



## Safety Data Sheet

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

**Product identifier:**

Product name: Heptane

SDS No. : 3623E-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: 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

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 (nerve/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 classified/Classification not possible

**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 (nerve/nervous system)

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/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 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.  
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:Heptane

Content (%):97(min)

Chemical formula:C7H16

Chemicals No, Japan:2-7

CAS No.:142-82-5

MW:100.20

ECNO:205-563-8

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**

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 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)

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.

#### 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

Stainless steel

Iron

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## 8. Exposure controls/personal protection

### Control parameters

#### Adopted value

(Heptane)

ACGIH(1979) TWA: 400ppm;

STEL: 500ppm (CNS impair; URT irr)

#### OSHA-PEL

HeptaneTWA: 500ppm, 2000mg/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  
Odor: Characteristic odor  
Melting point/Freezing point:  $-91^{\circ}\text{C}$   
Boiling point or initial boiling point:  $98^{\circ}\text{C}$   
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: 1.1 vol %  
    Upper explosion limit: 6.7 vol %  
Flash point: (Heptane) $-5.5\sim-4^{\circ}\text{C}$   
Auto-ignition temperature:  $285^{\circ}\text{C}$   
Decomposition temperature data is not available.  
pH data is not available.  
Kinematic viscosity data is not available.  
Solubility:  
    Solubility in water: Insoluble  
n-Octanol/water partition coefficient:  $\log P_{ow}4.66$   
Vapor pressure: 4.6 kPa ( $20^{\circ}\text{C}$ )  
Density and/or relative density: 0.68 g/ml  
Relative vapor density (Air=1): 3.46  
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.

Reacts violently with strong oxidants. This generates fire and explosion hazard. Attacks many plastics. (ICSC 0657)

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 data is not available.

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Heptane)

human dermatitis (DFGOT vol.11,1998)

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Heptane)

human irritation (MOE risk assessment vol.6, 2008)

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 (resp. irrit.)]

[GHS Cat. Japan, base data]

(Heptane)

respiratory tract irritation (HSDB, 2014)

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

[GHS Cat. Japan, base data]

(Heptane)

narcosis (HSDB, 2014)

STOT-repeated exposure

[cat.1]

[GHS Cat. Japan, base data]

(Heptane)

nerve/nervous system (SIDS, 2013)

Aspiration hazard

[cat.1]

[GHS Cat. Japan, base data]

(Heptane)

cat. 1; hydrocarbon, chemical pneumonia (HSDB, 2014)

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## 12. Ecological Information

Ecotoxicity

Aquatic toxicity

Very toxic to aquatic life

Very toxic to aquatic life with long lasting effects

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]

(Heptane)

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

Water solubility

(Heptane)

none (ICSC, 1997)

Persistence and degradability

(Heptane)

Degrade rapidly (BOD\_Degradation : 101% (Registered chemicals data check & review, 1996))

**Bioaccumulative potential**

(Heptane)

log Pow=4.66 (ICSC, 1997)

**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. or ID No.: 1206

UN Proper Shipping Name :

HEPTANES

Class or division (Transport hazard class) : 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

**MARPOL Annex V – Prevention of pollution by garbage discharge**

Specific target organ toxicity – repeated exposure: cat.1

Heptane

Hazardous to the aquatic environment – acute hazard: cat.1

Heptane

Hazardous to the aquatic environment – long-term hazard: cat.1, 2

Heptane

**Maritime transport in bulk according to IMO instruments**

Noxious Liquid ; Cat. X

Heptane



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**15. Regulatory Information**

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

Chemicals listed in TSCA Inventory

Heptane

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

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, 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)

2020 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 2019).