

Chemical Safety Data Sheet MSDS / SDS

Methylpyridine 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: Methylpyridine

CAS: 1333-41-1

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**

no data available

GHS label elements, including precautionary statements

Signal word no data available

Hazard statement(s)

no data available

Precautionary statement(s)**Prevention**

no data available

Response

no data available

Storage

no data available

Disposal

no data available

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients**Substance**

Chemical name: Methylpyridine

Common names and
synonyms: Methylpyridine

CAS number: 1333-41-1

EC number: 215-588-6

Concentration: 100%

SECTION 4: First aid measures

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. Refer for medical attention .

Most important symptoms/effects, acute and delayed

INHALATION, INGESTION OR SKIN ABSORPTION: Narcosis, headache, nausea, giddiness, vomiting. EYES: Severe irritation. SKIN: Causes burns. INGESTION: Irritation and gastric upset. (USCG, 1999)

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 as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on 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. Aromatic hydrocarbons and related compounds

SECTION 5: Firefighting measures

Suitable extinguishing media

To fight fire, use carbon dioxide, dry chemical.

Specific hazards arising from the chemical

Special Hazards of Combustion Products: When heated to decomposition, emits toxic fumes of cyanide. Behavior in Fire: Heat

may cause pressure buildup in closed containers. Use water to keep container cool. (USCG, 1999)

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. Personal protection: chemical protection suit including self-contained breathing apparatus.

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.

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

Fireproof. Separated from oxidants.

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: 2-methylpyridine is a colorless liquid with a strong, unpleasant odor. Floats on water. Poisonous vapor is produced. (USCG, 1999)

Colour: Colorless liquid

Odour:	Strong unpleasant odor
Melting point/freezing point:	-94° F (NTP, 1992)
Boiling point or initial boiling point and boiling range:	127.5° C at 760 mmHg
Flammability:	Flammable. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	26.1° C
Auto-ignition temperature:	1000° F (USCG, 1999)
Decomposition temperature:	no data available
pH:	/SRP/: Weak base
Kinematic viscosity:	no data available
Solubility:	greater than or equal to 100 mg/mL at 68° F (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow = 1.11
Vapour pressure:	8 mm Hg at 68° F ; 40 mm Hg at 124.2° F; 100 mm Hg at 160.5° F (NTP, 1992)
Density and/or relative density:	0.941 g/cm ³
Relative vapour density:	3.21 (NTP, 1992) (Relative to Air)
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on burning. This produces toxic fumes including nitrogen oxides. Reacts with oxidants. Attacks copper and its alloys.

Chemical stability

2-Methylpyridine is highly stable in aqueous solns .

Possibility of hazardous reactions

Moderate fire risk 2-METHYLPYRIDINE is hygroscopic. This compound reacts with hydrogen peroxide, iron(II) sulfate, sulfuric acid, oxidizing agents, acids, and metals. (NTP, 1992)

Conditions to avoid

no data available

Incompatible materials

Mixtures with hydrogen peroxide + iron(II)sulfate + sulfuric acid may ignite & then explode.

Hazardous decomposition products

When heated to decomp, emits toxic fumes of nitrogen oxides.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral 790 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

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

SECTION 12: Ecological information**Toxicity**

Toxicity to fish: LC50; Species: Pimephales promelas (fathead minnow); Conditions: flow-through bioassay with measured concentrations, 25.6 deg C, dissolved oxygen 7.0 mg/L, hardness 46.0 mg/L CaCO₃, alkalinity 309 mg/L CaCO₃, and pH 7.88; Concentration: 897 mg/L for 96 hr (confidence limit not reliable)

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: 2-Methylpyridine was reported as readily biodegradable in the MITI test(1). In an aerobic screening test using an enrichment culture obtained from soil as an inoculum, 100% degradation was obtained in 14 to 32 days(2). When this test was repeated under anaerobic conditions, degradation was much slower, requiring >97 days for complete biodegradation(2). Only 2.7% of the added 2-methylpyridine (initial concentration of 2 umoles/g) remained after 16 days following incubation in a silt loam soil(3). Complete biodegradation of 2-methylpyridine, initially added at 4 mg/L, was reported in aerobic groundwater incubated at 15 deg C for 4 days(4). In an aerobic column study where subsurface sediment was leached with contaminated groundwater, 65% of the initially applied 2-methylpyridine was removed after 5 weeks of operation(5). Complete biodegradation of 2-methylpyridine was observed in 24 days following incubation in a defined medium inoculated with soil(6). Contaminated groundwater, from the American Creosote Works Superfund site in Pensacola, FL, was incubated with 2-methylpyridine; 33, 33, 33, 66, and 100% degradation was reported after incubation for 1, 3, 5, 8, and 14 days, respectively(7). 2-Methylpyridine, present at 100 mg/L, reached 0.1% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(8).

Bioaccumulative potential

An estimated BCF of 3 was calculated for 2-methylpyridine(SRC), using a log Kow of 1.11(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC). Low bioconcentration was reported for tests using carp (*Cyprinus carpio*)(4); however, actual BCF values were not available(SRC).

Mobility in soil

The sorption behavior of 2-methylpyridine was studied in soil column tests using 5 Eurosoil reference soils having organic carbon content ranging from 0.33-1.85% and pH ranging from 5.2-8.6(1); measured Kd values ranging from 0.08 to 6.52(1) correspond to calculated Koc values of 4, 38, 70, 100 and 215(SRC); the lowest Koc value of 4 corresponds to Eurosoil 2 which had the highest pH value(8.6). The pKa of 2-methylpyridine is 5.96(2), indicating that this compound will exist partially in cation form in the environment and cations generally adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts(3). In the Eurosoil column tests(1), lowest adsorption occurred when 2-methylpyridine was in non-ionized form(1). Sorption of 2-methylpyridine to soil is primarily controlled by cation exchange and surface complex formation(1,4). According to a classification scheme(5), the Koc values suggest that 2-methylpyridine is expected to have very high to moderate 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: UN2313 (For reference only, please check.)

IMDG: UN2313 (For reference only, please check.)

IATA: UN2313 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: PICOLINES (For reference only, please check.)

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

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

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.)

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: No

IMDG: No

IATA: No

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)

Not Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Not Listed.

IECSC)

Not Listed.

Korea Existing Chemicals List (KECL)

Not 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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