

Safety Data Sheet

1. Chemical product and company identification

Product name : Ethylene glycol dimethyl ether

Company information

Name of manufacturer : KANTO CHEMICAL CO., INC.
 Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP
 Name of section : Business Administration Department, Reagent Division
 Telephone number : +81-3-6214-1090
 Facsimile number : +81-3-3241-1047
 Mail address : BC32@kanto.co.jp
 Reference No : 14121
 Product numbers applied by the SDS : 14121, 14122
 Recommended use : For research use only
 Restrictions on use : Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Physical hazards	Flammable liquids	Category 2
Health hazards	Reproductive toxicity	Category 1B
	Specific target organ toxicity (single exposure)	Category 3 (narcosis)

Hazard pictograms



Signal word : Danger

Hazard statements : Highly flammable liquid and vapor
 May cause drowsiness or dizziness
 May damage fertility or the unborn child

Precautionary statements

Prevention : Do not handle until all safety precautions have been read and understood.
 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.
 Avoid breathing mist, vapors.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.



Response	: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell.
Storage	: Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

3. Composition/information on ingredients

Distinction of substance or mixture	: Substance
Synonyms	: 1,2-Dimethoxyethane, Dimethyl cellosolve, DME, Monoglyme

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Ethylene glycol dimethyl ether	≥ 99	C4H10O2	Listed	203-794-9	110-71-4

4. First aid measures

First aid measures

First-aid measures after inhalation	: Remove the victim to fresh air, and make him blow his nose and gargle.
First-aid measures after skin contact	: Wash the affected areas under running water.
First-aid measures after eye contact	: Wash the affected areas under running water.
First-aid measures after ingestion	: Give the victim water or salt water and make him vomit. Get medical attention.
Personal Protection in First Aid and Measures	: Rescuers should wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Suitable extinguishing media	: Water, dry chemical powder, carbon dioxide, dry sand, alcohol resistant foam
Unsuitable extinguishing media	: Foam extinguisher
Fire hazard	: Extremely flammable liquid and vapor.
Firefighting instructions	: Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area. Fight fire from windward. Dry chemical powder, carbon dioxide or dry sand should be used for small fires. Alcohol-resistant foam extinguisher is effective for a large scale fire.
Personal protection (Emergency response)	: Firefighters should wear protective equipment.



6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures : Wear proper protective equipment and avoid contact with skin and inhalation of vapor. Conduct operations from upwind and evacuate people downwind. Remove all sources of ignition. Keep away personnel except for authorized ones from spillage area by stretching ropes.

Environmental precautions

Environmental precautions : Attention should be given to avoid discharge of spilled product into rivers and resulting environmental damage. When diluting spill with large amounts of water, discharge of untreated wastewater into the environment must be avoided.

Methods and Equipment for Containment and Cleaning up

For containment : Absorb spill with inert material (e.g, diatomaceous earth, sand) and flush spillage area with copious amounts of water.

Prevention Measures for Secondary Accidents : Remove nearby sources of ignition and prepare extinguishing media.

7. Handling and storage

Handling

Technical measures : Wear proper protective equipment to avoid contact with skin or inhalation of vapor. Fire is strictly prohibited.

Ventilate well at working places.

Prevent build-up of electrostatic charges (e.g. by grounding) .

Precautions for safe handling : Use with an enclosed system or a local exhaust ventilation. Use in well-ventilated areas.

Do not allow contact with oxidizing substances.

Storage

Storage conditions : Store the bottle tightly closed in a cool, dark place because the substance is hygroscopic.

Cat. No. 14121-08, 14121-23 replaces the inert gas in the container.

Material used in packaging/containers : Glass, fluorine resin, stainless steel.

Do not use polyvinyl chloride resin, acrylic resin.

