Chemical Safety Data Sheet MSDS / SDS

2-methylnaphthalene SDS

Revision Date:2024-04-25 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: 2-methylnaphthalene

CAS: 91-57-6

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

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

SECTION 2: Hazards identification

Classification of the substance or mixture

Acute toxicity - Category 4, Oral
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Warning

Hazard statement(s)

H302 Harmful if swallowed
H411 Toxic to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.

Response

P301+P317 IF SWALLOWED: Get medical help.
P330 Rinse mouth.
P391 Collect spillage.

Storage

none

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	2-methylnaphthalene
Common names and synonyms:	2-methylnaphthalene
CAS number:	91-57-6
EC number:	202-078-3
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest.

Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

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. Give a slurry of activated charcoal in water to drink. Rest. Refer for medical attention .

Most important symptoms/effects, acute and delayed

SYMPTOMS: Symptoms of exposure to this compound may include irritation of the skin, eyes, mucous membranes and upper respiratory tract. It may also cause headaches, nausea, vomiting, diarrhea, anemia, jaundice, euphoria, dermatitis, visual disturbances, convulsions and comatose. ACUTE/CHRONIC HAZARDS: This compound may be harmful by inhalation, ingestion or skin absorption. It is an irritant of the skin, eyes, mucous membranes and upper respiratory tract. When heated to decomposition it emits acrid smoke, irritating fumes and toxic fumes of carbon monoxide and carbon dioxide. (NTP, 1992)

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

Emergency and supportive measures: 1. Maintain an open air way and assist ventilation if necessary. 2. Treat coma and seizures if they occur. 3. Treat hemolysis and resulting hemoglobinuria if they occur by intravenous hydration and urinary alkalinization.

Naphthalene

SECTION 5: Firefighting measures

Suitable extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards arising from the chemical

This chemical is combustible. (NTP, 1992)

Special protective actions for fire-fighters

Use powder, foam, carbon dioxide.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT let this chemical enter the environment.

Environmental precautions

Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Do NOT let this chemical enter the environment.

Methods and materials for containment and cleaning up

Accidental Release Measures. Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Methods and materials for containment and cleaning up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames. 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

Store in an area without drain or sewer access. Provision to contain effluent from fire extinguishing.Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a dry and well-ventilated place.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

TLV: 0.5 ppm as TWA; (skin); A4 (not classifiable as a human carcinogen)

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety goggles.

Skin protection

Protective gloves.

Respiratory protection

Use local exhaust.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)
Colour:	Monoclinic crystals from alcohol
Odour:	no data available
Melting point/freezing point:	202°C(lit.)
Boiling point or initial boiling point and boiling range:	241°C(lit.)
Flammability:	Combustible.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	102°C(lit.)
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	less than 1 mg/mL at 70° F (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow = 3.86
Vapour pressure:	0.055 mm Hg at 25 deg C

Density and/or relative density:	1.01
Relative vapour density:	no data available
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on heating. This produces acrid smoke and irritating fumes.

Chemical stability

no data available

Possibility of hazardous reactions

Combustible.2-METHYLNAPHTHALENE is incompatible with strong oxidizing agents. It is also incompatible with peroxides and oxygen. (NTP, 1992)

Conditions to avoid

no data available

Incompatible materials

It... is incompatible with strong oxidizing agents.

Hazardous decomposition products

Decomposes on heating. This produces acrid smoke and irritating fumes.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral 1630 mg/kg

Inhalation: no data available

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

The substance is irritating to the eyes.

STOT-repeated exposure

Repeated or prolonged inhalation may cause effects on the lungs.

