Chemical Safety Data Sheet MSDS / SDS

# Methyl nitrite 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: Methyl nitrite

CAS: 624-91-9

### 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

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: | Methyl nitrite |
| Common names and synonyms: | Methyl nitrite |
| CAS number: | 624-91-9 |
| EC number: | 210-870-5 |
| Concentration: | 100% |

## SECTION 4: First aid measures

### 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.

### Most important symptoms/effects, acute and delayed

Excerpt from ERG Guide 116 [Gases - Flammable (Unstable)]: Vapors may cause dizziness or asphyxiation without warning. Some may be toxic if inhaled at high concentrations. Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite. Fire may produce irritating and/or toxic gases. (ERG, 2016)

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

Maintain an open air way and assist ventilations if necessary. Administer supplemental oxygen. Treat hypotension with supine positioning, intravenous crystalloid fluids. and low-dose pressors if needed.Monitor vital signs and ECG for 4 to 6 hours. Symptomatic methemoglobinemia may be treated with methylene blue. Hemodialysis and hemoperfusion are not effective. Sever methemoglobinemia in infants not responsive to methylene blue therapy may require exchange transfusion.

## SECTION 5: Firefighting measures

### Suitable extinguishing media

Excerpt from ERG Guide 116 [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool

containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2016)

### Specific hazards arising from the chemical

Excerpt from ERG Guide 116 [Gases - Flammable (Unstable)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Silane (UN2203) will ignite spontaneously in air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2016)

### 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

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.

### 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

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

## 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: | Methyl nitrite is a liquid or gas Boils at 10.4°F. Moderately toxic by inhalation. Narcotic in high concentrations. Used as a rocket propellant. Differs from nitromethane (H3CNO2). |
| Colour: | Gas |
| Odour: | no data available |
| Melting point/freezing point: | -16°C |
| Boiling point or initial boiling point and boiling range: | -12°C |
| Flammability: | no data available |
| Lower and upper explosion limit/flammability limit: | no data available |
| Flash point: | no data available |
| Auto-ignition temperature: | no data available |
| Decomposition temperature: | no data available |
| pH: | no data available |
| Kinematic viscosity: | no data available |
| Solubility: | Soluble in ethanol and ether |
| Partition coefficient n-octanol/water: | log Kow = 0.88 /Estimated/ |

| | |
|---|---|
| Vapour pressure: | 1,650 mm Hg @ 25 deg C /Estimated/ |
| Density and/or relative density: | 0.99(15°C) |
| Relative vapour density: | no data available |
| Particle characteristics: | no data available |

## SECTION 10: Stability and reactivity

### Reactivity

Highly flammable. Somewhat soluble in water.

### Chemical stability

no data available

### Possibility of hazardous reactions

METHYL NITRITE is an oxidizing agent. A heat-sensitive explosive. [Lewis]. The presence of metal oxides increases the thermal sensitivity. May, if mixed with reducing agents including hydrides, sulfides and nitrides begin a vigorous reaction that culminates in a detonation. Reacts with inorganic bases to form explosive salts.

### Conditions to avoid

no data available

### Incompatible materials

no data available

### Hazardous decomposition products

no data available

## SECTION 11: Toxicological information

**Acute toxicity**

Oral: no data available

Inhalation: LC50 Rat inhalation 176 ppm/4 hr from table

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: 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

### Persistence and degradability

no data available

### Bioaccumulative potential

An estimated BCF of 3 was calculated for methyl nitrite(SRC), using an estimated log Kow of 0.88(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).

### Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc for methyl nitrite can be estimated to be 44(SRC). According to a classification scheme(2), this estimated Koc value suggests that methyl nitrite is expected to have very high 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: UN2455 (For reference only, please check.)
IMDG: UN2455 (For reference only, please check.)
IATA: UN2455 (For reference only, please check.)

### UN Proper Shipping Name

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

### Transport hazard class(es)

ADR/RID: 2.2 (For reference only, please check.)
IMDG: 2.2 (For reference only, please check.)
IATA: 2.2 (For reference only, please check.)

### Packing group, if applicable

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

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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