Date of issue: 2020/04/27
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Safety Data Sheet

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

Product identifier:
Product name: Diisopropyl ether
SDS No. : 65002E-3
Relevant identified uses of the substance or mixture and uses advised against
Research and Development
Details of the supplier of the safety data sheet
Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN
Division: Chemical Safety Management Department
Telephone number: +81-6-6946-8061
FAX: +81-6-6946-1607

Section 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
Specific target organ toxicity - single exposure: Category 3 (Respiratory tract irritation)
Specific target organ toxicity - single exposure: Category 3 (Narcotic effects)
ENVIRONMENT HAZARDS
Hazardous to the aquatic environment, short-term (acute): Category 3
Hazardous to the aquatic environment, long-term (chronic): Category 3
(Note) GHS classification without description: Not classified/Classification not possible
Label elements

Signal word: Danger
HAZARD STATEMENT
H225 Highly flammable liquid and vapor
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness
H412 Harmful to aquatic life with long lasting effects
PRECAUTIONARY STATEMENT
Prevention
P273 Avoid release to the environment.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P242 Use non-sparking tools.

P243 Take action to prevent static discharges.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P370 + P378 In case of fire: Use appropriate media to extinguish.
P312 Call a POISON CENTER/doctor/physician if you feel unwell.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/national regulation.

Specific adverse human health effects

See "11. Toxicological Information".

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name	Content (%)	CAS No.	ENCS	Chemical formula
Diisopropyl ether	≧98	108-20-3	2-362	[(CH3)2CH]2O

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

Stabilizing additives

Hydroquinone (CAS No.123-31-9)

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

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

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician if you feel unwell.
IF INHALED: Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN

Take off immediately all contaminated clothing. Rinse skin with water or 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.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.
In case of fire, use spraying loaded liquid, foam (water-soluble liquid: alcohol-resistant foam), inactive gases, dry powder, dry sand to extinguish.
*Fire Service Act Group 4 Hazardous Materials

Unsuitable extinguishing media

Indoor Fire Plug System or Outdoor Fire Plug System
Sprinkler System
Dry Chemical Extinguishing System-Others (except for phosphates etc., Hydrogen Carbonates etc.)
Fire Extinguisher Discharging Jet Water/Spraying Water
Fire Extinguisher Discharging Jet Loaded Liquid
Fire Extinguisher Discharging Dry Extinguishing agents-Others (except for phosphates etc., Hydrogen Carbonates etc.)
Water Bucket or Water Tank
*Cabinet Order Concerning the Control of Hazardous Materials (Attached Table 5) Group 4 Hazardous Materials

Specific hazards arising from the substance or mixture

Fire may produce irritating, corrosive and/or toxic gases.
Runoff from fire control or dilution water may cause pollution.
See "10.Stability and Reactivity".

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.
Wear protective gloves/protective clothing/eye protection/face protection.
Firefighters should wear self-contained breathing apparatus with a full facepiece operated in the positive pressure mode.

Section 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.
Ventilate area until material pick up is complete.
Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for containment and cleaning up

Liquid: Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.
Solid: Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

Section 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, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use non-sparking tools.

Take action to prevent static discharges.

(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.

Wash hands et al thoroughly after handling.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity".

Storage

Conditions for safe storage

Keep container tightly closed.

Store locked up. (P405)

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

Storage in accordance with local/national regulation.

Container and packaging materials for safe handling

Use closed unbreakable containers.

Section 8. Exposure controls/personal protection

Control parameters

Administrative Control Levels and Concentration standard value

(Diisopropyl ether)

Concentration standard value TWA: 250ppm (Implementation 2025/10/1)

(Hydroquinone)

Concentration standard value TWA: 1mg/m3

Occupational Exposure Limit

ACGIH

(Diisopropyl ether)

TWA: 20ppm (Embryo/fetal dam; body weight eff)

(Hydroquinone)

TWA: 1mg/m3 (Eye irr; eye dam)

Notation

(Hydroquinone)

DSEN

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

Recommend to use protective equipment in conformity with the standards.

Use appropriate protective equipment in accordance with local/national regulation.

Respiratory protection

Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

Hand protection

Wear impervious protective glove.

Eye protection

Wear eye/face protection. Wear safety goggles in cases gas is generated.

Skin and body protection

Wear protective clothing.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid

Color: Colorless, clear

Odor: Characteristic odor

Melting point/Freezing point: -60℃

Boiling point or initial boiling point: (Diisopropyl ether)69℃

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit:

Lower explosion limit: 1.4 vol %

Upper explosion limit: 7.9 vol %

Flash point: (Diisopropyl ether)-28℃

Auto-ignition temperature: (Diisopropyl ether)443℃

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Poor

Solubility in solvent data is not available.

n-Octanol/water partition coefficient data is not available.

