific target organ toxicity – single exposure: Category 1(CNS; respiratory apparatus/system; CVS; blood/blood system; liver; kidney; digestive apparatus/alimentary system)

Specific target organ toxicity – single exposure: Category 3(Narcosis)

Specific target organ toxicity – repeated exposure: Category 1(nerve/nervous system; liver; CVS; thyroid/thyroid gland)

Specific target organ toxicity – repeated exposure: Category 2(blood/blood system; kidney)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 3

(Note) GHS classification without description: Not classified/Classification not possible

Label elements

Signal word: Danger

HAZARD STATEMENT

Highly flammable liquid and vapor

Harmful if swallowed

Toxic if inhaled

Causes eye irritation

May cause cancer

Causes damage to organs after single exposure(CNS; respiratory apparatus/system; CVS; blood/blood system; liver; kidney; digestive apparatus/alimentary system)

May cause drowsiness or dizziness

Causes damage to organs through prolonged or repeated exposure(nerve/nervous system; liver;



CVS; thyroid/thyroid gland)

May cause damage to organs through prolonged or repeated exposure(blood/blood system; kidney)

Harmful to aquatic life

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.

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 breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wash contaminated parts thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Do not eat, drink or smoke when using this product.

Response

In case of fire: Use appropriate media other than water for extinction.

Get medical advice/attention if you feel unwell.

IF exposed or concerned: Get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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 SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

IF SWALLOWED: Rinse mouth.

Storage

Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal

Dispose of contents/container in accordance with local/national regulation.

Specific Physical and Chemical hazards

Highly flammable liquid. Vapor/air mixture may explode.

3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:1,2-Dichloroethane

Content (%):98(min)

Chemical formula:C₂H₄Cl₂

Chemicals No, Japan:2-54

CAS No.:107-06-2

MW:98.96

ECNO:203-458-1

Note : The figures shown above are not the specifications of the product.



4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical attention/advice if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

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

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.

If skin irritation or rash occurs: 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 SWALLOWED

Rinse mouth.

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

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use foam, dry powder, CO₂ to extinguish.

Unsuitable extinguishing media

Indoor firefighting equipment or outdoor firefighting equipment

Sprinkler equipment

Dry-powder firefighting equipment – except for phosphate etc.,hydrogen carbonate etc.

Straight stream water extinguisher

Water mist extinguisher

Reinforcing liquid jet extinguisher

Dry-powder extinguisher – except for phosphate etc.,hydrogen carbonate etc.

Bucket of water or tank of water

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste



container.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Storage

Conditions for safe storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Container and packaging materials for safe handling

Glass

Iron

8. Exposure controls/personal protection

Control parameters

Adopted value

(1,2-Dichloroethane)

ACGIH(1977) TWA: 10ppm (Liver dam; nausea)

OSHA-PEL

1,2-DichloroethaneTWA: 50ppm; STEL: C 100ppm

Acceptable maximum peak: 200ppm; Maximum Duration: 5min in any 3hr

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection



- Wear respiratory protection.
- Hand protection
 - Wear protective gloves.
- Eye protection
 - Wear eye/face protection.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

- Physical state: Liquid
- Color: Colorless, Clear
- Odor: Characteristic odour
- pH data is not available.
- Boiling point or initial boiling point: 83.5°C
- Boiling range data is not available.
- Melting point/Freezing point: -35.7°C
- Decomposition temperature data is not available.
- Flammability (gases, liquids and solids) data is not available.
- Flash point: (1,2-Dichloroethane)13°C
- Auto-ignition temperature: 440°C
- Lower and upper explosion limit/flammability limit:
 - Lower explosion limit: 4.2 vol %
 - Upper explosion limit: 16 vol %
- Vapor pressure: 8.7 kPa (20 °C)
- Relative vapor density (Air=1): 3.42
- Relative density of the Vapor/air – mixture at 20°C (Air = 1): 1.2
- Density and/or relative density: 1.2
- Kinematic viscosity data is not available.
- Solubility:
 - Solubility in water: 0.87 g/100 ml
 - n-Octanol/water partition coefficient: log Pow1.48
- No Particle characteristics data is not available.

10. Stability and Reactivity

- Reactivity
 - Not available.
- Chemical stability
 - Stable under normal storage/handling conditions.
- Possibility of hazardous reactions
 - The vapour is heavier than air and may travel along the ground; distant ignition possible.
 - As a result of flow, agitation, etc., electrostatic charges can be generated.
 - Decomposes on heating and on burning. This produces toxic and corrosive fumes including hydrogen chloride and phosgene. Reacts with alkali metals, powdered metals, ammonia, bases and strong oxidants. This generates fire and explosion hazard. Attacks many metals in the presence of water. (ICSC 0250)
- Conditions to avoid
 - Contact with incompatible materials.
 - Contact with fire source.
- Incompatible materials
 - Bases, Strong oxidizing agents, Alkali metals, Powdered metals, Ammonia
- Hazardous decomposition products
 - Hydrogen chloride, Phosgene



11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(1,2-Dichloroethane)

rat LD50=670mg/kg (MOE assessment vol.2, 2003)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

(1,2-Dichloroethane)

rabbit LD50=2800-4900mg/kg (EHC 176, 1995)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(1,2-Dichloroethane)

vapor: rat LC50=1000ppm/4hr (IARC 20, 1979)

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(1,2-Dichloroethane)

rabbit mild eyes irritation (NITE risk assessment, 2005)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

[GHS Cat. Japan, base data]

(1,2-Dichloroethane)

cat.1B; (ECHA SVHC Support Document, 2011 et al.)

