



Safety Data Sheet

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-1

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Safety Management Dept. of Chemicals

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzankenri@kishida.co.jp

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(respiratory system; liver)

Specific target organ toxicity – single exposure: Category 3(Narcosis)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment (Acute): Category 3

Hazardous to the aquatic environment (Long-term): Category 3

(Note) GHS classification without description: Not classified/Classification not possible

Label elements



Signal word: Danger

HAZARD STATEMENT

Highly flammable liquid and vapor

Causes skin irritation

Causes serious eye irritation

Causes damage to organs after single exposure(respiratory system; liver)

May cause drowsiness or dizziness

Harmful to aquatic life

Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.

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.



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Take precautionary measures against static discharge.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response

In case of fire: Use appropriate media other than water for extinction.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF exposed or concerned: Call a POISON CENTER or doctor/physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
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.

Storage

Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal

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

Specific Physical and Chemical hazards

Highly flammable liquid. Vapor/air mixture may explode.

3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name:Methylmagnesium iodide

Content (%):34

Chemical formula:CH₃MgI

CAS No.:917-64-6

MW:166.24

ECNO:213-031-1

Ingredient name:Di-n-butyl ether

Content (%):66

Chemical formula:C₈H₁₈O

Chemicals No, Japan:2-363

CAS No.:142-96-1

MW:130.23

ECNO:205-575-3

Ingredient name:Dibutyl hydroxytoluene

Content (%):0.00033

Chemical formula:C₁₅H₂₄O

Chemicals No, Japan:3-540;9-1805

CAS No.:128-37-0

MW:220.35

ECNO:204-881-4

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



4. First-aid measures

Descriptions of first-aid measures

General measures

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

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

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

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/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 or doctor/physician if you feel unwell.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use foam, dry powder, CO₂ to extinguish.

Unsuitable extinguishing media

Indoor firefighting equipment or outdoor firefighting equipment

Sprinkler equipment

Dry-powder firefighting equipment – except for phosphate etc.,hydrogen carbonate etc.

Straight stream water extinguisher

Water mist extinguisher

Reinforcing liquid jet extinguisher

Dry-powder extinguisher – except for phosphate etc.,hydrogen carbonate etc.

Bucket of water or tank of water

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

Methods and materials for containment and cleaning up



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

Preventive measures for secondary accident

Collect spillage.

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/sparks/open flames/hot surfaces. – No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

(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.

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

Container and packaging materials for safe handling

Glass

8. Exposure controls/personal protection

Control parameters

Adopted value

(Dibutyl hydroxytoluene)

ACGIH(2001) TWA: 2mg/m³(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

Respiratory protection

Wear respiratory protection.

Hand protection



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- Wear protective gloves.
- Eye protection
 - Wear eye/face protection.

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
 - n-Octanol/water partition coefficient data is not available.
- Vapor pressure data is not available.
- Density and/or relative density data is not available.
- Relative vapor density (Air=1) data is not available.
- No Particle characteristics data is not available.

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)
- Conditions to avoid
 - Contact with incompatible materials.
 - Contact with fire source.
- Incompatible materials
 - Strong acids, Strong oxidizing agents, Nitrogen trichloride
- Hazardous decomposition products
 - Carbon oxides, Iodine compounds

11. Toxicological Information

- Information on toxicological effects
- Acute toxicity
 - Acute toxicity (Oral)
 - [GHS Cat. Japan, base data]
 - (Dibutyl hydroxytoluene)



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rat LD50=2450mg/kg (DFGOT vol.23, 2007)

Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

(Dibutyl hydroxytoluene)

rat LD50 >2000mg/kg (SIDS, 2002)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Di-n-butyl ether)

rabbit Irritation score=4 (PATTY 5th, 2001)

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Di-n-butyl ether)

rabbit Irritation score=1 (PATTY 5th, 2001)

(Dibutyl hydroxytoluene)

rabbit recover after 72hours (SIDS, 2002)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

(Dibutyl hydroxytoluene)

IARC-Gr.3 : Not Classifiable as a Human Carcinogen

(Dibutyl hydroxytoluene)

ACGIH-A4(2001) : Not Classifiable as a Human Carcinogen

Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(Di-n-butyl ether)

respiratory system; liver (RTECS, 2007)

[cat.3 (drow./dizz.)]

[GHS Cat. Japan, base data]

(Di-n-butyl ether)

narcotic effect (RTECS, 2007)

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Harmful to aquatic life

Harmful to aquatic life with long lasting effects

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(Dibutyl hydroxytoluene)

Crustacea (Daphnia magna) EC50=0.84mg/L/48hr (MOE Japan, 1999)

(Di-n-butyl ether)

Crustacea (Daphnia magna) LC50=26mg/L/48hr (Aquire, 2008)

Hazardous to the aquatic environment (Long-term)

[GHS Cat. Japan, base data]

(Dibutyl hydroxytoluene)

Fish (Atheriniformes) ELS NOEC=0.053mg/L (MOE Japan, 2007)

Water solubility



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(Dibutyl hydroxytoluene)
0.00006 g/100 ml (25°C) (ICSC, 1999)
(Di-n-butyl ether)
< 0.1 g/100 ml (ICSC, 1994)

Persistence and degradability

(Dibutyl hydroxytoluene)
Not degrade rapidly (BOD_Degradation : 4.5% (Registered chemicals data check & review 1979)
(Di-n-butyl ether)
BOD_Degradation : 3% (Registered chemicals data check & review 1986)

Bioaccumulative potential

(Dibutyl hydroxytoluene)
log Pow=5.1 (ICSC, 1999); BCF=2800 (Check & Review, Japan)
(Di-n-butyl ether)
log Pow=3.08 (calculated) (ICSC, 1994)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

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 (- if this is not the intended use).
Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No. or ID No.: 1993
UN Proper Shipping Name :
FLAMMABLE LIQUID, N.O.S.
Class or division (Transport hazard class) : 3
Packing group : II
ERG GUIDE No.: 128
Special provisions No.: 274

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1993
Proper Shipping Name :
FLAMMABLE LIQUID, N.O.S.
Class or division : 3
Packing group : II
Special provisions No.: 274

IATA Dangerous Goods Regulations

UN No.: 1993
Proper Shipping Name :
FLAMMABLE LIQUID, N.O.S.
Class or division : 3
Hazard labels : Flamm.liquid
Packing group : II
Special provisions No.: A3

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances



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Marine pollutants (yes/no) : no
Maritime transport in bulk according to IMO instruments
Noxious Liquid ; Cat. Y
Di-n-butyl ether

15. Regulatory Information

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

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.

16. Other information

GHS classification and labelling

Flam. Liq. 2: H225 Highly flammable liquid and vapor

Skin Irrit. 2: H315 Causes skin irritation

Eye Irrit. 2: H319 Causes serious eye irritation

STOT SE 1: H370 Causes damage to organs after single exposure

STOT SE 3: H336 May cause drowsiness or dizziness

Aquatic Acute 3: H402 Harmful to aquatic life

Aquatic Chronic 3: H412 Harmful to aquatic life with long lasting effects

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (7th revised edition, 2017), UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN IMDG Code, 2018 Edition (Incorporating Amendment 39-18)

IATA Dangerous Goods Regulations (61th Edition) 2020

Classification, labelling and packaging of substances and mixtures (Table 3 ECNO6182012)

2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2020 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/ENG/Classification/index.php>

Supplier's data/information

General Disclaimer

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 Japan official data (NITE published in 2019).