Date of issue: 2017/11/22
Date of revision: 2022/12/07

Safety Data Sheet

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

Product identifier:

Product name: Petroleum ether

SDS No. : 6033E-3

Relevant identified uses of the substance or mixture and uses advised against

Research and Development

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

Section 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

Acute toxicity (Inhalation): Category 4
Skin corrosion/irritation: Category 2
Serious eye damage/eye irritation: Category 2
Reproductive toxicity: 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 2

(Note) GHS classification without description: Not classified/Classification not possible

Label elements

Signal word: Danger

HAZARD STATEMENT

Highly flammable liquid and vapor
Harmful if inhaled
Causes skin irritation
Causes serious eye irritation
Suspected of damaging fertility or the unborn child
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
Toxic to aquatic life

PRECAUTIONARY STATEMENT

Prevention

Avoid release to the environment.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground and bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use non-sparking tools.
Take action to prevent static discharges.
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 to extinguish.
Get medical advice/attention if you feel unwell.
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.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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/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.

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:Petroleum hydrocarbon (C5～C6)
Content (%):100
CAS No.:8032-32-4
ECNO:232-453-7

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

Supplementary information concerning ingredients

Components contained in petroleum hydrocarbon (C5～C6)
・n-Pentane 35～45% (CAS No.109-66-0)
・Hexane 30～40% (CAS No.110-54-3)

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical advice/attention 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.

Do NOT induce vomiting.

Immediately call a POISON CENTER/doctor/physician.

Section 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 – other (except for phosphate etc.,hydrogen carbonate etc.)

Straight stream water extinguisher

Water mist extinguisher

Reinforcing liquid jet extinguisher

Dry-powder extinguisher – other (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 peace operated positive pressure mode.

Section 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.

Section 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, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Ground and bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use non-sparking tools.

Take action to prevent static discharges.

(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

Iron

Section 8. Exposure controls/personal protection

Control parameters

Adopted value

(Hexane)

ACGIH(1996) TWA: 50ppm (CNS impair; peripheral neuropathy; eye irr)

Notation

(Hexane)

Skin

OSHA-PEL

(Hexane)

TWA: 500ppm, 1800mg/m3

(n-Pentane)

TWA: 1000ppm, 2950mg/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.

Eye protection

Wear eye/face protection.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid

Color: Colorless, clear

Odor: Characteristic odor

Melting point/Freezing point data is not available.

Boiling point or initial boiling point: 49℃(760mmHg)

Boiling range data is not available.

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

Lower and upper explosion limit/flammability limit data is not available.

Flash point: (Petroleum hydrocarbon (C5～C6))≦-20℃

Auto-ignition temperature data is not available.

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 data is not available.

Vapor pressure data is not available.

Density and/or relative density: 0.647 g/ml (20℃)

Relative vapor density (Air=1) data is not available.

Particle characteristics data is not available.

Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

(n-Pentane)

The vapour is heavier than air and may travel along the ground; distant ignition possible.

The vapour is heavier than air and may accumulate in lowered spaces causing a deficiency of oxygen.

May explode on heating. Reacts with strong oxidants such as peroxides, nitrates and perchlorates. This generates fire and explosion hazard. Attacks some forms of plastic, rubber and coatings. (ICSC 0534)

(Hexane)

The vapour is heavier than air and may travel along the ground; distant ignition possible.

Reacts with strong oxidants. This generates fire and explosion hazard. Attacks some plastics, rubber and coatings. (ICSC 0279)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Carbon oxides

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Inhalation)

[Data for components of the product]

[GHS Cat. Japan, base data]

(Petroleum hydrocarbon (C5～C6))

vapor: rat LC50=14000-16000ppm/4hr (EHC 20, 1982)

Irritant properties

Skin corrosion/irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

(Hexane)

rabbit/human slight irritation (DFGOT vol.14, 2000)

(Petroleum hydrocarbon (C5～C6))

human serious irritation (EHC 20, 1982; HSDB, 2005)

Serious eye damage/irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

(n-Pentane)

rabbit mild irritation (SIDS, 2010; EU-RAR, 2003)

(Hexane)

rabbit slight irritation (DFGOT vol.14, 2000)

(Petroleum hydrocarbon (C5～C6))

rabbit minimally irritation (EHC 20, 1982)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

[EU]

(Petroleum hydrocarbon (C5～C6))

EU-Category 1B; Substances presumed to have carcinogenic potential for humans

Reproductive toxicity

[Data for components of the product]

[GHS Cat. Japan, base data]

(Hexane)

cat. 2; rat : ATSDR, 1999

Specific target organ toxicity (STOT)

STOT-single exposure

[Data for components of the product]

[cat.3 (resp. irrit.)]

