Shanghai Macklin Biochemical Technology Co., Ltd.
TEL:400-623-8666
FAX:021-50706099
E-mail:sales@macklin.cn
WEB:www.macklin.cn

1. IDENTIFICATION

Product name: cis-Decahydronaphthalene
CAS No. : 493-01-6
Brand: Macklin
Company: Shanghai Macklin Biochemical Co.,Ltd.
Address: Shanghai Pudong Zhangjiang High-tech Park; 1st Building, 68 Huatuo Road; SHANGHAI CHINA
Zip code: 201206
Telephone: +86 21-50706066
Fax: +86 21-50706099
E-mail: sales@macklin.cn; tech@macklin.cn
Revision date: 2019/12/12

2. HAZARDS IDENTIFICATION

GHS classification

PHYSICAL HAZARDS

HEALTH HAZARDS

ENVIRONMENTAL HAZARDS

GHS label elements, including precautionary statements

Pictograms or hazard symbols

Signal word

Warning

Hazard statements

H226 Flammable liquid and vapour
H315 Causes skin irritation
H319 Causes serious eye irritation
H332 Harmful if inhaled
H335 May cause respiratory irritation

Precautionary statements

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name
cis-bicyclo[4.4.0]decane

Components:cis-Decahydronaphthalene
CAS No.:493-01-6
Chemical Formula:$C_{10}H_{18}$

4. FIRST AID MEASURES

4.1
Description of necessary first-aid measures
If inhaled
Fresh air, rest. Refer for medical attention.
Following skin contact
Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical

attention .

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Give one or two glasses of water to drink. Refer for medical attention .

4.2

Most important symptoms/effects, acute and delayed

Inhalation or ingestion irritates nose and throat, causes numbness, headache, vomiting; urine may become blue. Irritates eyes. Liquid de-fats skin and causes cracking and secondary infection; eczema may develop. (USCG, 1999)

4.3

Indication of immediate medical attention and special treatment needed, if necessary

Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for shock and treat if necessary . Anticipate seizures and treat if necessary . For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport . Do not use emetics. For ingestion, rinse mouth and administer 5 ml/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Administer activated charcoal . Naphthalene and Related Compounds

5. FIRE-FIGHTING MEASURES

5.1

Suitable extinguishing media

To fight fire use foam, carbon dioxide, dry chemical.

5.2

Specific hazards arising from the chemical

Excerpt from ERG Guide 130 [Flammable Liquids (Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2016)

5.3

Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

6.1

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours.Avoid contacting with skin and eye. Use personal protective equipment.Wear chemical impermeable gloves. Ensure adequate ventilation.Remove all sources of ignition. Evacuate personnel to safe areas.Keep people away from and upwind of spill/leak.

6.2

Environmental precautions

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Ventilation. Collect leaking liquid in sealable containers. Carefully collect remainder. Then store and dispose of according to local regulations.

6.3

Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Fireproof. Separated from oxidants. Cool. Keep in the dark. Well closed.Handle and store under Nitrogen. ...Potentially explosive peroxides can form on long time storage in contact with air. Light and heat accelerate peroxide /formation/.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure limit values
no data available
Biological limit values
no data available
Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Personal protective equipment

Eye/face protection
Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).
Skin protection
Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Respiratory protection
If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.
Thermal hazards
no data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state
Decahydronaphthalene is a clear colorless liquid with an aromatic odor. Flash point 134°F. Less dense than water and insoluble in water. Vapors heavier than air.
Colour
Clear colorless liquid
Odour
Slight odor resembling menthol; pure decalin does not smell of naphthalene
Melting point/freezing point
214°C(lit.)
Boiling point or initial boiling point and boiling range
193°C(lit.)
Flammability
Flammable.
Lower and upper explosion limit/flammability limit
LOWER 0.7% @ 100 DEG C; UPPER 4.9% @ 100 DEG C
Flash point
58°C
Auto-ignition temperature
482°F
Decomposition temperature
no data available
pH
no data available
Kinematic viscosity
1.788 cP @ 70 deg F
Solubility

Very sol in alcohol, methanol, ether, chloroform. Miscible with propyl and isopropyl alcohol; miscible with most ketones and esters.
Partition coefficient n-octanol/water
4.6
Vapour pressure
0.735mmHg at 25°C
Density and/or relative density
0.897g/mLat 25°C(lit.)
Relative vapour density
4.76 (vs air)
Particle characteristics
no data available

