

Chemical Safety Data Sheet MSDS / SDS

nitroxylenRevision Date:2026-06-20 Revision Number:1

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

Product name : nitroxylen
CBnumber : CB2920399
CAS : 25168-04-1
EINECS Number : 246-697-7
Synonyms : dimethylnitrobenzene

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
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification**GHS Label elements, including precautionary statements**

Symbol(GHS) : No data available
Signal word : No data available

Precautionary statements

No data available

Hazard statements

No data available

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

Product name : nitroxylen
Synonyms : dimethylnitrobenzene
CAS : 25168-04-1

EC number : 246-697-7
MF : C8H9NO2
MW : 151.164

SECTION 4: First aid measures

4.1 Description of necessary first-aid measures

General advice

no data available

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

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. Poisons A and B

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

SYMPTOMS: Symptoms of exposure to this compound may include irritation of the skin, eyes, mucous membranes and upper respiratory tract and cyanosis. Similar chemicals cause methemoglobinemia. ACUTE/CHRONIC HAZARDS: This compound may be fatal if inhaled, swallowed or absorbed through the skin. Vapor or mist is irritating to the eyes, skin, mucous membranes and upper respiratory tract.

When heated to decomposition this compound may emit toxic fumes of carbon monoxide, carbon dioxide and oxides of nitrogen. (NTP, 1992)

SECTION 5: Firefighting measures

5.1 Extinguishing media

Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. A water spray may also be used. (NTP, 1992)

5.2 Specific hazards arising from the chemical

This chemical is combustible. (NTP, 1992)

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 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

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

7.1 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.

7.2 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

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 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.

8.3 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/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

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

PHYSICAL DESCRIPTION: Yellow liquid. (NTP, 1992)

Color

Pale yellow oil

Odour

no data available

Melting point/ freezing point

45 to 48° F (NTP, 1992)

Boilingpoint or initial boiling point and boiling range

243.3°C at 760mmHg

Flammability

no data available

Lower and upper explosion limit/flammability limit

no data available

Flash point

107.8°C

Auto-ignition temperature

no data available

Decomposition temperature

no data available

pH

no data available

Kinematic viscosity

no data available

Solubility

no data available

N-octanol-water partition coefficient

log Kow = 2.83

Vapour pressure

0.0503mmHg at 25°C

Density and/ or relative density

1.129g/cm³

Relative vapour density

5.22 (NTP, 1992) (Relative to Air)

Particle characteristics

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

1,2-DIMETHYL-3-NITROBENZENE is incompatible with strong oxidizers and strong bases (NTP, 1992).

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

Acute toxicity

Oral

LD50 Rat oral (female) 2110 mg/kg body weight

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

12.1 Toxicity

Toxicity to fish

no data available

Toxicity to daphnia and other aquatic invertebrates

LC50; Species: *Daphnia magna* (Waterflea) age <24 hr; Conditions: freshwater, static,

20 deg C, pH 8.2, hardness 250 mg/L CaCO₃, dissolved oxygen >6.5 mg/L; Concentration

4200 ug/L for 48 hr (95% confidence interval: 3200-5600 ug/L) /formulation

Toxicity to algae

EC50; Species: *Chlorella pyrenoidosa* (Green Algae) exponential growth phase, 2 X10⁸ cells/mL; Conditions:

freshwater, static, 25 deg C, pH 6.6; Concentration

6300 ug/L for 96 hr (95% confidence interval: 4100-9800 ug/L); Effect: population changes, general /formulation

Toxicity to microorganisms

no data available

12.2 Persistence and degradability

AEROBIC

1,2-Dimethyl-3-nitrobenzene, present at 100 mg/L, reached 0% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test (OECD TG 301C) that suggests the compound is not readily biodegradable(1). This Japanese MITI test yields similar results for 2-methylnitrobenzene and 4-methylnitrobenzene(1); however, other biodegradation screening tests have shown that biodegradation of these compounds in acclimated media (activated sludge, soil, water) can be relatively fast with 98- 100% degradation within a few days to few weeks(2-4).

12.3 Bioaccumulative potential

A log BCF of 2.86 (BCF = 724) for 1,2-dimethyl-3-nitrobenzene was measured in guppies (*Poecilia reticulata*) during a 3-day static-flow test, measurement based on a fat-weight basis(1). According to a classification scheme(2), this log BCF suggests bioconcentration in aquatic organisms is high(SRC).

12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of 1,2-dimethyl-3-nitrobenzene can be estimated to be 606(SRC). According to a classification scheme(2), this estimated Koc value suggests that 1,2-dimethyl-3-nitrobenzene is expected to have low mobility in soil.

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 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

14.1 UN Number

no data available

14.2 UN Proper Shipping Name

no data available

14.3 Transport hazard class(es)

no data available

14.4 Packing group, if applicable

no data available

14.5 Environmental hazards

no data available

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

15.1 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

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)

Listed.

Vietnam National Chemical Inventory

Not Listed.

Chinese Chemical Inventory of Existing Chemical Substances (China 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

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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