



## Safety Data Sheet

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

Product identifier:

Product name: Methylmagnesium iodide(2M in di-n-butyl ether)

SDS No. : 5215E-2

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

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### 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

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 2

Specific target organ toxicity – single exposure: Category 1 (liver, respiratory system)

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

H315 Causes skin irritation

H319 Causes serious eye irritation

H370 Causes damage to organs (liver, respiratory system)

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.



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- 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.  
P260 Do not breathe dust/fume/gas/mist/vapors/spray.  
P271 Use only outdoors or in a well-ventilated area.  
P264 Wash contaminated parts thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P270 Do not eat, drink or smoke when using this product.

**Response**

- P370 + P378 In case of fire: Use appropriate media to extinguish.  
P312 Call a POISON CENTER/doctor/physician if you feel unwell.  
P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor/physician.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P332 + P313 If skin irritation occurs: Get medical advice/attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 If eye irritation persists: Get medical advice/attention.

**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".

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**Section 3. Composition/information on ingredients**

Mixture/Substance selection:

Mixture

Ingredient name	Content (%)	CAS No.	ENCS	Chemical formula
Methylmagnesium iodide	34	917-64-6	-	CH <sub>3</sub> MgI
Di-n-butyl ether	66	142-96-1	2-363	[CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> ] <sub>2</sub> O
Dibutyl hydroxytoluene	0.00033	128-37-0	3-540;9-1805	C <sub>15</sub> H <sub>24</sub> O

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

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**Section 4. First-aid measures**

Descriptions of first-aid measures

General measures

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

IF INHALED



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Remove person to fresh air and keep comfortable for breathing.

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.

Wash with plenty of soap and water.

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/doctor/physician if you feel unwell.

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**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.

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**Section 6. Accidental release measures**

Personnel precautions, protective equipment and emergency procedures



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- 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

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

#### Preventive measures for secondary accident

- Collect spillage.

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## 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".

#### Advice on general occupational hygiene

- Wash contaminated parts thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Take off contaminated clothing and wash it before reuse.

### 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.



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**Section 8. Exposure controls/personal protection**

## Control parameters

Control value and Concentration standard value

(Dibutyl hydroxytoluene)

Concentration standard value TWA: 10mg/m<sup>3</sup>

## Adopted value

(Other inorganic and organic dust (third class dust ))

JOSH Respirable dust 2mg/m<sup>3</sup>, Total dust 8mg/m<sup>3</sup>

(Dibutyl hydroxytoluene)

ACGIH(2001) TWA: 2mg/m<sup>3</sup>(IFV) (URT irr)

## 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.

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**Section 9. Physical and Chemical Properties**

## Information on basic physical and chemical properties

Physical state: Liquid

Color: White turbidity

Odor: Characteristic odor

Melting point/Freezing point data is not available.

Boiling point or initial boiling point: (Di-n-butyl ether)142°C

Boiling range data is not available.

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

Lower and upper explosion limit/flammability limit data is not available.

Flash point: 20°C

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

## Solubility:

Solubility in water: Insoluble

Solubility in solvent data is not available.

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

Vapor pressure data is not available.



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Density and/or relative density data is not available.

Relative vapor density (Air=1) data is not available.

Particle characteristics data is not available.

Other information

Other information is not available.

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## Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

(Di-n-butyl ether)

As a result of flow, agitation, etc., electrostatic charges can be generated.

The substance can form explosive peroxides, especially in anhydrous form. Reacts violently with nitrogen trichloride and strong oxidants. Reacts with strong acids. (ICSC 1150)

(Dibutyl hydroxytoluene)

Decomposes on burning. Decomposes on contact with oxidizing materials. (ICSC 0841)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Strong acids, Oxidizing agents, Nitrogen trichloride

Hazardous decomposition products

Carbon oxides, Explosive peroxides, Iodine compounds

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## Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Data for components of the product]

[NITE-CHRIP]

(Di-n-butyl ether)

rat LD50: 7.4 mL/kg (a converted value: 5686 mg/kg) (source: NITE)

(Dibutyl hydroxytoluene)

rat LD50: 2450 mg/kg (source: NITE)

Acute toxicity (Dermal)

[Data for components of the product]

[NITE-CHRIP]

(Di-n-butyl ether)

rabbit LD50: 10.08 mL/kg (a converted value: 7745 mg/kg) (source: NITE)

(Dibutyl hydroxytoluene)

rat LD50: > 2000 mg/kg (source: NITE)

Irritant properties

Skin corrosion/irritation

[Product]

Category 2, Causes skin irritation

[Data for components of the product]



Methylmagnesium iodide(2M in di-n-butyl ether),5215E-2,2024/12/17

[NITE-CHRIIP]

