

SAFETY DATA SHEET

Version: v2
Revision Date: 2025-12-24
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : 1-Methyl-3-nitro-1-nitrosoguanidine(MNNG)
Product Number : M105583
Brand : aladdin
CAS-No. : 70-25-7

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

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300
CHEMTREC®, Outside the USA :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Physical and chemical hazards

Flammable solid category 1

Harmful to health

Acute toxicity (oral) category 3

Acute toxicity (inhalation) category 4

Skin corrosion/irritation category 2

Serious eye damage/eye irritation Category 2A

Carcinogenicity category 1B

Harmful to the environment

Aquatic environment hazard (acute) category 2

Aquatic environment hazard (long-term) category 2

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H332 Harmful if inhaled
- H350 May cause cancer
- H411 Toxic to aquatic life with long lasting effects

Precautionary statement(s)

- P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
- P264 Wash hands [and ...] thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P321 Specific treatment (see ... on this label).
- P391 Collect spillage.
- P302+P352 IF ON SKIN: wash with plenty of water.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P405 Store locked up.
- P501 Dispose of contents/container to an approved waste disposal plant.
- P203 Obtain, read and follow all safety instructions before use.
- P264+P265 Wash hands [and ...] thoroughly after handling. Do not touch eyes.

| | |
|-----------|---|
| P318 | if exposed or concerned, get medical advice. |
| P317 | Get emergency medical help. |
| P337+P317 | If eye irritation persists: Get medical help. |
| P332+P317 | If skin irritation occurs: Get medical help. |

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.1 Substances

| | |
|------------------|--|
| Synonyms | : N-Methyl-N'-nitro-N-nitrosoguanidine; Diazomethane precursor; MNNG; N-METHYL-n,n'-NITROSOGUANIDINE |
| Formula | : C2H5N5O3 |
| Molecular weight | : 147.09 |
| CAS No. | : 70-25-7 |
| EC-NO. | : 200-730-1 |

| Component | Classification | Concentration |
|--|-------------------|---------------|
| 1-Methyl-3-nitro-1-nitrosoguanidine(MNNG) | no data available | ≥95% |

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

no data available

If inhaled

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.

In case of skin contact

Remove/Take off immediately all contaminated clothing.Gently wash with plenty of soap and water.Get medical advice/attention.

In case of eye contact

Rinse cautiously with water for several minutes.Remove contact lenses, if present and easy to do.Get medical advice/attention.

If swallowed

Immediately call a POISON CENTER or doctor/physician.Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Dry chemical, foam, water spray, carbon dioxide.

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Explosion risk in case of fire. Fight fire remotely due to the risk of explosion. Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use extra personal protective equipment (P3 filter respirator for toxic particles). Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.

6.2 Environmental precautions

Be careful not to let it flow into rivers, etc., since adverse effects on the environment are concerned.

6.3 Methods and materials for containment and cleaning up

Sweep dust to collect it into an airtight container, taking care not to disperse it. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Keep away from heat/sparks/open flame/hot surfaces. - No smoking. Take measures to prevent the build up of electrostatic charge. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a local exhaust if dust or aerosol will be generated. Avoid all contact!

7.2 Conditions for safe storage, including any incompatibilities

Storage temperature is 2-8°C, sensitive to heat and light, avoid light. Keep container tightly closed. Store in an explosion-proof refrigerator. Store locked up. Be sure not to give the container unexpected impacts, such as falling down or falling off. Keep wetted with water for desensitized. Store away from incompatible materials such as oxidizing agents. Heat & Light & Moisture sensitive, 2-8 °C, store away from light.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 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

Safety glasses with side-shields conforming to EN166 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 Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Body Protection

A full set of anti-chemical protective clothing, flame-retardant and anti-static protective clothing, and the type of protective equipment must be selected according to the concentration and quantity of hazardous substances in the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface 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).

Control of environmental exposure

If safety requires, prevent further leakage or spillage. Do not let the product enter the sewer.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

| | |
|---|-------------------|
| a) Appearance | no data available |
| b) Odour | no data available |
| c) Odour Threshold | no data available |
| d) pH | no data available |
| e) Melting point/freezing point | 118°C |
| f) Initial boiling point and boiling range | no data available |
| g) Flash point | no data available |
| h) Evaporation rate | no data available |
| i) Flammability (solid, gas) | no data available |
| j) Upper/lower flammability or explosive limits | no data available |
| k) Vapour pressure | no data available |
| l) Vapour density | no data available |
| m) Relative density | no data available |
| n) Water solubility | no data available |
| o) Partition coefficient: n-octanol/water | no data available |
| p) Auto-ignition temperature | no data available |
| q) Decomposition temperature | no data available |
| r) Viscosity | no data available |
| s) Explosive properties N | no data available |
| t) Oxidizing properties N | no data available |

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Heat, sparks, open flames, electrostatic discharge

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

Hazardous substances: oxidants, acids, alkalis, reducing agents. Hazardous decomposition products
Hazardous decomposition products: carbon dioxide, carbon monoxide, nitrogen oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

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

Additional Information

SECTION 12: Ecological information

12.1 Toxicity

no data available

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

no data available

SECTION 13:

13.1 Disposal considerations

Product

Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to

dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur. Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

| | | |
|---|-------------------|--|
| UN number: 2926 | Packing group: II | Class: 4.1(6.1) |
| Proper shipping name: Flammable solid, Reportable Quantity(RQ):no data toxic, organic, n.o.s. | available | Poison Inhalation Hazard:no data available |
| Environmental Hazards: Yes | | |

IMDG

| | | |
|---|-------------------|--------------------------|
| UN number: 2926 | Packing group: II | EMS-No:no data available |
| Proper shipping name: Flammable solid, toxic, organic, n.o.s. | | |

IATA

| | | |
|---|-------------------|-----------------|
| UN number: 2926 | Packing group: II | Class: 4.1(6.1) |
| Proper shipping name: Flammable solid, toxic, organic, n.o.s. | | |

SECTION 15: Regulatory information

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

SECTION 16: Other information

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| Prepared By | Regulatory Affairs ALADDIN SCIENTIFIC CORPORATION Email: QualityAssurance@aladdinsci.com |
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