



Safety Data Sheet

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

Product identifier:

Product name: Bis(2,2,2-trifluoroethyl)carbonate

SDS No. : 9979E-2

Recommended use of the chemical and restrictions on use

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

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Section 2. Hazards identification

Classification of the substance or mixture

HEALTH HAZARDS

Skin corrosion/irritation: Category 2

Serious eye damage/eye irritation: Category 2

Specific target organ toxicity – single exposure: Category 3 (Respiratory tract irritation)

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

Label elements

Hazard pictograms:



Signal word: Warning

Hazard statements

H315 Causes skin irritation

H319 Causes serious eye irritation

H335 May cause respiratory irritation

Precautionary statements

Prevention

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 Use only outdoors or in a well-ventilated area.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/eye protection/face protection.

P264 + P265 Wash hands thoroughly after handling. Do not touch eyes.

Response

P319 Get medical help if you feel unwell.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P302 + P352 IF ON SKIN: Wash with plenty of water.

P332 + P317 If skin irritation occurs: Get medical help.

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 + P317 If eye irritation persists: Get medical help.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Specific danger/hazard

Health hazard

See "11. Toxicological Information".

Section 3. Composition/information on ingredients

Substance/mixture:

Substance

Ingredient name	Content (%)	CAS RN	ENCS	Chemical formula
Bis(2,2,2-trifluoroethyl)carbonate	≥99	1513-87-7	-	C ₅ H ₄ F ₆ O ₃

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

Section 4. First aid measures

Descriptions of first aid measures

General measures

Get medical help if you feel unwell.

IF INHALED

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If experiencing respiratory symptoms: Get emergency medical help immediately.

Get medical help if you feel unwell.

IF ON SKIN

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water or shower.

If experiencing skin: Get emergency medical help immediately.

If you observe unusual symptom, have irritation/pain and/or feel unwell, seek medical advice.

IF IN EYES

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Rinse in order to better reach all parts of eyes.

Remove all chemicals from contact with the victim's eyes immediately. A delay of only seconds may increase the injury.

If experiencing eye: Get medical help.

IF SWALLOWED

Rinse mouth.

IF SWALLOWED: Get emergency medical help immediately.



Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

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

Special extinguishing method

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

Personal 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

Engineering measures

(Measures to prevent operator exposure)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Measures to prevent fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Local ventilation/general ventilation)

Use adequate general or local exhaust ventilation.

(Precautions)

Avoid contact with skin.

Avoid contact with eyes.

**Advice on safe handling**

- Use only outdoors or in a well-ventilated area.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Wash hands and contaminated parts thoroughly after handling.
- When using do not eat, drink or smoke.

Avoidance of contact

- See Section 10: Stability and Reactivity.

Advice on general occupational hygiene

- Wash hands thoroughly after handling. Do not touch eyes.
- Take off contaminated clothing and wash it before reuse.

Conditions for safe storage, including any incompatibilities**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.

Safe packaging material

- Use closed unbreakable containers.

Section 8. Exposure controls/personal protection**Control parameters****Permissible concentration****Administrative Control Levels and Concentration standard value**

- Not established

Appropriate engineering controls

- Do not use in areas without adequate ventilation.
- Washing facilities should be available.

Individual protection measures, such as personal protective equipment

- 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.
- Consult with your glove and/or personnel equipment manufacturer for selection of appropriate compatible materials as needed.
- Inspect before use and replace worn or damaged gloves.
- Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions as needed.

Eye/face protection

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

Skin and body protection

- Wear protective clothing.
- Personal protective equipment for the body and skin should be selected based on the task being performed and the risks involved.



Section 9. Physical and Chemical Properties

Physical state: Liquid (20°C)

Color: Colorless to light yellow, clear

Odor: Characteristic odor

Melting point/Freezing point data is not available.

Boiling point, initial boiling point, or boiling range data is not available.

Flammability data is not available.

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

Flash point data is not available.

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.

Partition coefficient n-octanol/water data is not available.

Vapor pressure data is not available.

Density and/or relative density: 1.50 g/cm³ (20°C)

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

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

Not available.

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Acids, Bases, Strong oxidizing agents

Hazardous decomposition products

Carbon oxides, Hydrogen fluoride

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity data is not available.

Skin corrosion/irritation

[Product]

Category 2, Causes skin irritation

[Data for components of the product]

[Company proprietary data]

**Category 2**

Serious eye damage/irritation

[Product]

Category 2, Causes serious eye irritation

[Data for components of the product]

[Company proprietary data]

Category 2

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenic effects data is not available.

Reproductive toxicity data is not available.

Specific target organ toxicity – single exposure

[Product]

Category 3, May cause respiratory irritation

[Data for components of the product]

[Company proprietary data]

Category 3 (Respiratory tract irritation)

Specific target organ toxicity – repeated exposure data is not available.

Aspiration hazard data is not available.

Section 12. Ecological Information

Toxicity

Toxicity data is not available.

Persistence and degradability

Persistence and degradability data is not available.

Bioaccumulative potential

Bioaccumulative potential data is not available.

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

Section 13. Disposal considerations

Waste treatment methods

Waste from residues, Contaminated packing

Avoid release to the environment.

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

Section 14. Transport Information

UNRTDG

UN number : Not regulated

IMDG Code (International Maritime Dangerous Goods Regulations)

UN number : Not regulated

IATA (Dangerous Goods Regulations)

UN number : Not regulated

Environmental hazards



Marine pollutants (yes/no) : no

Environmentally hazardous substance/mixture (yes/no) : no

Section 15. Regulatory Information

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 (67th Edition) 2026
2024 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2026 TLVs and BEIs. (ACGIH)

JIS Z 7252 : 2025

JIS Z 7253 : 2025

Recommendation of occupational exposure limits (2024-2025) (JSOH)

Supplier's data/information

General Disclaimer

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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.

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-CHRIIP), up to FY2024).