(1,2-Dichloroethane)

IARC-Gr.2B : Possibly carcinogenic to humans

(1,2-Dichloroethane)

ACGIH-A4(1977) : Not Classifiable as a Human Carcinogen

(1,2-Dichloroethane)

EU-Category 1B; Substances presumed to have carcinogenic potential for humans

Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(1,2-Dichloroethane)

CNS; respiratory apparatus; CVS; blood/blood system; liver; kidney; digestive apparatus

(PATTY 6th, 2012)

[cat.3 (drow./dizz.)]

[GHS Cat. Japan, base data]

(1,2-Dichloroethane)

narcosis (PATTY 6th, 2012)

STOT-repeated exposure

[cat.1]

[GHS Cat. Japan, base data]

(1,2-Dichloroethane)

nerve/nervous system; liver; CVS; thyroid gland (NITE primary risk assessment, 2005)

[cat.2]

[GHS Cat. Japan, base data]

(1,2-Dichloroethane)



blood/blood system; kidney (NITE primary risk assessment, 2005)
Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Harmful to aquatic life

Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

(1,2-Dichloroethane)

Crustacea (Brine shrimp) LC50=12.8mg/L/24hr (MOE Japan vol.2, 2003)

Aquatic chronic toxicity component(s) data

[GHS Cat. Japan, base data]

(1,2-Dichloroethane)

Algae (*Pseudokirchneriella subcapitata*) NOEC (r)=55mg/L/72hr (MOE Japan, 1995)

Water solubility

(1,2-Dichloroethane)

0.87 g/100 ml (ICSC, 2013)

Persistence and degradability

(1,2-Dichloroethane)

Not degrade rapidly (BOD_Degradation : 0%/14 days; TOC_Degradation: 1.6%/14 days;

GC_Degradation: 1.1%/14 days (MITI official bulletin))

Bioaccumulative potential

(1,2-Dichloroethane)

log Pow=1.48 (ICSC, 2013)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not 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

Waste treatment methods

Avoid release to the environment (- if this is not the intended use).

Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No.: 1184

Proper Shipping Name :

ETHYLENE DICHLORIDE

Class or division : 3

Subsidiary hazard(s) : 6.1

Packing group : II

ERG GUIDE No.: 131

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1184

Proper Shipping Name :

ETHYLENE DICHLORIDE

Class or division : 3

Subsidiary hazard(s) : 6.1



Packing group : II
IATA Dangerous Goods Regulations
UN No.: 1184
Proper Shipping Name :
ETHYLENE DICHLORIDE
Class or division : 3
Subsidiary hazard(s) : 6.1
Hazard labels : Flamm.liquid & Toxic
Packing group : II
Environmental hazards
MARPOL Annex III – Prevention of pollution by harmful substances
Marine pollutants (yes/no) : no
MARPOL Annex V – Prevention of pollution by garbage discharge
Carcinogenicity: cat.1, 1A, 1B
1,2-Dichloroethane
Specific target organ toxicity – repeated exposure: cat.1
1,2-Dichloroethane
Transport in bulk according to Annex II of MARPOL73/78 and IBC Code
Noxious Liquid ; Cat. Y
1,2-Dichloroethane

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture
US major regulations
Chemicals listed in TSCA Inventory
1,2-Dichloroethane
Other regulatory information
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

GHS classification and labelling
Flam. Liq. 2: H225 Highly flammable liquid and vapor
Acute Tox. 4: H302 Harmful if swallowed
Acute Tox. 3: H331 Toxic if inhaled
Eye Irrit. 2B: H320 Causes eye irritation
Carc. 1B: H350 May cause cancer
STOT SE 1: H370 Causes damage to organs after single exposure
STOT SE 3: H336 May cause drowsiness or dizziness
STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure
Aquatic Acute 3: H402 Harmful to aquatic life
Reference Book
Globally Harmonized System of classification and labelling of chemicals, (6th ed., 2015), UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN
IMDG Code, 2018 Edition (Incorporating Amendment 39–18)
IATA Dangerous Goods Regulations (60th Edition) 2019
Classification, labelling and packaging of substances and mixtures (table3–1 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2019 TLVs and BEIs. (ACGIH)
<http://monographs.iarc.fr/ENG/Classification/index.php>
Supplier's data/information
General Disclaimer



This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2018).