

## Chemical Safety Data Sheet MSDS / SDS

## NITROMETHANE-D3

Revision Date:2023-12-07 Revision Number:1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

## Product identifier

Product name : NITROMETHANE-D3  
CBnumber : CB0693042  
CAS : 13031-32-8  
EINECS Number : 235-892-2  
Synonyms : NITROMETHANE-D3,Nitromethane-d3, 99 atom % D

## 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 : 400-158-6606

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

## Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P370+P378 In case of fire: Use ... for extinction.  
P370+P380+P375 in case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

## Hazard statements

H226 Flammable liquid and vapour  
H302 Harmful if swallowed

H331 Toxic if inhaled

H351 Suspected of causing cancer

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## SECTION 3: Composition/information on ingredients

### Substance

Product name	: NITROMETHANE-D3
Synonyms	: NITROMETHANE-D3,Nitromethane-d3, 99 atom % D
CAS	: 13031-32-8
EC number	: 235-892-2
MF	: CD3NO2
MW	: 64.06

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## SECTION 4: First aid measures

### Description of first aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

#### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing media

Carbon dioxide (CO2) Dry powder

#### Unsuitable extinguishing media

Foam Water

### Special hazards arising from the substance or mixture

Carbon oxides Nitrogen oxides (NOx) Combustible.

Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapours possible in the event of fire.

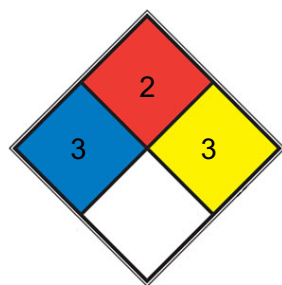
### Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

### Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

### NFPA 704



**HEALTH** 3 Short exposure could cause serious temporary or moderate residual injury (e.g. [liquid hydrogen](#), [sulfuric acid](#), [calcium hypochlorite](#), hexafluorosilicic acid)

**FIRE** 2 Must be moderately heated or exposed to relatively high ambient temperature before ignition can occur and multiple finely divided suspended solids that do not require heating before ignition can occur. Flash point between 37.8 and 93.3 °C (100 and 200 °F). (e.g. diesel fuel, [sulfur](#))

**REACT** 3 Capable of detonation or explosive decomposition but requires a strong initiating source, must be heated under confinement before initiation, reacts explosively with water, or will detonate if severely shocked (e.g. [ammonium nitrate](#), cesium, hydrogen peroxide)

**SPEC.**

**HAZ.**

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

### Environmental precautions

Do not let product enter drains. Risk of explosion.

### Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent

material (e.g. Chemizorb? ). Dispose of properly. Clean up affected area.

### Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### Precautions for safe handling

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

For precautions see section 2.2.

#### Conditions for safe storage, including any incompatibilities

#### Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

#### Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### control parameter

#### Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

#### Exposure controls

#### Personal protective equipment

##### Eye/face protection

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

##### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other

substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact Material: Viton?

Minimum layer thickness: 0,7 mm Break through time: 120 min

Material tested: Vitoject? (KCL 890 / Aldrich Z677698, Size M)

### Body Protection

Flame retardant antistatic protective clothing.

### Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

### Control of environmental exposure

Do not let product enter drains. Risk of explosion.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Appearance	liquid
Odour	No data available
Odour Threshold	No data available
pH	No data available
Melting point/freezing point	-29°C
Initial boiling point and boiling range	100 °C - lit.
Flash point	44 °C
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 63 %(V) Lower explosion limit: 7,1 %(V)
Vapour pressure	No data available
Vapour density	No data available
Relative density	1,183 g/cm <sup>3</sup> at 25 °C - lit. No data available
Water solubility	117g/l
Partition coefficient: n-octanol/water	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Explosive properties	No data available
Oxidizing properties	No data available

### Other safety information

No data available

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## SECTION 10: Stability and reactivity

## Reactivity

Vapor/air-mixtures are explosive at intense warming.

## Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

## Possibility of hazardous reactions

Exothermic reaction with: Hydrocarbons perchlorates

Risk of explosion with: anilines

strong alkalis phosphoric acid Nitric acid Amines

Heavy metals metallic oxides organic halides silver salt aluminium chloride formaldehyde alkali hydroxides Ammonia iodides

Halogenated hydrocarbon acids

Chloroform

oxyhalogenic compounds Organic Substances Oxidizing agents Acetone

powdered aluminium formic acid ammonium hydroxide bases

calcium hypochlorite

Sodium hydroxide

lithium aluminium hydride sodium carbonate hydrides

nitrous acid

conc. sulfuric acid Potassium hydroxide Calcium hydroxide Morpholine Hydrazine hydrate with

Methanol formaldehyde with

Air Amines with

Heavy metals with

alkali hydroxides

Formation of explosive salts possible.

## Conditions to avoid

Heating.

## Incompatible materials

various plastics

## Hazardous decomposition products

In the event of fire: see section 5

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# SECTION 11: Toxicological information

## Information on toxicological effects

### Acute toxicity

LD50 Oral - Rat - 940 mg/kg

Remarks: (RTECS) Inhalation

LD50 Dermal - Rabbit - > 2.000 mg/kg Remarks: (IUCLID)

#### **Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation Remarks: (IUCLID)

#### **Serious eye damage/eye irritation**

Eyes - Rabbit

Result: No eye irritation Remarks: (IUCLID)

#### **Respiratory or skin sensitization**

Remarks: (IUCLID)

#### **Germ cell mutagenicity**

#### **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

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## SECTION 12: Ecological information

### **Toxicity**

#### **Toxicity to fish**

LC50 - Danio rerio (zebra fish) - 460 mg/l - 48 h (OECD Test Guideline 203)

#### **Toxicity to daphnia and other aquatic invertebrates**

EC50 - Daphnia magna (Water flea) - 450 mg/l - 24 h (OECD Test Guideline 202)

#### **Toxicity to algae**

IC50 - Desmodesmus subspicatus (green algae) - 36 mg/l - 72 h (OECD Test Guideline 201)

#### **Toxicity to bacteria**

EC50 - Photobacterium phosphoreum - 5.621 mg/l - 30 min Remarks: (Lit.)

### **Persistence and degradability**

Biodegradability Result: - Not readily biodegradable.

(OECD Test Guideline 301D)

### **Bioaccumulative potential**

No data available

### **Mobility in soil**

No data available

### Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### Waste treatment methods

#### Product

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

### UN number

ADR/RID: 1261 IMDG: 1261 IATA: 1261

### UN proper shipping name

ADR/RID: NITROMETHANE IMDG: NITROMETHANE IATA: Nitromethane

Passenger Aircraft: Not permitted for transport

### Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

### Packaging group

ADR/RID: II IMDG: II IATA: II

### Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

### Special precautions for user

No data available

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## SECTION 15: Regulatory information

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

#### Regulations on the Safety Management of Hazardous Chemicals

Chemical Book



China Catalog of Hazardous chemicals 2015:Not Listed. website: <https://www.mem.gov.cn/>

#### **Measures for Environmental Management of New Chemical Substances**

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Not Listed. website: <https://www.mee.gov.cn/>

Korea Existing Chemicals List (KECL):Not Listed. website: <http://ncis.nier.go.kr>

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Not Listed. website: <https://emb.gov.ph/>

Vietnam National Chemical Inventory:Not Listed. website: <https://chemicaldata.gov.vn/>

United States Toxic Substances Control Act (TSCA) Inventory:Not Listed. website: <https://www.epa.gov/>

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

EC Inventory:Listed.

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## **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**

【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

#### **Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.