

Safety Data Sheet

1. Chemical product and company identification

Product name : Diisopropyl 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 : 32463
 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	Specific target organ toxicity (single exposure)	Category 3 (narcosis)
	Specific target organ toxicity (single exposure)	Category 3 (respiratory tract irritation.)
Environmental hazards	Aquatic acute	Category 3
	Aquatic chronic	Category 3

Hazard pictograms



Signal word : Danger

Hazard statements : Highly flammable liquid and vapor
 May cause respiratory irritation
 May cause drowsiness or dizziness
 Harmful to aquatic life
 Harmful to aquatic life with long lasting effects

Precautionary statements

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Keep container tightly closed.
 Ground and bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting equipment.
 Use only non-sparking tools.
 Take action to prevent static discharges.
 Avoid breathing mist/vapors.
 Use only outdoors or in a well-ventilated area.
 Avoid release to the environment.



	Wear protective gloves/protective clothing/eye protection/face protection.
Response	: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water . IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor 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	: Di-iso-propyl ether, Isopropyl ether, iso-Propyl ether

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Diisopropyl ether	≥ 99	C6H14O	Listed	203-560-6	108-20-3

*Stabilized with hydroquinone.

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	: The chemical is volatile. Do not induce vomiting because it increases the risk of aspiration into the lungs. Get medical attention immediately. If necessary, rinse mouth with water.
Personal Protection in First Aid and Measures	: Rescuers should wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Suitable extinguishing media	: Dry chemical, CO2, dry sand, or alcohol-resistant foam
Unsuitable extinguishing media	: Water spray, Foam extinguisher
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)	: Wear breathing apparatus.



response)

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. 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.
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.

Storage

Storage conditions : Store in a dark, cool place and tightly closed.

Material used in packaging/containers : Glass, fluorine resin, stainless steel.
Do not use vinyl chloride resin, acrylic resin, polystyrene etc.

8. Exposure controls / Personal protection equipment

ACGIH TWA	250 ppm
ACGIH STEL	310 ppm

Appropriate engineering controls : Use with an enclosed system or a local exhaust ventilation.

Protective equipment

Respiratory protection : Chemical cartridge respirator with an organic vapor cartage or airline respirator

Hand protection : Organic solvents resistant gloves

Eye protection : Safety goggles

Skin and body protection : Protective clothing, protective boots



9. Physical and chemical properties

Physical state	: Liquid
Color	: Colorless.
Odor	: Characteristic ether odor
pH	: No data available
Melting point	: -85.89 ° C
Freezing point	: No data available
Boiling point	: 68.47 ° C
Flash point	: -27.8 ° C (C.C.)
Auto-ignition temperature	: 443 ° C
Decomposition temperature	: No data available
Flammability	: Flammable
Vapor pressure	: 160 hPa (20°C)
Relative density	: No data available
Density	: 0.720 - 0.734 g/cm ³ (20°C)
Relative gas density	: 3.5
Solubility	: Organic solvents: Miscible with many kinds of organic solvents like alcohol. Water: 0.9 %
Partition coefficient n-octanol/water (log Pow)	: 1.64
Explosive limits (vol %)	: 1.4 - 21.0 vol %
Viscosity, kinematic	: 0.45 mm ² /s (20°C)
Particle characteristics	: No data available

10. Stability and reactivity

Reactivity	: May react with oxidizing substances.
Chemical stability	: May form explosive peroxides by oxygen or light.
Possibility of hazardous reactions	: If the concentration of peroxide is high, it may explode due to impact.
Conditions to avoid	: Light, heat.
Incompatible materials	: Oxidizing substances.
Hazardous decomposition products	: Carbon monoxide.

11. Toxicological information

Acute toxicity (oral)	: No classification rat LD50=4600mg/kg
Acute toxicity (dermal)	: No classification rabbit LD50=14516mg/kg
Acute toxicity (inhalation)	: No classification (gas) Classification not possible (vapor) Classification not possible (dust, mist)
Skin corrosion/irritation	: No classification In a 4-hour semi-occlusive application test of the substance (0.5 mL) in rabbits (OECD TG 404), average scores of erythema and edema after 24/48/72 hours were 1.77 and 0.87, respectively.



Serious eye damage/irritation	: No classification In rabbit eye irritation tests (OECD TG 405), average scores of corneal opacity, iris, conjunctival redness, and chemosis after 24/48/72 hours were all 0 in 2 cases and only 0.33 in 1 case for conjunctival redness.
Respiratory sensitization	: Classification not possible
Skin sensitization	: No classification In a mouse local lymph node assay (LLNA) (OECD TG 429), SI values for 25%, 50%, and 100% were 0.75, 0.71, and 0.80, respectively, and were judged to be negative.
Germ cell mutagenicity	: Classification not possible As for in vitro tests, negative results were obtained for reverse mutation tests with bacteria and chromosome aberration tests with cultured mammalian cells.
Carcinogenicity	: Classification not possible
Reproductive toxicity	: Classification not possible
STOT-single exposure	: May cause drowsiness or dizziness May cause respiratory irritation Human studies have shown that most subjects exposed to the vapor of the substance at 800 ppm for 5 minutes exhibited nasal irritation. Animal studies have shown that monkeys, rabbits, and guinea pigs exposed by inhalation to the vapor of the substance at 30,000 ppm for 1 hour showed narcosis, but all survived. Thus, it was classified into category 3 (narcosis, respiratory tract irritation).
STOT-repeated exposure	: Classification not possible In a combined repeated dose and reproductive/developmental toxicity test in rats exposed to 100–1000 mg/kg/day of the substance by oral gavage, eosinophilic bodies in the proximal tubular epithelium was observed in males at 100 mg/kg/day and above, and increased liver and kidney weights, increase in total cholesterol, phospholipid, and total protein, centrilobular hepatocellular hypertrophy, and necrosis of the proximal tubules were observed at 300 or 1000 mg/kg/day. In a test in which rats were exposed by inhalation to 480–7100 ppm of the substance for 90 days, no effect was seen at 480 ppm, increased liver and kidney weights were seen in males at 3300 ppm and above, hepatocyte hypertrophy of the liver and increased hyaline droplets in the proximal tubules of the kidney were seen in males at 7100 ppm. No effects were seen within the guidance value range of category. However, the classification was not possible because of insufficient data (no data on dermal route).
Aspiration hazard	: Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	: Harmful to aquatic life Pimephales promelas LC50=91.7mg/L/96h
Aquatic chronic	: Harmful to aquatic life with long lasting effects

Persistence and degradability

Not readily biodegradable
BOD : 0%



Bioaccumulative potentialLow bioconcentration
log Pow : 1.64**Mobility in soil**High mobility
Koc : 160**Hazardous to the ozone layer**

Ozone : Classification not possible

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) : 1159
Proper Shipping Name (IMDG) : DIISOPROPYL ETHER
Packing group (IMDG) : II
Transport hazard class(es) (IMDG) : 3

Air transport(IATA)

UN-No. (IATA) : 1159
Proper Shipping Name (IATA) : Diisopropyl ether
Packing group (IATA) : II
Transport hazard class(es) (IATA) : 3

Marine pollutant : Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollutant category : Y
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 : Solvents Handbook, T, Asahara et al, Kodansha Scientific Ltd. (1976) .
Dangerous Properties of Industrial Materials, 6th ed. N. I. Sax Van Nostrand Reinhold Company (1984) .
Handbook of Dangerous Substances Springer-Verlag Tokyo (1991) .
NITE Chemical Risk Information Platform (NITE-CHRIP), National Institute of Technology and Evaluation.



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.

