



## Safety Data Sheet

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

**Product identifier:**

Product name: Isophorone

SDS No. : 4111E-3

**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

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

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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 4

**HEALTH HAZARDS**

Acute toxicity (Oral): Category 4

Acute toxicity (Dermal): Category 4

Serious eye damage/eye irritation: Category 2

Carcinogenicity: Category 2

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

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

**Label elements**

Signal word: Warning

**HAZARD STATEMENT**

Combustible liquid

Harmful if swallowed

Harmful in contact with skin

Causes serious eye irritation

Suspected of causing cancer

May cause respiratory irritation

May cause drowsiness or dizziness

**PRECAUTIONARY STATEMENT****Prevention**

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

Avoid breathing 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 to extinguish.

IF exposed or concerned: Get medical advice/attention.

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

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

IF ON SKIN: Wash with plenty of soap and water.

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.

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

IF SWALLOWED: Rinse mouth.

#### Storage

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

#### Disposal

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

#### Specific Physical and Chemical hazards

Heating may cause fire.

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### 3. Composition/information on ingredients

#### Mixture/Substance selection:

##### Substance

Ingredient name:Isophorone

Content (%):97(min)

Chemical formula:C9H14O

Chemicals No, Japan:3-2381;3-2389

CAS No.:78-59-1

MW:138.21

ECNO:201-126-0

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

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### 4. First-aid measures

#### Descriptions of first-aid measures

##### General measures

IF exposed or concerned: Get medical advice/attention.

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 ON SKIN (or hair)

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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## 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 resistant or flame 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

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

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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## 7. Handling and storage

### Precautions for safe handling

#### Preventive measures

(Exposure Control for handling personnel)

Avoid breathing 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.

(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

Polyethylene

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## 8. Exposure controls/personal protection

Control parameters

Adopted value

(Isophorone)

ACGIH(1995) STEL: C 5ppm (Eye & URT irr; CNS impair; malaise; fatigue)

OSHA-PEL

(Isophorone)

TWA: 25ppm, 140mg/m<sup>3</sup>

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

Wear protective gloves.

Eye protection

Wear eye/face protection.

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## 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid

Color: Colorless to pale yellow

Odor: Characteristic odor

Melting point/Freezing point: -8°C

Boiling point or initial boiling point: (Isophorone)215°C

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: 0.8 vol %

Upper explosion limit: 3.8 vol %

Flash point: (Isophorone)(C.C.) 84°C

Auto-ignition temperature: (Isophorone)460°C



Decomposition temperature data is not available.

pH data is not available.

Kinematic viscosity data is not available.

Solubility:

Solubility in water: 1.2 g/100 ml (25°C)

n-Octanol/water partition coefficient: log Pow1.67

Vapor pressure: 40 Pa (20°C)

Density and/or relative density: 0.92

Relative vapor density (Air=1): 4.8

Particle characteristics data is not available.

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## 10. Stability and Reactivity

### Reactivity

Not available.

### Chemical stability

Stable under normal storage/handling conditions.

### Possibility of hazardous reactions

Reacts with strong oxidants, strong bases and amines. (ICSC 0169)

### Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

### Incompatible materials

Strong bases, Strong oxidizing agents, Amines

### Hazardous decomposition products

Carbon oxides

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## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

##### Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Isophorone)

rat LD50=1843mg/kg (SIDS, 2003)

##### Acute toxicity (Dermal)

[GHS Cat. Japan, base data]

(Isophorone)

rat LD50=1700mg/kg (SIDS, 2003)

##### Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(Isophorone)

mist: rat LC50=7mg/L (SIDS, 2003)

#### Irritant properties

Skin corrosion/irritation data is not available.

#### Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Isophorone)

rabbit recover within 14 days (SIDS, 2003)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

#### Carcinogenicity

[GHS Cat. Japan, base data]

(Isophorone)



cat.2; ACGIH A3 et al.

[ACGIH]

(Isophorone)

A3(1995) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

[EU]

(Isophorone)

Category 2; Substances suspected human carcinogens

Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.3 (resp. irrit.)]

[GHS Cat. Japan, base data]

(Isophorone)

respiratory tract irritation (ACGIH, 2001; EHC 174, 1995)

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

[GHS Cat. Japan, base data]

(Isophorone)

narcotic effect (ACGIH, 2001; EHC 174, 1995)

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

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## 12. Ecological Information

Ecotoxicity

Aquatic toxicity

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(Isophorone)

Algae (*Raphidocelis subcapitata*) EC50=230mg/L/72hr (MOE Japan, 2018)

Hazardous to the aquatic environment (Long-term)

[GHS Cat. Japan, base data]

(Isophorone)

Fish (*Pimephales promelas*) NOEC=4.15mg/L/32days (EPA AQUIRE, 2018; Lemke,A.E. , 1983)

Water solubility

(Isophorone)

1.2 g/100 ml (25°C) (ICSC, 2000)

Persistence and degradability

(Isophorone)

Not degrade rapidly (BOD\_Degradation : 1.5% (CSCL DB, 1975))

Bioaccumulative potential

(Isophorone)

log Pow=1.67 (ICSC, 2000); BCF=1.8 (Check & Review, Japan)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

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## 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

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



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#### 14. Transport Information

UN No. or ID No.: Not applicable  
Not applicable to IMDG Code  
Not applicable to IATA Dangerous Goods Regulations  
Environmental hazards  
MARPOL Annex III – Prevention of pollution by harmful substances  
Marine pollutants (yes/no) : no  
Maritime transport in bulk according to IMO instruments  
Noxious Liquid ; Cat. Y  
Isophorone

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#### 15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture  
Chemicals listed in TSCA Inventory  
Isophorone  
Other regulatory information  
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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#### 16. Other information

GHS classification and labelling  
Flam. Liq. 4: H227 Combustible liquid  
Acute Tox. 4: H302 Harmful if swallowed  
Acute Tox. 4: H312 Harmful in contact with skin  
Eye Irrit. 2: H319 Causes serious eye irritation  
Carc. 2: H351 Suspected of causing cancer  
STOT SE 3: H335 May cause respiratory irritation  
STOT SE 3: H336 May cause drowsiness or dizziness

#### Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN  
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN  
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)  
IATA Dangerous Goods Regulations (62nd Edition) 2021  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2021 TLVs and BEIs. (ACGIH)  
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 2020).