

## Safety Data Sheet

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

Product identifier:

Product name: Diisopropyl ether

Product code (SDS NO): 15290jis\_J\_E1-1

Details of the supplier of the safety data sheet

Manufacturer/Supplier: JUNSEI CHEMICAL CO., LTD.

Address: 1-6, Ohmano-cho, Koshigaya-shi, Saitama 343-0844, Japan

Division: Quality Assurance Department

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### 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

Serious eye damage/eye irritation: Category 2

Reproductive toxicity: Category 2

Specific target organ toxicity – single exposure: Category 2 (central nervous system)

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

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 applicable/Out of classification/Not classifiable

Label elements



Signal word: Danger

HAZARD STATEMENT

Highly flammable liquid and vapor

Causes serious eye irritation

Suspected of damaging fertility or the unborn child

May cause damage to organs after single exposure

May cause respiratory irritation

May cause drowsiness or dizziness

Harmful to aquatic life

Harmful to aquatic life with long lasting effects

PRECAUTIONARY STATEMENT

Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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.  
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 and face protection.  
Wear eye protection/face protection.  
Use personal protective equipment as required.  
Do not eat, drink or smoke when using this product.

**Response**

In case of fire: Use appropriate media for extinction.  
IF exposed or concerned: Get medical advice/attention.  
Call a POISON CENTER or doctor/physician if you feel unwell.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
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.  
Store locked up.

**Disposal**

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

**Specific Physical and Chemical hazards**

Highly flammable liquid. Vapor/air mixture may explode.

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**3. Composition/information on ingredients****Mixture/Substance selection:****Substance**

Common name, synonyms: sopropyl ether

Ingredient name: Diisopropyl ether

Content (%): 99.0 <

Chemical formula: C<sub>6</sub>H<sub>14</sub>O

Chemicals No, Japan: 2-362

CAS No.: 108-20-3

MW: 102.18

ECNO: 203-560-6

**Impurities and stabilizing additives**

Stabilizer: Hydroquinone 100ppm

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**4. First-aid measures****Descriptions of first-aid measures****General measures**

IF exposed or concerned: Get medical attention/advice.  
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.

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.

**Most important symptoms and effects, both acute and delayed**

(Symptoms when inhalation or ingestion)

Cough. Drowsiness. Sore throat.

(Symptoms when skin and/or eye contact)

Dry skin. Redness .

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**5. Fire-fighting measures****Extinguishing media****Suitable extinguishing media**

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

**Specific hazards arising from the substance or mixture**

Containers may explode when heated.

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

Runoff from fire control or dilution water may cause pollution.

**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.

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**6. Accidental release measures****Personnel precautions, protective equipment and emergency procedures**

Keep unauthorized personnel away.

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Ventilate area until material pick up is complete.

Wear proper protective equipment.

**PUBLIC SAFETY:** Ventilate closed spaces before entering.

**Environmental precautions**

Runoff to sewer may create fire or explosion hazard.

Vapor explosion hazard indoors, outdoors or in sewers.

Avoid release to headsprings, rivers, lakes, ocean and groundwater.

**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.

Use clean non-sparking tools to collect absorbed material.

All equipment used when handling the product must be grounded.

**Preventive measures for secondary accident**

Collect spillage.

Stop leak if you can do it without risk.

Diisopropyl ether, JUNSEI CHEMICAL CO., LTD., 15290jis\_J\_E1-1, 27/05/2019

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).  
Prevent entry into waterways, sewers, basements or confined areas.

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## 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.

Avoid breathing dust, fume, gas, mist or vapor.

#### Safety Measures/Incompatibility

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing or face protection.

Wear protective gloves and face protection.

Wear eye protection/face protection.

Use personal protective equipment as required.

When using do not eat, drink or smoke.

#### Conditions for safe storage, including any incompatibilities

##### Recommendation for storage

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

Keep cool. Protect from sunlight.

Store locked up.

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## 8. Exposure controls/personal protection

### Control parameters

No control value data available in MHLW

#### Adopted value

No Adopted value data available in JSOH

ACGIH(1979) TWA: 250ppm;

STEL: 310ppm (Eye & URT irr)

#### OSHA-PEL

TWA: 500ppm; STEL: 2100ppm

### 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.

Wear positive pressure self-contained breathing apparatus (SCBA).

Hand protection

Wear protective gloves. Recommended material(s): nitrile, viton

Consult with your glove and/or personnel equipment manufacturer for selection of appropriate compatible materials.

Eye protection

Wear safety glasses with side-shields.

Wear eye/face protection.

Safety and Health measures

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

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## 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical properties

Appearance: Liquid

Color: Colorless

Odor: Characteristic odor

pH data N.A.