Aspiration hazard

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation

at 20°C.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water flea) age 4-6 days, length 1.5 mm; Conditions: freshwater, static, 23 deg C, pH 6-7, dissolved oxygen 5-9 mg/L; Concentration: 13 mmol/cu m (95% confidence interval: 5-35 mmol/cu m); Effect: intoxication, immobilization /> or = 97% purity

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: Aerobic aqueous screening test data showed a 84 and 95% loss of 0.1 ppm 2-methylnaphthalene in 1 and 5.6 days, respectively, for acclimated sewage inoculum and did not degrade with unacclimated sewage(1). When marine water was used to inoculate, 2-methylnaphthalene at a concentration of 0.067 ppm disappeared within 10 days under aerobic conditions at 25 deg C(2). Using the Japanese MITI I procedure, <5% degradation of 2-methylnaphthalene occurred in 28 days; however, for the MITI II test with a freshwater inoculum, 72% was lost in 28 days under aerobic conditions at 25 deg C(3). 2-Naphthoic acid was identified as a microbial co-oxidation product of 2-methylnaphthalene by mixed cultures of Norcardia sp. isolated from soil(4). 2-Methylnaphthalene showed a lag-period of two weeks, and then rapid degraded to 17% residual in the two weeks following the lag period and was not detected after 25 weeks, in a study using microcosms filled with soil (1.1% organic carbon, 6.5% kaolin) material and a coal derived wood-preservative(5). 2-Methylnaphthalene was aerobically biodegraded 100% in 4 different northern soils (arctic diesel fuel contaminated, PCB and associated oil contaminated, creosote-PAH contaminated, uncontaminated) incubated at 7 and 20 deg C for 90 days(6).

Bioaccumulative potential

After 2, 3 and 5 weeks exposure, the BCF of 2-methylnaphthalene in the muscle tissue of Coho salmon (Onchorhynchus kisutch) was 30, 100 and 190, respectively. The BCF dropped to 70 within one week following 6 weeks exposure(1). After 2 weeks exposure, the average BCF of 2-methylnaphthalene in the muscle tissue of Starry flounder (Platichthys stellatus) was 895(1). BCF values in sheepshead minnows (Cyprinidon variegatus) exposed for 36 days to 2.46 and 23.63 ug/L of 2-methylnaphthalene were 2852 and 2921, respectively(2). Exposure of fingerling rainbow trout to 14C-(8)-2-methylnaphthalene (2573 dpm/ug) at 0.02 mg/L for four weeks in a continuous- flow delivery system resulted in maximum tissue levels from 40 to 300 times the water concentration; maximum bile 14C levels were 23,500 times the water concentration(3). A BCF of 407 has been reported for bluegill sunfish after exposure to 14C-(8)-2-methylnaphthalene at 0.013 ug/L for 26 days in a continuous-flow delivery system(4). According to a classification scheme(5), these BCF values suggest that 2-methylnaphthalene bioconcentration in aquatic organisms is low to very

high(SRC), provided the compound is not metabolized by the organism(SRC). A BCF of 8.1 was reported for 2-methylnaphthalene in clams after 24 hours of exposure to a water concentration of 2-methylnaphthalene of 480 ug/L(6). The biota-sediment accumulation factor for 2-methylnaphthalene determined using oligochaete worm (Lumbriculus variegatus) was 4.2 and 0.11 in Lake Erie sediment from Vermilion, OH and Dunkirk, NY, respectively(7).

Mobility in soil

A log Koc value of 3.67 was reported in soil(1). An average sediment- or soil-water partition coefficient (log Kp) for 2-methylnaphthalene of 2.00 was determined from 17 measurements(2). The log Koc values for 2-methylnaphthalene in 75 sediment samples was 3.00-5.96(3). Measured Koc values have been reported as 4,400(4) and 8,500(5) for 2-methylnaphthalene. According to a classification scheme(6), these Koc values suggest that 2-methylnaphthalene is expected to have slight to no mobility in soil.

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

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.

SECTION 14: Transport information

UN Number

ADR/RID: UN3077 (For reference only, please check.)
IMDG: UN3077 (For reference only, please check.)
IATA: UN3077 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)
IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 9 (For reference only, please check.)
IMDG: 9 (For reference only, please check.)
IATA: 9 (For reference only, please check.)

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.)

Environmental hazards

ADR/RID: Yes
IMDG: Yes
IATA: Yes

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

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

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.