

Safety Data Sheet

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

Product identifier:

Product name: Heptane

Product code (SDS NO): 67325jis_J_E2-2

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

Serious eye damage/eye irritation: Category 2

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

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

Specific target organ toxicity – repeated exposure: Category 1 (nervous system)

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 applicable/Out of classification/Not classifiable

Label elements



Signal word: Danger

HAZARD STATEMENT

Highly flammable liquid and vapor

Causes skin irritation

Causes serious eye irritation

May cause respiratory irritation

May cause drowsiness or dizziness

Causes damage to organs through prolonged or repeated exposure

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.
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/eye protection/face protection.
Wear eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response

In case of fire: Use appropriate media for extinction.
Collect spillage.
Get medical advice/attention 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 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: 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.
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.

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

Common name, synonyms: n-Heptane

Ingredient name: Heptane

Content (%): 99.0 <

Chemical formula: C₇H₁₆

Chemicals No, Japan: 2-7

CAS No.: 142-82-5

MW: 100.20

ECNO: 205-563-8

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

Get medical attention/advice 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)

Cough. Incoordination. Dizziness. Weakness. Nausea. Drowsiness. Aspiration hazard! Sore throat.

Abdominal pain. Headache. Vomiting. Unconsciousness.

(Symptoms when skin and/or eye contact)

Redness. Swelling. Pain.

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

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

Unsuitable extinguishing media

Water may be effective for cooling, but may not effect extinguishment.

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.

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)

- 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

- 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. Protect from sunlight.
- Store locked up.

8. Exposure controls/personal protection**Control parameters**

No control value data available in MHLW

Adopted value

- JSOH(1988) 200ppm; 820mg/m³
- ACGIH(1979) TWA: 400ppm;
- STEL: 500ppm (CNS impair; URT irr)

OSHA-PEL

- Heptane TWA: 500ppm, 2000mg/m³

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. 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.

Take off contaminated clothing and wash it before reuse.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical properties

Appearance: Volatile liquid

Color: Colorless-clear

Odor: Characteristic odor

pH data N.A.

Phase change temperature

Initial Boiling Point/Boiling point: 98.4°C

Melting point/Freezing point: -90.7°C

Decomposition temperature data N.A.

Flash point: (c.c.)-7°C

Auto-ignition temperature: 220°C

Explosive properties: Flammability or explosive limit

Lower limit: 0.8 vol %

Upper limit: 6.7 vol %

Vapor pressure: 4.6 kPa (20°C)

Relative Vapor Density (Air=1): 3.46

Specific gravity/Density: 0.682~0.686g/ml (20°C)

Solubility

Solubility in water: 3.40 mg/L (25°C)

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

n-Octanol /water partition coefficient: log Pow4.66

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.

Reacts violently with strong oxidants. This generates fire and explosion hazard.

Attacks many plastics.

Conditions to avoid

- Contact with incompatible materials.
- Open flames. Heat. Sparks.

Incompatible materials

- Strong oxidizing agents, Plastics.

Hazardous decomposition products

- Carbon oxides

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

- [GHS Cat. Japan, base data]
- mouse LD50=5000 mg/kg (IUCLID, 2000)

Acute toxicity (Dermal)

- [GHS Cat. Japan, base data]
- rabbit LD50=3000 mg/kg (IUCLID, 2000)

Acute toxicity (Inhalation)

- [GHS Cat. Japan, base data]
- vapor : rat LC50 >17940 ppm/4hr (SIDS, 2013)

Irritant properties

Skin corrosion/irritation

- [GHS Cat. Japan, base data]
- human : dermatitis (DFGOT vol.11,1998)

Serious eye damage /irritation

- [GHS Cat. Japan, base data]
- human : irritation (MOE risk assessment vol.6, 2008)

No Allergenic and sensitizing effects data available

Germ cell mutagenicity

- [GHS Cat. Japan, base data]
- In vivo data N.A.
- Reverse-mutation assay in bacteria (Ames test) :Negative (PATTY 6th, 2012 et al.)
- Chromosome aberration test :Negative (rat's cultured cell; PATTY 6th, 2012 et al.)

Carcinogenicity

- EPA-Group D; Not Classifiable as to Human Carcinogenicity (1986)

No reproductive toxicity data available

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

STOT

STOT-single exposure

- [cat.3 (resp. irrit.)]
- [GHS Cat. Japan, base data]
- respiratory tract irritation (HSDB, Access on August 2014)

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

- [GHS Cat. Japan, base data]
- narcosis (HSDB, Access on August 2014)

STOT-repeated exposure

- [cat.1]
- [GHS Cat. Japan, base data]
- nerve/nervous system (SIDS, 2013)

Aspiration hazard

- [cat.1]
- [GHS Cat. Japan, base data]
- cat. 1; hydrocarbon, chemical pneumonia (HSDB, Access on August 2014)

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

[GHS Cat. Japan, base data]

Crustacea (Mysidopsis bahia) LC50=0.1mg/L/96hr (SIDS, 2013)

Water solubility

none (ICSC, 1997)

Persistence and degradability

Degrade rapidly [BOD_Degradation : 101% (Registered chemicals data check & review, 1996)]

Bioaccumulative potential

log Pow=4.66 (ICSC, 1997)

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.

14. Transport Information

UN No, UN CLASS

UN No.: 1206

Proper Shipping Name : HEPTANES

Class or division : 3

Packing group : II

ERG GUIDE No.: 128

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1206

Proper Shipping Name : HEPTANES

Class or division : 3

Packing group : II

IATA Dangerous Goods Regulations

UN No.: 1206

Proper Shipping Name : HEPTANES

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

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

Noxious Liquid ; Cat. X

Heptane

US major regulations

TSCA

Heptane

Other regulatory information

We are not able to check up the regulatory information in 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) and/or impurities informed by supplier(s).

16. Other information

GHS classification and labelling

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

Skin Irrit. 2: H315 Causes skin irritation

Eye Irrit. 2: H319 Causes serious eye irritation

STOT SE 3: H335 May cause respiratory irritation

STOT SE 3: H336 May cause drowsiness or dizziness

STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure

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, (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)

2018 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

GHS Classification Guidance for Enterprises 2013 Revised Edition (Aug. 2013, METI)

General Disclaimer

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It is advised to make their own tests to determinate the safety and suitability of each such product or combination for their own purposes.

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).