[GHS Cat. Japan, base data]

(Petroleum hydrocarbon (C5～C6))

respiratory tract irritation (HSDB, 2005)

(n-Pentane)
respiratory tract irritation (EU-RAR, 2003)
(Hexane)
respiratory tract irritation (ACGIH 7th, 2001)
[cat.3 (drow./dizz.)]
[GHS Cat. Japan, base data]
(Petroleum hydrocarbon (C5～C6))
narcosis (HSDB, 2005)
(n-Pentane)
narcosis (ACGIH 7th, 2014)
(Hexane)
narcosis (PATTY 5th, 2001)
STOT-repeated exposure
[Data for components of the product]
[cat.1]
[GHS Cat. Japan, base data]
(Petroleum hydrocarbon (C5～C6))
nerve/nervous system (HSDB, 2005)
(Hexane)
nerve/nervous system (ACGIH 7th, 2001)
Aspiration hazard
[Data for components of the product]
[cat.1]
[GHS Cat. Japan, base data]
(Petroleum hydrocarbon (C5～C6))
cat. 1; HSDB, 2005
(n-Pentane)
cat. 1; hydrocarbon, kinematic viscosity=0.355 mm2/s (25/20℃, CERI cal.)
(Hexane)
cat. 1; hydrocarbon, kinematic viscosity < 20.5 mm2/s (40℃)

Section 12. Ecological Information
Toxicity
Aquatic toxicity
[Data for components of the product]
Hazardous to the aquatic environment (Acute)
[GHS Cat. Japan, base data]
(n-Pentane)
Crustacea (Daphnia magna) EC50=2.7mg/L/48hr (EU-RAR, 2003; SIDS, 2010)
(Hexane)
Crustacea (Daphnia magna) LC50=3.88mg/L/48hr (EHC122, 1991)
Hazardous to the aquatic environment (Long-term)
[GHS Cat. Japan, base data]
(n-Pentane)
Algae (Pseudokirchneriella subcapitata) NOEC (r)=2mg/L/72hr (RU-RAR, 2003; SIDS, 2010)
Water solubility
(n-Pentane)
very poor (0.004 g/100 ml, 20℃) (ICSC, 2014)
(Hexane)
0.0013 g/100 ml (20℃) (ICSC, 2000)
Persistence and degradability
[Data for components of the product]
(n-Pentane)

Degrade rapidly (BOD_Degradation : 96% (Registered chemicals data check & review, 1997))
(Hexane)
BOD_Degradation : 100% (Registered chemicals data check & review)

Bioaccumulative potential

[Data for components of the product]
(n-Pentane)
log Pow=3.39 (PHYSPROP DB, 2005; EU-RAR, 2003)
(Hexane)
log Pow=3.9 (ICSC, 2000)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

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

Section 14. Transport Information

UN No. or ID No.: 1268
UN Proper Shipping Name :
PETROLEUM DISTILLATES, N.O.S or PETROLEUM PRODUCTS, N.O.S.
Class or division (Transport hazard class) : 3
Packing group : II
ERG GUIDE No.: 128

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1268
Proper Shipping Name :
PETROLEUM DISTILLATES, N.O.S or PETROLEUM PRODUCTS, N.O.S.
Class or division : 3
Packing group : II

IATA Dangerous Goods Regulations

UN No.: 1268
Proper Shipping Name :
PETROLEUM DISTILLATES, N.O.S or PETROLEUM PRODUCTS, N.O.S.
Class or division : 3
Hazard labels : Flamm.liquid
Packing group : II
Special provisions No.: A3

Environmental hazards

MARPOL Annex III - Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

MARPOL Annex V - Prevention of pollution by garbage discharge

Specific target organ toxicity - repeated exposure: cat.1
Petroleum hydrocarbon (C5～C6); Hexane

Maritime transport in bulk according to IMO instruments

Noxious Liquid ; Cat. Y
Hexane; n-Pentane

Section 15. Regulatory Information

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

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

n-Pentane; Hexane; Petroleum hydrocarbon (C5～C6)

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

Section 16. Other information

GHS classification and labelling

Flammable liquids, Category 2: H225 Highly flammable liquid and vapour
Acute toxicity, Category 4: H332 Harmful if inhaled
Skin corrosion/irritation, Category 2: H315 Causes skin irritation
Serious eye damage/eye irritation, Category 2: H319 Causes serious eye irritation
Reproductive toxicity, Category 2: H361 Suspected of damaging fertility or the unborn child
STOT - single exposure, Category 3, Respiratory tract irritation: H335 May cause respiratory irritation.
STOT - single exposure, Category 3, Respiratory tract irritation: H336 May cause drowsiness or dizziness.
STOT - Repeated exposure, Category 1: H372 Causes damage to organs through prolonged or repeated exposure
Aspiration hazard, Category 1: H304 May be fatal if swallowed and enters airways
Hazardous to the aquatic environment, short-term (acute), Category 2: H401 Toxic to aquatic life

References and sources for data

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)
2022 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 2021).