Phase change temperature

Initial Boiling Point/Boiling point: 69°C

Melting point/Freezing point: -60°C

Decomposition temperature data N.A.

Flash point: (c.c.)-28°C

Auto-ignition temperature: 443°C

Explosive properties: Flammability or explosive limit

Lower limit: 1.4vol %

Upper limit: 7.9vol %

Vapor pressure: 15.9 kPa (20°C)

Relative Vapor Density (Air=1): 3.5

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

Specific gravity/Density: 0.720~0.734g/ml (20°C)

Viscosity: 0.379cP (25°C)

Solubility

Solubility in water: 8800mg/L(20°C)

Solubility in solvent: Very soluble in ethanol and diethyl ether.

n-Octanol/water partition coefficient: log Pow1.52

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## 10. Stability and Reactivity

Reactivity

Runaway polymerization will not occur.

Chemical stability

Stable under normal storage/handling conditions.

Highly flammable.

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.

Conditions to avoid

Contact with incompatible materials.

Open flames. Heat. Sparks.

## Incompatible materials

Acids, Bases, Strong oxidizing agents

## Hazardous decomposition products

Carbon oxides

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**11. Toxicological Information**

## Information on toxicological effects

No Acute toxicity data available

## Irritant properties

Serious eye damage /irritation

[GHS Cat. Japan, base data]

rabbit/human : irritation(IUCLID, 2000); (ACGIH, 2001)

No Allergenic and sensitizing effects data available

No Mutagenic effects data available

No Carcinogenic effects data available

## Reproductive toxicity

[GHS Cat. Japan, base data]

cat. 2; RTECS, 2004

Delayed and immediate effects and also chronic effects from short- and long-term exposure

## STOT

STOT-single exposure

[cat.2]

[GHS Cat. Japan, base data]

CNS (HSDB, 2003)

[cat.3 (resp. irrit.)]

[GHS Cat. Japan, base data]

respiratory tract irritation (PATTY 5th, 2001)

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

[GHS Cat. Japan, base data]

narcosis (PATTY 5th, 2001)

No Aspiration hazard data available

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**12. Ecological Information**

## Ecotoxicity

## Aquatic toxicity

Harmful to aquatic life

Harmful to aquatic life with long lasting effects

## Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

Fish (fat head minnow) LC50=91.7mg/L/96hr (ECETOC, 2003)

## Water solubility

8800mg/L(20°C) (PHYSROP DB; HSDB)

## Persistence and degradability

BOD\_Degradation : 0% (Registered chemicals data check &amp; review)

## Bioaccumulative potential

log Pow=1.52 (PHYSROP DB, 2005)

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**13. Disposal considerations**

## 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.

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**14. Transport Information**

## UN No, UN CLASS

UN No.: 1159

Proper Shipping Name : DIISOPROPYL ETHER

Class or division : 3

Packing group : II

ERG GUIDE No.: 127

## IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1159

Proper Shipping Name : DIISOPROPYL ETHER

Class or division : 3

Packing group : II

## IATA Dangerous Goods Regulations

UN No.: 1159

Proper Shipping Name : DIISOPROPYL ETHER

Class or division : 3

Hazard labels : Flamm.liquid

Packing group : II

## Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

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**15. Regulatory Information**

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

Environmental hazards

Transport in bulk according to Annex II of MARPOL73/78 and IBC Code

Noxious Liquid ; Cat. Y

Diisopropyl ether

US major regulations

TSCA

Diisopropyl ether

Other regulatory information

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

Regulatory information with regard to this substance in your country or in your region should be examined by your own responsibility.

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

Regulatory information in this section are limited to intentional ingredient(s), but does not contain information on non-intentional ingredients or impurities which are not informed by supplier(s).

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**16. Other information****GHS classification and labelling**

Flam. Liq. 2: H225 Highly flammable liquid and vapor  
Eye Irrit. 2: H319 Causes serious eye irritation  
Repr. 2: H361 Suspected of damaging fertility or the unborn child  
STOT SE 2: H371 May cause damage to organs after single exposure  
STOT SE 3: H335 May cause respiratory irritation  
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, (5th ed., 2013), UN  
Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN  
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)  
IATA Dangerous Goods Regulations (60th Edition) 2019  
Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)  
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2019 TLVs and BEIs. (ACGIH)  
<http://monographs.iarc.fr/ENG/Classification/index.php>  
Supplier's data/information  
NITE Chemical Risk Information Platform (NITE-CHRIP)  
[https://www.nite.go.jp/en/chem/chrip/chrip\\_search/systemTop](https://www.nite.go.jp/en/chem/chrip/chrip_search/systemTop)  
GHS Classification Guidance for Enterprises 2013 Revised Edition (Aug. 2013, METI)

**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 2017).