

SAFETY DATA SHEET

1. IDENTIFICATION

Product name: DIPENTENE

CAS No. : 7705-14-8

Brand: Macklin

Company: Shanghai Macklin Biochemical Co.,Ltd.

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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

H317 May cause an allergic skin reaction

H410 Very toxic to aquatic life with long lasting effects

Precautionary statements

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name

(±)-1-methyl-4-(1-methylvinyl)cyclohexene

Components:DIPENTENE

CAS No.:7705-14-8

Chemical Formula:C₁₀H₁₆

4. FIRST AID MEASURES

4.1

Description of necessary first-aid measures

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a

doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

4.2

Most important symptoms/effects, acute and delayed

Liquid irritates eyes; prolonged contact with skin causes irritation. Ingestion causes irritation of gastrointestinal tract. (USCG, 1999)

4.3

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

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Turpentine, terpenes, and related compounds

5. FIRE-FIGHTING MEASURES

5.1

Suitable extinguishing media

Wear self contained breathing apparatus for fire fighting if necessary.

5.2

Specific hazards arising from the chemical

Behavior in Fire: Containers may explode. (USCG, 1999)

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

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

6.3

Methods and materials for containment and cleaning up

1) Remove all ignition sources. 2) Ventilate area of spill or leak. 3) For small quantities, absorb on paper towels. Evaporate in a safe place (such as fume hood). Allow sufficient time for evaporating vapors to completely clear the hood ductwork. Burn paper in suitable location away from /combustibles/...

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

It must be kept away from strong oxidizing agents, oxidation catalysts, and sources of ignition and heat.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure limit values
Component
(±)-1-methyl-4-(1-methylvinyl)cyclohexene
CAS No.
7705-14-8

Recommended Exposure Limit: 10 Hour Time-Weighted Average: 100 ppm (560 mg/cu m).

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/flamm 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

Dipentene is a colorless liquid with an odor of lemon. Flash point 113°F. Density about 7.2 lb /gal and insoluble in water. Hence floats on water. Vapors heavier than air. Used as a solvent for rosin, waxes, rubber; as a dispersing agent for oils, resins, paints, lacquers, varnishes, and in floor waxes and furniture polishes.

Colour

Colorless liquid

Odour

Characteristic odor ... becoming more pronounced and less agreeable on aging or exposure to air

Melting point/freezing point

-74°C

Boiling point or initial boiling point and boiling range

170-180°C(lit.)

Flammability

no data available

Lower and upper explosion limit/flammability limit

Flammable limits in air % by volume: 0.8.

Flash point

110 °F

Auto-ignition temperature

458° F (USCG, 1999)

Decomposition temperature

no data available

pH

no data available

Kinematic viscosity

no data available

Solubility

In water, 0.65 to 2.1 mg/L at 25 deg C /primary pinene constituents of turpentine oil/

Partition coefficient n-octanol/water

log Kow = 4.16 - 4.83 /primary pinene constituents of turpentine oil/

Vapour pressure

0.25 to 0.67 kPa at 20 deg C (1.9 to 5 mm Hg)

Density and/or relative density

0.86 g/mL at 20°C(lit.)
Relative vapour density
4.6-4.84
Particle characteristics
no data available

10. STABILITY AND REACTIVITY

10.1

Reactivity

Flammable. Insoluble in water.

10.2

Chemical stability

Stable under recommended storage conditions.

10.3

Possibility of hazardous reactions

Flammable when exposed to heat or flame.DIPENTENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.

10.4

Conditions to avoid

no data available

10.5

Incompatible materials

Stannic chloride reacts with turpentine, producing heat and sometimes flame.

10.6

Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral: LD50 Rat oral 5760 mg/kg

Inhalation: LC50 Rat inhalation 20 mg/L/1 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

A4: Not classifiable as a human carcinogen.

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: LC50; Species: Oncorhynchus mykiss (Rainbow trout); Conditions: static; Concentration: 80 ppm for 96 hr (95% confidence limit: 71.4-88.7 ppm) /92% AI formulated product

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water flea) age <24 hr; Conditions: static; Concentration: 17 ppm for 48 hr (95% confidence limit: 11-33 ppm);

Effect: intoxication, immobilization /4.0% AI formulated product

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

12.2

Persistence and degradability

AEROBIC: Turpentine typically contains alpha-pinene (59%), beta-pinene (24%) and other isomeric terpenes(1). A mixture consisting of 50.9% alpha-pinene and 36.8% beta-pinene biodegraded 52% after 28 days of incubation using a modified Strum test (OECD 301B) which classified the mixture as not readily biodegradable(1). Soil beneath a building, contaminated by leakage of solvents and turpentine, was sprayed with adapted microorganisms(2); monitoring over a 4-5 month period indicated that the alkylated aromatics and turpentine were being biodegraded(2). alpha-Pinene, present at 100 mg/L, reached 92% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test which classified the compound as readily biodegradable(3). alpha-Pinene compound was completely degraded within 6-8 days using soil slurries prepared from samples collected from coniferous and mixed hardwood forest watersheds(1). Using manometric respirometry tests, alpha-pinene was degraded approximately 38% over the course of a 28-day incubation(1).

12.3

Bioaccumulative potential

Turpentine typically contains alpha-pinene (59%), beta-pinene (24%) and other isomeric terpenes(1). Estimated BCF values of 714 and 258 were calculated in fish for alpha-pinene and beta-pinene respectively(SRC), using log Kow values of 4.83 and 4.16(1) and a regression-derived equation(2). According to a classification scheme(3), these BCF suggest the potential for bioconcentration in aquatic organisms is high(SRC), provided the compound is not metabolized by the organism(SRC).

12.4

Mobility in soil

Turpentine typically contains alpha-pinene (59%), beta-pinene (24%) and other isomeric terpenes(1). Using a structure estimation method based on molecular connectivity indices(2), the Koc of alpha- and beta-pinene can be estimated to be 1000(SRC). According to a classification scheme(3), this estimated Koc value suggests that alpha- and beta-pinene are expected to have low 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: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.2

UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.3

Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.4

Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.5

Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

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

(±)-1-methyl-4-(1-methylvinyl)cyclohexene

(±)-1-methyl-4-(1-methylvinyl)cyclohexene

7705-14-8

231-732-0

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Not Listed.

China Catalog of Hazardous chemicals 2015

Not Listed.

New Zealand Inventory of Chemicals (NZIoC)

Not Listed.

Philippines Inventory of Chemicals and Chemical Substances (PICCS)

Not Listed.

Vietnam National Chemical Inventory

Listed.

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)

Listed.

Korea Existing Chemicals List (KECL)

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.