Vapor pressure: 15.9 kPa (20℃)

Density and/or relative density: 0.7

Relative vapor density (Air=1): 3.5

Relative density of the Vapor/air - mixture at 20℃ (Air = 1): 1.5

Particle characteristics data is not available.

Other information

Other information is not available.

Section 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.
The substance can readily form explosive peroxides if unstabilized and explode on shaking.
(ICSC 0906)

Conditions to avoid

Contact with fire source.

Incompatible materials

Not available.

Hazardous decomposition products

Carbon oxides, Explosive peroxides

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Data for components of the product]

[NITE-CHRIP]
(Diisopropyl ether)
rat LD50: 4600 mg/kg (source: NITE)
(Hydroquinone)
rat LD50: 302 mg/kg (source: NITE)

Acute toxicity (Dermal)

[Data for components of the product]

[NITE-CHRIP]
(Diisopropyl ether)
rabbit LD50: 20 mL/kg (a converted value: 14516 mg/kg) (source: NITE)
(Hydroquinone)
rat : 3840 mg/kg (no death) (source: NITE)

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation

[Data for components of the product]

[NITE-CHRIP]
(Hydroquinone)
Category 1 (source: NITE)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

[Data for components of the product]

[IARC]
(Hydroquinone)
Group 3 : Not classifiable as to its carcinogenicity to humans

[ACGIH]
(Diisopropyl ether)
A4: Not Classifiable as a Human Carcinogen
(Hydroquinone)
A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans
[EU]
(Hydroquinone)
Category 2; Substances suspected human carcinogens

Reproductive toxicity data is not available.

Specific target organ toxicity (STOT)

STOT-single exposure

[Product]
Category 3, May cause respiratory irritation
Category 3, May cause drowsiness or dizziness

[Data for components of the product]
[NITE-CHRIP]
(Diisopropyl ether)
Category 3 (Respiratory tract irritation), Category 3 (Narcotic effects) (source: NITE)

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

Section 12. Ecological Information

Toxicity

Aquatic toxicity

[Product]
Category 3, Harmful to aquatic life
Category 3, Harmful to aquatic life with long lasting effects

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[NITE-CHRIP]
(Diisopropyl ether)
Fish (Pimephales promelas) 96-hour LC50: 91.7 mg/L (source: NITE)
(Hydroquinone)
Fish (Pimephales promelas) 96-hour LC50: 0.044 mg/L (source: NITE)

Hazardous to the aquatic environment, long-term (chronic)

[NITE-CHRIP]
(Diisopropyl ether)
Algae (Pseudokirchneriella subcapitata) 72-hour NOEC (growth rate): 97 mg/L (source: NITE)
(Hydroquinone)
Algae (Pseudokirchneriella subcapitata) 72-hour NOEC: 0.0015 mg/L (source: NITE)
Crustacea (Daphnia magna) 21-day NOEC: 0.003 mg/L (source: NITE)

Water solubility

(Diisopropyl ether)
poor (source: ICSC, 1996)
(Hydroquinone)
5.9 g/100 mL (15℃) (source: ICSC, 2001)

Persistence and degradability

[Data for components of the product]
(Diisopropyl ether)

Not rapidly degradable (Degradation rate: 0% (by BOD)) (source: NITE)
(Hydroquinone)
Rapidly degradable (Degradation rate: 70% (by BOD)) (source: NITE)

Bioaccumulative potential

[Data for components of the product]
(Diisopropyl ether)
log Pow: 1.52 (source: NITE)
(Hydroquinone)
log Pow: 0.59 (source: NITE)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

Section 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.
Dispose of contents/container as industrial waste. Accordance with local/national regulation.

Section 14. Transport Information

UN Number or ID Number : 1159
UN Proper Shipping Name :
DIISOPROPYL ETHER
Class or division (Transport hazard class) : 3
Packing group : II
ERG GUIDE No.: 127

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : 1159
UN Proper Shipping Name :
DIISOPROPYL ETHER
Class or division (Transport hazard class) : 3
Packing group : II

IATA (Dangerous Goods Regulations)

UN Number or ID Number : 1159
UN Proper Shipping Name :
DIISOPROPYL ETHER
Class or division (Transport hazard class) : 3
Hazard labels : Flamm. liquid
Packing group : II

Environmental hazards

Marine pollutants (yes/no) : no

Section 15. Regulatory Information

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

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

Diisopropyl ether; Hydroquinone

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Section 16. Other information

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 23rd edit., 2023 UN
IMDG Code, 2024 Edition (Incorporating Amendment 42-24)
IATA Dangerous Goods Regulations (66th Edition) 2025
2024 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2025 TLVs and BEIs. (ACGIH)
JIS Z 7252 : 2019
JIS Z 7253 : 2019
2024 Recommendation on TLVs (JSOH)
Supplier's data/information

General Disclaimer

Please provide SDS to customers for selling or transferring.
All chemicals have unknown hazard. Handle the product with care.
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 Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIP), up to FY2023).