

1 Identification

Product identifier

Product name: N,N-Dimethyl-4-nitrosoaniline

Stock number: L01731

CAS Number:

138-89-6

EC number:

205-343-1

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

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar

Thermo Fisher Scientific Chemicals, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)



GHS02 Flame

Flam. Sol. 1 H228 Flammable solid.

Self-heat. 1 H251 Self-heating; may catch fire.



GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 2 H310 Fatal in contact with skin.



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.

STOT RE 2 H373 May cause damage to the liver, the blood and the endocrine system through prolonged or repeated exposure. Route of exposure: Oral.

Hazards not otherwise classified No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms



GHS02 GHS06 GHS08

Signal word Danger

Hazard statements

H228 Flammable solid.

H251 Self-heating; may catch fire.

H301 Toxic if swallowed.

H310 Fatal in contact with skin.

H351 Suspected of causing cancer.

H373 May cause damage to the liver, the blood and the endocrine system through prolonged or repeated exposure. Route of exposure: Oral.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...

P361 Take off immediately all contaminated clothing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

B6 - Reactive flammable material

D1A - Very toxic material causing immediate and serious toxic effects

D2B - Toxic material causing other toxic effects



Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH 2 Health (acute effects) = 2

FIRE 3 Flammability = 3

REACTIVITY 1 Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Product name: **N,N-Dimethyl-4-nitrosoaniline**

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3 Composition/information on ingredients

Chemical characterization: Substances

CAS# Description:

138-89-6 N,N-Dimethyl-4-nitrosoaniline

Identification number(s):

EC number: 205-343-1

4 First-aid measures

Description of first aid measures

General information

Immediately remove any clothing soiled by the product.

In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Do not induce vomiting; immediately call for medical help.

Information for doctor

Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Carbon monoxide and carbon dioxide

Nitrogen oxides (NOx)

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.

Methods and material for containment and cleaning up:

Keep away from ignition sources.

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

Prevention of secondary hazards: Keep away from ignition sources.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Handling

Precautions for safe handling

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires: Protect against electrostatic charges.

Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and receptacles: Store in a cool location.

Information about storage in one common storage facility: Store away from oxidizing agents.

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace: Not required.

Additional information: No data

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Check protective gloves prior to each use for their proper condition.

