

Chemical Safety Data Sheet MSDS / SDS

Methylnaphthalene SDS

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

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

Product name: Methylnaphthalene

CAS: 1321-94-4

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

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SECTION 2: Hazards identification**Classification of the substance or mixture**Acute toxicity - Category 4, Oral
Eye irritation, Category 2

Specific target organ toxicity - single exposure, Category 3
Specific target organ toxicity - repeated exposure, Category 2
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
H319 Causes serious eye irritation
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness
H373 May cause damage to organs through prolonged or repeated exposure
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.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.

Response

P301+P317 IF SWALLOWED: Get medical help.
P330 Rinse mouth.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P319 Get medical help if you feel unwell.
P391 Collect spillage.

Storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

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:	Methylnaphthalene
Common names and synonyms:	Methylnaphthalene
CAS number:	1321-94-4
EC number:	215-329-7
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: Exposure to this compound may cause skin irritation. It may also cause photosensitization. The vapors, fumes or direct contact with the solid may be irritating to the eyes. Inhalation of the vapors may produce airway irritation, headache, nausea, weakness and collapse. Long term overexposure has led to corneal changes. Ingestion may lead to systemic poisoning involving the gastrointestinal tract, kidneys and blood-forming tissue. Individuals with erythrocytic glucose-6-phosphate dehydrogenase deficiency may be particularly susceptible to possible hemolytic effects. Individuals with a history of or pre-existing disease in eyes, mucous membranes, skin, blood-forming tissues or blood, liver or lungs may be at greater risk of adverse health effects when exposed to this material. **ACUTE/CHRONIC HAZARDS:** This compound can cause skin irritation and photosensitization. It may be harmful if inhaled or absorbed through the skin, and may be highly toxic if swallowed. When heated to decomposition this compound emits acrid smoke and fumes. (NTP, 1992)
Harmful if inhaled. Liquid causes irritation of the eyes and skin and skin photosensitization. Harmful if swallowed. Chronic exposure may cause liver or kidney damage. (USCG, 1999)

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 alkalization.
Naphthalene

SECTION 5: Firefighting measures

Suitable extinguishing media

If material on fire or involved in fire: Use water in flooding quantities as fog. Solid streams of water may be ineffective. Solid streams of water may spread fire. Use foam, dry chemical, or carbon dioxide. Methylnaphthalenes, liquid

Specific hazards arising from the chemical

This chemical is probably combustible. (NTP, 1992)
This chemical is combustible. (NTP, 1992)

Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

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.

Environmental precautions

Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. 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

If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.

SECTION 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

Store in an area without drain or sewer access. Provision to contain effluent from fire extinguishing. You should store this material under ambient temperatures.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

no data available

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 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

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	PHYSICAL DESCRIPTION: Bluish-brown oil or a clear yellow liquid. Coal tar or mothball odor. (NTP, 1992)
Colour:	Colorless liquid or oil
Odour:	no data available
Melting point/freezing point:	-8° F (NTP, 1992)

Boiling point or initial boiling point and boiling range:	242.8° C at 760 mmHg
Flammability:	Combustible.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	82.2° C
Auto-ignition temperature:	984° F (USCG, 1999)
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	less than 1 mg/mL at 64° F (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow of 3.87
Vapour pressure:	0.0518mmHg at 25° C
Density and/or relative density:	1.016 g/cm ³
Relative vapour density:	4.91 (NTP, 1992) (Relative to Air)
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

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

Chemical stability

This chemical is stable under normal laboratory conditions. Solutions of this chemical in water, DMSO, 95% ethanol or acetone should be stable for 24 hours under normal lab conditions.

Possibility of hazardous reactions

Moderate fire risk. 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

This compound is incompatible with strong oxidizers.

Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral 1840 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

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

SECTION 12: Ecological information**Toxicity**

Toxicity to fish: LC50; Species: *Salmo trutta* (Brown Trout) yearling; Conditions: freshwater, static, 10 deg C, pH 7.6-8.0, hardness 210-290 mg/L CaCO₃, alkalinity 165-200 mg/L CaCO₃, dissolved oxygen >50%; Concentration: 8400 ug/L for 48 hr /formulation

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: 10 mmol/cu m for 48 hr (95% confidence interval: 3-40 mmol/cu m) /> or =97% purity/; Effect: Immobilization.

Toxicity to algae: EC50; Species: *Pseudokirchneriella subcapitata* (Green Algae); Conditions: static; Concentration: 12000 ug/L for 14 days; Effect: growth, general /formulation

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 methyl-naphthalenes in 1 and 5.6 days, respectively, for acclimated sewage inoculum; methyl-naphthalenes did not degrade with unacclimated sewage(1). No loss of 1-methyl-naphthalene was observed for a 5 day BOD test with sewage seed at 20 deg C(2). When marine water was used as an inoculate, 1- and 2-methyl-naphthalene at respective concentrations of 0.045 and 0.067 ppm disappeared within 10 days under aerobic conditions at 25 deg C(3). Using the Japanese MITI I procedure, <5% degradation of methyl-naphthalene occurred in 28 days; for the MITI II test with a freshwater inoculum, 49 and 72% of the 1- and 2-isomers were lost in 28 days under aerobic conditions at 25 deg C(4). A marine water die-away study with sediment inoculum from Dunstaffnage Bay, Oban, Scotland showed a 92 and 88.5% loss of 1- and 2-methyl-naphthalene, respectively, contained in crude oil after 7 days at 20 deg C(5). Methyl-naphthalenes, present at 0.5 ppm carbon, was completely removed within 14 days from acclimated fresh-well water grab samples from Tuffenwies and Zurich, Switzerland, with a pH of 8.0, at 10 and 25 deg C and microbial populations of 300-400 cells/mL(6). Grab samples of groundwater aquifer soil that had acclimated to creosote wastes containing methyl-naphthalene were able to degrade methyl-naphthalenes, present at 0.02 to 0.12 ppm, under aerobic conditions at 25 deg C in less than a week(7). An average loss of 5.6 and 6.5% per week was observed for autoclaved controls(7). Unacclimated material from the same aquifer degraded methyl-naphthalenes at an average rate of 3.5% per week; however autoclaved controls lost methyl-naphthalenes at an overall rate of about 11% per week(7). Methyl-naphthalene, present in light Arabian crude oil, showed little biodegradation in sea water, but when nutrients were added biodegradation increased; with sea water, sediment and nutrients, 100% biodegradation was seen in <10 days(8).

Bioaccumulative potential

After 2, 3, 5 and 6 weeks exposure, the average bioconcentration factors for 1- and 2-methyl-naphthalene in the muscle tissue of Coho salmon (*Onchorhynchus kisutch*) were 30, 85, 160 and 60, respectively(1). After 2 weeks exposure, the average bioconcentration factor for 1- and 2-methyl-naphthalene in the muscle tissue, liver and gills of Starry flounder (*Platichthys stellatus*) was 420, 1800 and 355, respectively(1). BCFs of 360-810 and 360-620 were found using carp (*Cyprinus carpio*) which were exposed for 60 days at respective concentrations of 1-methyl-naphthalene of 1 and 10 ug/L(2). According to a classification scheme(3), BCF values of <30 are low and >1000 are very high. Methyl-naphthalenes may be metabolized by some aquatic organisms(SRC).

Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of methyl-naphthalenes can be estimated to be 2530(SRC). However, 1-methyl-naphthalene has reported Koc values of 2290(2) and 4400(3) and 2-methyl-naphthalene has a reported Koc value of 4350(2) and measured Koc value of 8500(3). According to a classification scheme(4), these Koc values suggest that methyl-naphthalenes are 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: UN3082 (For reference only, please check.)

IMDG: UN3082 (For reference only, please check.)

IATA: UN3082 (For reference only, please check.)

UN Proper Shipping Name

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

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (For reference only, please check.)

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, 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

Not 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/>

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