8. Exposure controls / Personal protection equipment

ACGIH TWA	Not established
Appropriate engineering controls	: Use with an enclosed system or a local exhaust ventilation.
Protective equipment	
Respiratory protection	: If necessary, wear chemical cartridge respirator with an organic vapor cartage
Hand protection	: Impervious protective gloves
Eye protection	: Safety goggles
Skin and body protection	: Protective clothing, protective boots



9. Physical and chemical properties

Physical state	: Liquid
Color	: Colorless.
Odor	: Slight ether like odor
pH	: 8.2
Melting point	: -58 ° C
Freezing point	: No data available
Boiling point	: 82 - 83 ° C
Flash point	: -2 ° C (C.C.)
Auto-ignition temperature	: 202 ° C
Decomposition temperature	: No data available
Flammability	: Flammable
Vapor pressure	: 6.4 kPa (20°C)
Relative density	: 1.13
Density	: 0.864 - 0.869 g/cm ³ (20°C)
Relative gas density	: 3.1
Solubility	: Organic solvents: Soluble in ethanol, diethyl ether, hydrocarbons. Water: > 100000 mg/L (22°C)
Partition coefficient n-octanol/water (log Pow)	: -0.21
Explosive limits (vol %)	: 1.6 - 10.4 vol %
Viscosity, kinematic	: 1.27 mm ² /s (20°C)
Particle characteristics	: No data available

10. Stability and reactivity

Reactivity	: Reactivity is poor, but it reacts with hydrogen iodide, hydrogen bromide, and concentrated sulfuric acid. It makes coordination compounds with many metal compounds.
Chemical stability	: May form explosive peroxides. hygroscopic. Stable under normal conditions.
Possibility of hazardous reactions	: May react violently with oxidizing substances.
Conditions to avoid	: Light, heat. humidity.
Incompatible materials	: Oxidizing substances.
Hazardous decomposition products	: Carbon monoxide.

11. Toxicological information

Acute toxicity (oral)	: No classification mouse LD50=2525mg/kg
Acute toxicity (dermal)	: Classification not possible
Acute toxicity (inhalation)	: No classification (gas) Classification not possible (vapor) Classification not possible (dust, mist)
Skin corrosion/irritation	: Classification not possible
Serious eye damage/irritation	: Classification not possible
Respiratory sensitization	: Classification not possible
Skin sensitization	: Classification not possible
Germ cell mutagenicity	: Classification not possible



Carcinogenicity	: Classification not possible
Reproductive toxicity	: May damage fertility or the unborn child In oral administration tests to mice during the organogenetic period, doses that were not toxic to maternal animals caused such signs as limb deformities and exencephaly in offspring. In addition, it is rated R60 and R61 in EU classification and classified into reproductive toxicity category 2 (equivalent to GHS category 1B). Thus, it was classified as category 1B.
STOT-single exposure	: May cause drowsiness or dizziness Since the doses being over the upper limit of the guidance value for category 2 caused significant reduction in avoidance response, not in escape response, it was classified as category 3 (anesthetic action).
STOT-repeated exposure	: Classification not possible
Aspiration hazard	: Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	: Classification not possible
Aquatic chronic	: Classification not possible

Persistence and degradability

Not readily biodegradable
BOD : 1%

Bioaccumulative potential

Low bioconcentration
BCF : 0.4

Mobility in soil

High mobility
Koc : 18

Hazardous to the ozone layer

Ozone : No data available

13. Disposal considerations

Ecological waste information	: Burn in a chemical incinerator equipped with an afterburner and a scrubber. Or entrust approved waste disposal companies with the disposal.
Contaminated container and packaging	: In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

International Regulations

Transport by sea(IMDG)

UN-No. (IMDG)	: 2252
Proper Shipping Name (IMDG)	: 1,2-DIMETHOXYETHANE
Packing group (IMDG)	: II
Transport hazard class(es) (IMDG)	: 3



Air transport(IATA)

UN-No. (IATA) : 2252
Proper Shipping Name (IATA) : 1,2-Dimethoxyethane
Packing group (IATA) : II
Transport hazard class(es) : 3
(IATA)
Marine pollutant : Not applicable
MFAG-No : 127

15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. Other information

Data sources : NITE Chemical Risk Information Platform (NITE-CHRIP), National Institute of Technology and Evaluation.
Handbook of Dangerous Substances Springer-Verlag Tokyo (1991) .
Dictionary of Organic Compounds, The society of Synthetic Organic Chemistry, Kodansha Ltd. (1985) .

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully. The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements. The information herein is only provision of information, and it does not represent a guarantee the properties of the product. The Safety Data Sheet(SDS) is prepared based on JIS Z7253.

