



## Safety Data Sheet

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

**Product identifier:**

Product name: 2,2,4-Trimethylpentane

SDS No. : 5706E-2

**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: kagakuhinanzenkanri@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

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

Aspiration hazard: Category 1

**ENVIRONMENT HAZARDS**

Hazardous to the aquatic environment (Acute): Category 1

Hazardous to the aquatic environment (Long-term): Category 1

(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

May cause drowsiness or dizziness

May be fatal if swallowed and enters airways

Very toxic to aquatic life

Very toxic 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.

Take precautionary measures against static discharge.

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.

**Response**

In case of fire: Use appropriate media other than water for extinction.  
Collect spillage.  
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: 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.  
Do NOT induce vomiting.  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

**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.

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

Ingredient name:2,2,4-Trimethylpentane  
Content (%):98(min)  
Chemical formula:CH<sub>3</sub>C(CH<sub>3</sub>)<sub>2</sub>CH<sub>2</sub>CH(CH<sub>3</sub>)CH<sub>3</sub>  
Chemicals No, Japan:2-8  
CAS No.:540-84-1  
MW:114.23  
ECNO:208-759-1

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**

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.  
Do NOT induce vomiting.



Immediately call a POISON CENTER or doctor/physician.

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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/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

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/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.

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

Iron

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## 8. Exposure controls/personal protection

Control parameters

Adopted value

(2,2,4-Trimethylpentane)

ACGIH(1979) TWA: 300ppm (URT irr)

OSHA-PEL

2,2,4-Trimethylpentane TWA: 500ppm, 2350mg/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, Clear

Odor: Characteristic odor

pH data is not available.

Boiling point or initial boiling point: 99°C

Boiling range data is not available.

Melting point/Freezing point: -107°C

Decomposition temperature data is not available.

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



Flash point: (2,2,4-Trimethylpentane)(O.C.) 4.5°C  
Auto-ignition temperature: 417°C  
Lower and upper explosion limit/flammability limit:  
    Lower explosion limit: 1.1 vol %  
    Upper explosion limit: 6.0 vol %  
Vapor pressure: 5.1 kPa (20 °C)  
Relative vapor density (Air=1): 3.9  
Density and/or relative density: 0.69  
Kinematic viscosity: 0.503mm<sup>2</sup>/s(20°C)  
Solubility:  
    Solubility in water: None  
n-Octanol/water partition coefficient data is not available.  
No 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

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.

Heating may cause violent combustion or explosion. Reacts with strong oxidants. (ICSC 0496)

### Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

### Incompatible materials

Strong oxidizing agents

### Hazardous decomposition products

Carbon oxides

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## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

##### Acute toxicity (Oral)

[Company proprietary data]

(2,2,4-Trimethylpentane)

rat LD50 > 5000 mg/kg

##### Acute toxicity (Dermal)

[Company proprietary data]

(2,2,4-Trimethylpentane)

rabbit LD50 > 2000 mg/kg

##### Acute toxicity (Inhalation)

[Company proprietary data]

(2,2,4-Trimethylpentane)

vapor : rat LC50 > 33.52 mg/L/4hr

#### Irritant properties

##### Skin corrosion/irritation

[Company proprietary data]

(2,2,4-Trimethylpentane)

Category 2

Serious eye damage/irritation data is not available.



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.

#### STOT

STOT-single exposure

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

[Company proprietary data]

(2,2,4-Trimethylpentane)

Narcosis

STOT-repeated exposure data is not available.

#### Aspiration hazard

[cat.1]

[Company proprietary data]

(2,2,4-Trimethylpentane)

Category 1

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## 12. Ecological Information

### Ecotoxicity

#### Aquatic toxicity

Very toxic to aquatic life

Very toxic to aquatic life with long lasting effects

#### Aquatic acute toxicity component(s) data

[Company proprietary data]

(2,2,4-Trimethylpentane)

Fish(*Oncorhynchus mykiss*) LC50=0.11mg/L/96hr

Crustacea(*Daphnia magna*) EC50=0.4mg/L/48hr

#### Aquatic chronic toxicity component(s) data

[Company proprietary data]

(2,2,4-Trimethylpentane)

Crustacea(*Daphnia magna*) NOEC=0.17 mg/L/21days

#### Water solubility

(2,2,4-Trimethylpentane)

none (ICSC, 1999)

#### 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.

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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

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.: 1262  
Proper Shipping Name :  
OCTANES  
Class or division : 3  
Packing group : II  
ERG GUIDE No.: 128

**IMDG Code (International Maritime Dangerous Goods Regulations)**

UN No.: 1262  
Proper Shipping Name :  
OCTANES  
Class or division : 3  
Packing group : II

**IATA Dangerous Goods Regulations**

UN No.: 1262  
Proper Shipping Name :  
OCTANES  
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) : yes  
MARPOL Annex V – Prevention of pollution by garbage discharge  
Hazardous to the aquatic environment – acute hazard: cat.1  
2,2,4-Trimethylpentane  
Hazardous to the aquatic environment – long-term hazard: cat.1, 2  
2,2,4-Trimethylpentane

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**15. Regulatory Information**

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

**US major regulations**

Chemicals listed in TSCA Inventory  
2,2,4-Trimethylpentane

**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. 2: H225 Highly flammable liquid and vapor  
Skin Irrit. 2: H315 Causes skin irritation  
STOT SE 3: H336 May cause drowsiness or dizziness  
Asp. Tox. 1: H304 May be fatal if swallowed and enters airways  
Aquatic Acute 1: H400 Very toxic to aquatic life  
Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects

**Reference Book**

Globally Harmonized System of classification and labelling of chemicals, (6th ed., 2015), 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

#### 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 2018).