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USA

Product name: N,N-Dimethyl-4-nitrosoaniline											
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Eye protection: Safety glasses Body protection: Protective work clothing.											
(Contd. of page 2)											
9 Physical and chemical properties											
Information on basic physical and chemical properties General Information Appearance: <table><tr><td>Form:</td><td>Crystalline powder</td></tr><tr><td>Color:</td><td>Green</td></tr><tr><td>Odor:</td><td>Not determined</td></tr><tr><td>Odor threshold:</td><td>Not determined.</td></tr><tr><td>pH-value:</td><td>Not applicable.</td></tr></table>		Form:	Crystalline powder	Color:	Green	Odor:	Not determined	Odor threshold:	Not determined.	pH-value:	Not applicable.
Form:	Crystalline powder										
Color:	Green										
Odor:	Not determined										
Odor threshold:	Not determined.										
pH-value:	Not applicable.										
Change in condition <table><tr><td>Melting point/Melting range:</td><td>84-87 °C (183-189 °F)</td></tr><tr><td>Boiling point/Boiling range:</td><td>Not determined</td></tr><tr><td>Sublimation temperature / start:</td><td>Not determined</td></tr></table>		Melting point/Melting range:	84-87 °C (183-189 °F)	Boiling point/Boiling range:	Not determined	Sublimation temperature / start:	Not determined				
Melting point/Melting range:	84-87 °C (183-189 °F)										
Boiling point/Boiling range:	Not determined										
Sublimation temperature / start:	Not determined										
Flash point: Not applicable Flammability (solid, gaseous): Highly flammable. Ignition temperature: Not determined Decomposition temperature: Not determined Auto igniting: Not determined.											
Danger of explosion: Not determined. Explosion limits: <table><tr><td>Lower:</td><td>Not determined</td></tr><tr><td>Upper:</td><td>Not determined</td></tr></table> Vapor pressure: Not applicable. Density at 20 °C (68 °F): 1.15 g/cm³ (9.597 lbs/gal) Relative density: Not determined. Vapor density: Not applicable. Evaporation rate: Not applicable. Solubility in / Miscibility with <table><tr><td>Water:</td><td>Insoluble</td></tr></table> Partition coefficient (n-octanol/water): Not determined. Viscosity: <table><tr><td>dynamic:</td><td>Not applicable.</td></tr><tr><td>kinematic:</td><td>Not applicable.</td></tr></table> Other information No further relevant information available.		Lower:	Not determined	Upper:	Not determined	Water:	Insoluble	dynamic:	Not applicable.	kinematic:	Not applicable.
Lower:	Not determined										
Upper:	Not determined										
Water:	Insoluble										
dynamic:	Not applicable.										
kinematic:	Not applicable.										
10 Stability and reactivity Reactivity No information known. Chemical stability Stable under recommended storage conditions. Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Possibility of hazardous reactions No dangerous reactions known Conditions to avoid No further relevant information available. Incompatible materials: Oxidizing agents Hazardous decomposition products: Carbon monoxide and carbon dioxide Nitrogen oxides											
11 Toxicological information Information on toxicological effects Acute toxicity: Fatal in contact with skin. Toxic if swallowed. Danger through skin absorption. The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance. LD/LC50 values that are relevant for classification: Oral LD50 65 mg/kg (rat) Skin irritation or corrosion: May cause irritation Eye irritation or corrosion: May cause irritation Sensitization: No sensitizing effects known. Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance. Carcinogenicity: Suspected of causing cancer. The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance. Reproductive toxicity: No effects known. Specific target organ system toxicity - repeated exposure: May cause damage to the liver, the blood and the endocrine system through prolonged or repeated exposure. Route of exposure: Oral. Specific target organ system toxicity - single exposure: No effects known. Aspiration hazard: No effects known. Other information (about experimental toxicology): Tumorigenic effects have been observed on tests with laboratory animals. Mutagenic effects have been observed on tests with bacteria. Subacute to chronic toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals: Behavioral - somnolence (general depressed activity). Behavioral - convulsions or effect on seizure threshold. Kidney, Ureter, Bladder - hematuria. Gastrointestinal - tumors. Blood - lymphoma, including Hodgkin's disease. Tumorigenic - equivocal tumorigenic agent by RTECS criteria. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.											
12 Ecological information Toxicity Aquatic toxicity: No further relevant information available.											
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Product name: N,N-Dimethyl-4-nitrosoaniline

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Persistence and degradability No further relevant information available.

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Additional ecological information:

General notes:

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Avoid transfer into the environment.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods

Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number

DOT, IMDG, IATA

UN1369

UN proper shipping name

DOT

IMDG, IATA

P-Nitrosodimethylaniline

P-NITROSODIMETHYLANILINE

Transport hazard class(es)

DOT



Class

Label

Class

Label

IMDG, IATA

4.2 Substances liable to spontaneous combustion.

4.2

4.2 (S2) Substances liable to spontaneous combustion

4.2



Class

Label

4.2 Substances liable to spontaneous combustion.

4.2

Packing group

DOT, IMDG, IATA

II

Environmental hazards:

Not applicable.

Special precautions for user

Warning: Substances liable to spontaneous combustion

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

Transport/Additional information:

DOT

Marine Pollutant (DOT):

No

UN "Model Regulation":

UN1369, p-Nitrosodimethylaniline, 4.2, II

15 Regulatory information

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

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms



GHS02 GHS06 GHS08

Signal word Danger

Hazard statements

H228 Flammable solid.

H251 Self-heating; may catch fire.

H301 Toxic if swallowed.

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P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...

P361 Take off immediately all contaminated clothing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings) Substance is not listed.

California Proposition 65

Prop 65 - Chemicals known to cause cancer Substance is not listed.

Prop 65 - Developmental toxicity Substance is not listed.

Prop 65 - Developmental toxicity, female Substance is not listed.

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USA

Product name: **N,N-Dimethyl-4-nitrosoaniline**

Prop 65 - Developmental toxicity, male Substance is not listed.
Information about limitation of use: For use only by technically qualified individuals.
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

(Contd. of page 4)

16 Other information
Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department
Date of preparation / last revision 11/23/2015 / -
Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)