

Safety Data Sheet

1. Chemical product and company identification

Product name : Di-n-butyl 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 : 04662
 Product numbers applied by the SDS : 04083, 04662
 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 3
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity (single exposure)	Category 1 (respiratory organs, liver)
	Specific target organ toxicity (single exposure)	Category 3 (narcosis)
Environmental hazards	Aquatic acute	Category 3
	Aquatic chronic	Category 3

Hazard pictograms



Signal word : Danger

Hazard statements : Flammable liquid and vapor
 Causes skin irritation
 Causes serious eye irritation
 May cause drowsiness or dizziness
 Causes damage to organs (respiratory organs, liver)
 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. Do not breathe mist/vapors. Wash hands, forearms and face thoroughly after handling. Do not eat, drink or smoke when using this product. 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: Wash with plenty of water. 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. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Call a POISON CENTER or doctor. Call a POISON CENTER or doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
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-Butoxybutane, n-Butyl ether

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Di-n-butyl ether	≥ 99	C ₈ H ₁₈ O	Listed	205-575-3	142-96-1

*Stabilized with BHT.

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	: Remove contaminated clothing and the substance. Wash with plenty of water. If skin irritation occurs, get medical attention.
First-aid measures after eye contact	: Wash the affected areas under running water for at least 15 minutes. If necessary, get medical treatment.
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 response) : Wear breathing apparatus.

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) .

Ventilate well at working places.

Precautions for safe handling : Avoid formation of vapor and aerosols.

Do not allow contact with oxidizing substances.

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	Not established
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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 : Ethereal

pH : No data available

Melting point : -95.2 ° C

Freezing point : No data available

Boiling point : 140 ° C

Flash point : 25 ° C (C.C.)

Auto-ignition temperature : 194 ° C

Decomposition temperature : No data available

Flammability : Flammable

Vapor pressure : 4.6 hPa (20°C)

Relative density : No data available

Density : 0.766 - 0.771 g/cm³ (20°C)

Relative gas density : 4.5

Solubility : Organic solvents: Readily soluble in many kinds of organic solvents.
Water: 113 mg/L (20°C)

Partition coefficient n-octanol/water (log Pow) : 3.35

Explosive limits (vol %) : 0.9 - 8.5 vol %

Viscosity, kinematic : 0.86 mm²/s (20°C)

Particle characteristics : No data available

10. Stability and reactivity

Reactivity : May react with oxidizing substances.

Chemical stability : This substance is easily oxidized to form peroxides.

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>2000 mg/kg
Acute toxicity (dermal)	: No classification rabbit LD50>2000 mg/kg
Acute toxicity (inhalation)	: No classification (gas) Classification not possible (vapor) Classification not possible (dust, mist)
Skin corrosion/irritation	: Causes skin irritation In a test using rabbits, the substance scored 4 for irritation, and in a different test, severe irritation but no necrosis was detected. In addition, the substance has been categorized into Xi R38 in the EU classification. Based on this information, the substance was classified into category 2.
Serious eye damage/irritation	: Causes serious eye irritation Since rabbit tests resulted in the substance scoring 1 for irritation caused by corneal damage, and it has been categorized into Xi R36 in the EU classification, it was classified into category 2A.
Respiratory sensitization	: Classification not possible
Skin sensitization	: Classification not possible
Germ cell mutagenicity	: Classification not possible Classification is not possible due to lack of in vivo data. In Ames tests, results were negative.
Carcinogenicity	: Classification not possible
Reproductive toxicity	: Classification not possible
STOT-single exposure	: Causes damage to organs (respiratory organs, liver) May cause drowsiness or dizziness In oral administration tests using mice, a fatty liver was detected at the doses of 576 mg/kg and 457 mg/kg that fall within the range of category 2 guidance values. In addition, in inhalation exposure tests using rats, a 4-hour exposure to 20.2 mg/L, which exceeds the range of category 2 guidance values, resulted in effects on the liver and respiratory tracts, and a fatty liver. Furthermore, in mice, an exposure to 10 mg/L for 30 minutes (4-hour conversion: 1.25 mg/L) resulted in motor ataxia and effects on the lung and respiratory tracts ; an exposure to 10 mg/L for 75 minutes (4-hour conversion: 3.13 mg/L) resulted in narcotic effects, effects on the lung and respiratory tracts, and a fatty liver ; and an exposure to 169 mg/L for 15 minutes resulted in narcotic effects. Although these data originate from the List 3 literature source, common symptoms were observed in several tests. Therefore, the substance was classified into category 1 for the respiratory system and liver, and category 3 for narcotic effects. In addition, an exposure to 200 ppm for 15 minutes has been documented to cause irritation to the eyes and nose in humans.



STOT-repeated exposure	: Classification not possible In a 4-week (5 days a week) forced oral administration test using rats, mild histological changes were detected in the thyroid gland, but no changes were observed with the level of circulating thyroxine (T4) or triiodothyronine (T3). In addition, no effects were detected except for elevation in the activities of xenobiotic metabolizing enzymes at 200 mg/kg (90-day conversion: 47.6 mg/kg) that falls within the category 2 guidance values. Also, in two other 4-week oral administration tests using rats, noticeable effects were not observed except for activation and elevation of xenobiotics-metabolizing enzymes at both 400 mg/kg (90-day conversion: 133 mg/kg) and 4000 mg/kg (90-day conversion: 1333 mg/kg) that exceed the range of category 2 guidance values. Although these results indicate the classification of the substance into the "Not classified" category (oral route), information on other routes is not available. Thus, the substance was classified into "Classification not possible".
Aspiration hazard	: Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	: Harmful to aquatic life Daphnia magna LC50=26 mg/L/48h
Aquatic chronic	: Harmful to aquatic life with long lasting effects

Persistence and degradability

Not readily biodegradable
BOD : 3%

Bioaccumulative potential

Low bioconcentration
BCF : 47-83 (0.2 mg/L), 30-114 (0.02 mg/L)

Mobility in soil

No additional information available

Hazardous to the ozone layer

Ozone	: Classification not possible
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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)	: 1149
Proper Shipping Name (IMDG)	: DIBUTYL ETHERS
Packing group (IMDG)	: III



Transport hazard class(es) : 3
(IMDG)

Air transport(IATA)

UN-No. (IATA) : 1149
Proper Shipping Name (IATA) : Dibutyl ethers
Packing group (IATA) : III
Transport hazard class(es) : 3
(IATA)

Marine pollutant : Not applicable

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

Pollutant category : Y
MFAG-No : 128

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.
Dictionary of Organic Compounds, The society of Synthetic Organic Chemistry, Kodansha Ltd. (1985) .
Solvents Handbook, T, Asahara el, 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) .
ICSC Card (2009) .
Handbook of 17524 Chemical Products, The Chemical Daily Co. (2024) .

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.

