

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name : Nitromethane

CAS-No. : 75-52-5

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

Identified uses : Laboratory chemicals, Manufacture of substances

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Flammable liquids (Category 3)

Acute toxicity, Oral (Category 4)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Heating may cause an explosion. Flammable. Harmful if swallowed.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram 

Signal word Warning

Hazard statement(s)

H226 Flammable liquid and vapour.  
H302 Harmful if swallowed.

Precautionary statement(s) none

Supplemental Hazard Statements none

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)

R-phrases(s)

R5 Heating may cause an explosion.

R10 Flammable.

R22 Harmful if swallowed.

S-phrases(s)

S41 In case of fire and/or explosion do not breathe fumes.

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Formula : CH3NO2

Molecular Weight : 61,04 g/mol

Component Concentration

Nitromethane

CAS-No. 75-52-5

EC-No. 200-876-6

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4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water.

Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.

4.3 Indication of any immediate medical attention and special treatment needed

no data available

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NOx)

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 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.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Store under inert gas.

7.3 Specific end uses

no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. 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.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- |   |                                    |
|---|------------------------------------|
| a) Appearance                                   | Form: liquid                       |
| b) Odour  | no data available                  |
| c) Odour Threshold                              | no data available                  |
| d) pH   | 6,4 at 0,01 g/l at 20 °C           |
| e) Melting point/freezing point                 | Melting point/range: -29 °C - lit. |
| f) Initial boiling point and boiling range      | 101,2 °C - lit.                    |
| g) Flash point                                  | 36 °C - closed cup                 |
| h) Evaporation rate                             | no data available                  |
| i) Flammability (solid, gas) no data available  |                                    |
| j) Upper/lower flammability or explosive limits | Lower explosion limit: 7,3 %(V)    |
| k) Vapour pressure                              | 36,4 hPa at 20 °C                  |
| l) Vapour density                               | 2,11 - (Air = 1.0)                 |
| m) Relative density                             | 1,127 g/mL at 25 °C                |
| n) Water solubility                             | ca.100 g/l at 20 °C                |
| o) Partition coefficient: n-octanol/water       | log Pow: 0,17                      |
| p) Autoignition temperature                     | no data available                  |
| q) Decomposition temperature                    | no data available                  |
| r) Viscosity                                    | no data available                  |
| s) Explosive properties                         | no data available                  |
| t) Oxidizing properties                         | no data available                  |

9.2 Other safety information

Surface tension 37 mN/m at 20 °C

10. STABILITY AND REACTIVITY

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Amines, Strong acids, Strong bases, Strong oxidizing agents, Strong reducing agents, Copper

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 940 mg/kg

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

Carcinogenicity - rat - Inhalation

Tumorigenic:Carcinogenic by RTECS criteria. Skin and Appendages: Other:Tumors.

Carcinogenicity - mouse - Inhalation

Tumorigenic:Carcinogenic by RTECS criteria. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Tumors. Liver:Tumors.

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Nitromethane)

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation

May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion

Harmful if swallowed.

Skin

May be harmful if absorbed through skin. May cause skin irritation.

Eyes

May cause eye irritation.

Signs and Symptoms of Exposure

Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.

Additional Information

RTECS: PA9800000

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish LC50 - Danio rerio (zebra fish) - 460 mg/l - 48 h

Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia magna (Water flea) - 450 mg/l - 24 h

Toxicity to algae IC50 - Desmodesmus subspicatus (green algae) - 36 mg/l - 72 h

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

Harmful to aquatic life.

no data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 1261

IMDG: 1261

IATA: 1261

14.2 UN proper shipping name

ADR/RID: NITROMETHANE

IMDG: NITROMETHANE

IATA: Nitromethane

Passenger Aircraft: Not permitted for transport

14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

no data available

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

no data available

15.2 Chemical Safety Assessment

no data available

16. OTHER INFORMATION

Further information

For R&D use only. Not for drug, household or other uses.

WARRANTY:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Lookchem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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