(Di-n-butyl ether)

Category 2 (source: NITE)

Serious eye damage/irritation

[Product]

Category 2, Causes serious eye irritation

[Data for components of the product]

[NITE-CHRIIP]

(Di-n-butyl ether)

Category 2 (source: NITE)

(Dibutyl hydroxytoluene)

Category 2B (source: NITE)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

[Data for components of the product]

[IARC]

(Dibutyl hydroxytoluene)

Group 3 : Not classifiable as to its carcinogenicity to humans

[ACGIH]

(Dibutyl hydroxytoluene)

A4(2001) : Not Classifiable as a Human Carcinogen

Reproductive toxicity

[Data for components of the product]

[Company proprietary data]

(Methylmagnesium iodide)

Classification not possible; There is no information on the reproductive effects of this substance itself.

As for iodine compounds, the following effects are reported.

excessive iodine ingestion in humans causes thyroid failure, and effects on sexual function such as menstrual abnormality could occur as secondary effects, and there is the information that absorbed iodine is excreted into body milk, and it is possible that iodine transferred to newborns via body milk causes developmental disorder in infants.

Specific target organ toxicity (STOT)

STOT-single exposure

[Product]

Category 1, Causes damage to organs

Category 3, May cause drowsiness or dizziness

[Data for components of the product]

[NITE-CHRIIP]

(Di-n-butyl ether)

Category 1 (liver, respiratory system), Category 3 (Narcotic effects) (source: NITE)

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

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## Section 12. Ecological Information

Toxicity

Aquatic toxicity

[Product]



Methylmagnesium iodide(2M in di-n-butyl ether),5215E-2,2024/12/17

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]

(Di-n-butyl ether)

Crustacea (Daphnia magna) 48-hour LC50: 26 mg/L (source: NITE)

(Dibutyl hydroxytoluene)

Crustacea (Daphnia magna) 48-hour EC50: 0.84 mg/L (source: NITE)

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

[NITE-CHRIP]

(Dibutyl hydroxytoluene)

Fish (Oryzias latipes) NOEC: 0.053 mg/L (ELS) (source: NITE)

Water solubility

(Di-n-butyl ether)

< 0.1 g/100 mL (source: ICSC, 2017)

(Dibutyl hydroxytoluene)

0.00006 g/100 mL (25°C) (source: ICSC, 1999)

Persistence and degradability

[Data for components of the product]

(Di-n-butyl ether)

Not rapidly degradable (Degradation rate: 3% (by BOD)) (source: NITE)

(Dibutyl hydroxytoluene)

Not rapidly degradable (Degradation rate: 4.5% (by BOD)) (source: NITE)

Bioaccumulative potential

[Data for components of the product]

(Di-n-butyl ether)

log Pow: 3.21 (source: ICSC, 2017)

(Dibutyl hydroxytoluene)

log Pow: 5.1 (source: ICSC, 1999)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

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### 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.

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### Section 14. Transport Information

UN Number or ID Number : 1993

UN Proper Shipping Name :

FLAMMABLE LIQUID, N.O.S.

Class or division (Transport hazard class) : 3





Methylmagnesium iodide(2M in di-n-butyl ether),5215E-2,2024/12/17

Packing group : II  
ERG GUIDE No.: 128  
IMDG Code (International Maritime Dangerous Goods Regulations)  
UN Number or ID Number : 1993  
UN Proper Shipping Name :  
FLAMMABLE LIQUID, N.O.S.  
Class or division (Transport hazard class) : 3  
Packing group : II  
IATA (Dangerous Goods Regulations)  
UN Number or ID Number : 1993  
UN Proper Shipping Name :  
FLAMMABLE LIQUID, N.O.S.  
Class or division (Transport hazard class) : 3  
Hazard labels : Flamm.liquid  
Packing group : II  
Environmental hazards  
Marine pollutants (yes/no) : no

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### 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  
Dibutyl hydroxytoluene; Di-n-butyl ether; Methylmagnesium iodide  
Other regulatory information  
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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### 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 22nd edit., 2021 UN  
IMDG Code, 2022 Edition (Incorporating Amendment 41-22)  
IATA Dangerous Goods Regulations (65th Edition) 2024  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2024 TLVs and BEIs. (ACGIH)  
JIS Z 7252 : 2019  
JIS Z 7253 : 2019  
2023 Recommendation on TLVs (JISOH)  
Supplier's data/information  
General Disclaimer  
© KISHIDA CHEMICAL CO., LTD.  
Unauthorized translation or modification is prohibited.  
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.



Methylmagnesium iodide(2M in di-n-butyl ether),5215E-2,2024/12/17

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).