

## Safety Data Sheet

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

#### Product identifier:

Product name: 2,2,4-Trimethylpentane

Product code (SDS NO): 49740jis\_J\_E1-3

#### 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

Telephone number: +81-48-986-6161

FAX: +81-48-989-2787

e-mail address: shiyaku-t@junsei.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

H225-Highly flammable liquid and vapor

H315-Causes skin irritation

H336-May cause drowsiness or dizziness

H304-May be fatal if swallowed and enters airways

H400-Very toxic to aquatic life

H410-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.

IF SWALLOWED: Do NOT induce vomiting. 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.

---

### 3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Common name, synonyms: Isooctane

Ingredient name: 2,2,4-Trimethylpentane

Content (%): 99.0 <

Chemical formula: C<sub>8</sub>H<sub>18</sub>

Chemicals No, Japan: 2-8

CAS No.: 540-84-1

MW: 114.23

ECNO: 208-759-1

---

### 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 skin irritation 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.

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)

Confusion. Dizziness. Headache. Nausea. Vomiting.

(Symptoms when skin and/or eye contact)

Dry skin. Redness. Pain of the skin

---

## 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use foam, dry powder, CO<sub>2</sub> to extinguish.

Unsuitable extinguishing media data is not available.

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.

Cool container with water spray.

Combat fire from a sheltered position.

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

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.

**ELIMINATE** all ignition sources (no smoking, flares, sparks or flames in immediate area).

Prevent entry into waterways, sewers, basements or confined areas.

---

## 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.

Use personal protective equipment as required.

When using do not eat, drink or smoke.

#### Any incompatibilities

Strong oxidizing agents should not be mixed with the chemicals.

#### 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

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

Keep cool. Protect from sunlight.

Container and packaging materials for safe handling data is not available.

---

## 8. Exposure controls/personal protection

### Control parameters

Control value in MHLW is not available.

#### Adopted value

Adopted value in JSOH is not available.

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

#### OSHA-PEL

TWA: 500ppm, 2350mg/m<sup>3</sup>

#### NIOSH-REL

TWA: 75ppm; STEL: 385ppm [15-min]

### 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.

**Skin and body protection**

Wear impervious clothing and boots in case of repeated or prolonged treatment.

---

**9. Physical and Chemical Properties****Information on basic physical and chemical properties**

Physical state: Liquid

Color: Colorless

Odor: Characteristic odor

Odor threshold data is not available.

pH data is not available.

Boiling point or initial boiling point: 99°C

Boiling range data is not available.

Evaporation rate data is not available.

Melting point/Freezing point: -107°C

Decomposition temperature data is not available.

Flammability (gases, liquids and solids): Ignitable

Flash point: (O.C.) 4.5°C

Auto-ignition temperature: 417°C

Critical temperature data is not available.

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)

Vapor density data is not available.

VOC data is not available.

Relative vapor density (Air=1): 3.9

Relative density of the Vapor/air - mixture at 20°C (Air = 1) data is not available.

Density and/or relative density: 0.6914(20°C/4°C)

Dynamic viscosity: 0.5mPas(20°C)

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Insoluble

Solubility in solvent: Soluble in ethanol, diethyl ether.

n-Octanol/water partition coefficient data is not available.

No Particle characteristics data is not available.

---

**10. Stability and Reactivity**

Reactivity data is not available.

**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.

Heating may cause violent combustion or explosion.

Reacts with strong oxidants.

Conditions to avoid

Contact with incompatible materials.

Open flames. Heat.

Sparks.

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Carbon oxides

---

## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

Acute toxicity (Oral), Product

rat LD50 >5g/kg (SIDS, 2010; Supplier's data/information)

Acute toxicity (Dermal), Product

rabbit LD50 >3160 mg/kg (SIDS, 2010)

Acute toxicity (Gases inhalation), Product

rat LC50 =33.52mg/L/4hr (SIDS, 2010; Supplier's data/information)

#### Irritant properties

Skin corrosion/irritation

(C7-C9 Aliphatic Hydrocarbon Solvents) moderate skin irritation at high concentrations (SIDS, 2010)

Serious eye damage/irritation

(C7-C9 Aliphatic Hydrocarbon Solvents) rabbits : No eye irritation (SIDS, 2010)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

#### Carcinogenicity

EPA-I; "Inadequate Information to Assess Carcinogenic Potencial"(2005)

Reproductive toxicity data is not available.

#### STOT

STOT-single exposure

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

EU CLP : H336

STOT-repeated exposure data is not available.

#### Aspiration hazard

[cat.1]

May be fatal if swallowed and enters airways.(Supplier's data/information)

EU CLP : H336

---

## 12. Ecological Information

### Ecotoxicity

#### Aquatic toxicity

H400-Very toxic to aquatic life

H410-Very toxic to aquatic life with long lasting effects

Aquatic acute toxicity component(s) data

Crustacea(Daphnia magna) LC50=0.98mg/L/48hr (SIDS, 2010; Supplier's data/information))

Aquatic chronic toxicity component(s) data

Crustacea(Daphnia magna) NOEC=0.17mg/L/21day (Supplier's data/information)

#### Water solubility

none (ICSC, 1999)

#### Persistence and degradability

BOD\_Degradation : 0% (Registered chemicals data check & review, Japan)

## Bioaccumulative potential

BCF(conc. : 1 ug/L)=520 (Registered chemicals data check &amp; review, Japan);

BCF(conc. : 10 ug/L)=540 (Registered chemicals data check &amp; review, Japan)

Mobility in soil data is not available.

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., UN CLASS

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

---

**15. Regulatory Information**

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

## Environmental hazards

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

Basel law, Japan

2,2,4-Trimethylpentane

## US major regulations

Chemicals listed in TSCA Inventory

2,2,4-Trimethylpentane

## 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).

---

## 16. Other information

### GHS classification and labelling

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

H315-Skin Irrit. 2: H315 Causes skin irritation

H336-STOT SE 3: H336 May cause drowsiness or dizziness

H304-Asp. Tox. 1: H304 May be fatal if swallowed and enters airways

H400-Aquatic Acute 1: H400 Very toxic to aquatic life

H410-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>

JIS Z 7253 : 2019

JIS Z 7252 : 2019

2019 Recommendation on TLVs (JSOH)

Supplier's data/information

Chemicals safety data management system "GHS Assistant" (<https://www.asahi-ghs.com/>)

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 2018).