10. STABILITY AND REACTIVITY

10.1
Reactivity
The substance can form explosive peroxides. On combustion, forms toxic gases. Reacts with oxidants.
10.2
Chemical stability
On long exposure to air forms dangerous concentration of peroxide.
10.3
Possibility of hazardous reactions
MODERATE, WHEN EXPOSED TO HEAT OR FLAME ...As a result of flow, agitation, etc., electrostatic charges can be generated.Saturated aliphatic hydrocarbons, such as DECAHYDRONAPHTHALENE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154].
10.4
Conditions to avoid
no data available
10.5
Incompatible materials
Can react with oxidizing materials.
10.6
Hazardous decomposition products
When heated to decomposition it emits acrid smoke and fumes.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
Oral: LD50 Rat oral 4.2 g/kg
Inhalation: LC50 Rat inhalation 710 ppm/4 hr
Dermal: no data available
Skin corrosion/irritation
no data available
Serious eye damage/irritation
no data available
Respiratory or skin sensitization
no data available
Germ cell mutagenicity
no data available
Carcinogenicity
no data available
Reproductive toxicity
no data available
STOT-single exposure

no data available
STOT-repeated exposure
no data available
Aspiration hazard
no data available

12. ECOLOGICAL INFORMATION

12.1
Toxicity
Toxicity to fish: no data available
Toxicity to daphnia and other aquatic invertebrates: no data available
Toxicity to algae: no data available
Toxicity to microorganisms: no data available
12.2
Persistence and degradability
Degradation in seawater by oil oxidizing micro-organisms: 13.6% breakdown after 21 days at 22 deg C in stoppered bottles containing a 1000 ppm mixture of alkanes, cycloalkanes, and aromatics
12.3
Bioaccumulative potential
An estimated BCF of 660 was calculated for decahydronaphthalene(SRC), using a water solubility of 0.889 mg/l(1) and a regression-derived equation(2). Over a test period of 8 weeks and using orange-red killifish (Oryzias latipes), BCF's of 839-2,380 at a test concn of 2.1 mg/l and 1,290-2,400 at a test concn of 0.21 mg/l were measured for the cis-isomer; BCF's of 1,170-3,050 at a test concn of 2.8 mg/l and 1,300-2,510 at a test concn of 0.28 mg/l were measured for the trans-isomer(3). According to a classification scheme(4), these BCF values suggest the potential for bioconcentration in aquatic organisms is very high(SRC).
12.4
Mobility in soil
The Koc of decahydronaphthalene is estimated as 4,600(SRC), using a water solubility of 0.889 mg/l(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that decahydronaphthalene is expected to have slight mobility in soil.
12.5
Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

Product
The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.
Contaminated packaging
Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. TRANSPORT INFORMATION

14.1
UN Number
ADR/RID: UN1147 (For reference only, please check.)
IMDG: UN1147 (For reference only, please check.)
IATA: UN1147 (For reference only, please check.)
14.2
UN Proper Shipping Name
ADR/RID: DECAHYDRONAPHTHALENE (For reference only, please check.)
IMDG: DECAHYDRONAPHTHALENE (For reference only, please check.)
IATA: DECAHYDRONAPHTHALENE (For reference only, please check.)
14.3
Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.)
IMDG: 3 (For reference only, please check.)
IATA: 3 (For reference only, please check.)
14.4
Packing group, if applicable
ADR/RID: III (For reference only, please check.)
IMDG: III (For reference only, please check.)
IATA: III (For reference only, please check.)
14.5
Environmental hazards
ADR/RID: No
IMDG: No
IATA: No
14.6
Special precautions for user
no data available
14.7
Transport in bulk according to IMO instruments
no data available

15. REGULATORY INFORMATION

15.1
Safety, health and environmental regulations specific for the product in question
Chemical name
Common names and synonyms
CAS number
EC number
cis-bicyclo[4.4.0]decane
cis-bicyclo[4.4.0]decane
493-01-6
207-770-9
European Inventory of Existing Commercial Chemical Substances (EINECS)
Listed.
EC Inventory
Listed.
United States Toxic Substances Control Act (TSCA) Inventory
Listed.
China Catalog of Hazardous chemicals 2015
Not Listed.
New Zealand Inventory of Chemicals (NZIoC)
Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)
Listed.
Vietnam National Chemical Inventory
Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)
Not Listed.
Korea Existing Chemicals List (KECL)
Not Listed.

16. OTHER INFORMATION

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority.The products are supposed to be used promptly after purchase in consideration of safety.Some new information or amendments may be added afterwards.If the products are to be used far behind the expected time of use or you have any questions, please feel

free to contact us. The stated cautions are for normal handling only.In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal.Safe usage conditions shall be set up on each user's own responsibility.