

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 29.04.2019

Version 11.4

**SECTION 1. Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Catalogue No.	822285
Product name	Sodium nitrite cryst. for synthesis
REACH Registration Number	01-2119471863-27-XXXX
CAS-No.	7632-00-0

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

Identified uses	Chemical for synthesis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merckgroup.com">www.merckgroup.com</a> ).
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**1.3 Details of the supplier of the safety data sheet**

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0
Responsible Department	LS-QHC * e-mail: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

**1.4 Emergency telephone number** **Please contact the regional company representation in your country.****SECTION 2. Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Oxidizing solid, Category 3, H272  
Acute toxicity, Category 3, Oral, H301  
Eye irritation, Category 2, H319  
Short-term (acute) aquatic hazard, Category 1, H400  
For the full text of the H-Statements mentioned in this Section, see Section 16.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.  
Product name

822285  
Sodium nitrite cryst. for synthesis

## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

*Hazard pictograms*



*Signal word*

Danger

*Hazard statements*

H272 May intensify fire; oxidizer.  
H301 Toxic if swallowed.  
H319 Causes serious eye irritation.  
H400 Very toxic to aquatic life.

*Precautionary statements*

Prevention

P273 Avoid release to the environment.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/  
physician.

### Reduced labelling ( $\leq 125$ ml)

*Hazard pictograms*



*Signal word*

Danger

*Hazard statements*

H301 Toxic if swallowed.

*Precautionary statements*

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Contains: sodium nitrite

Index-No. 007-010-00-4

## 2.3 Other hazards

None known.

## SECTION 3. Composition/information on ingredients

### 3.1 Substance

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 822285  
Product name Sodium nitrite cryst. for synthesis

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Formula  $\text{NaNO}_2$   $\text{NNaO}_2$  (Hill)  
Index-No. 007-010-00-4  
EC-No. 231-555-9  
Molar mass 69,00 g/mol

## Hazardous components (REGULATION (EC) No 1272/2008)

*Chemical name (Concentration)*

CAS-No. Registration number Classification

sodium nitrite ( $\leq 100\%$ )

7632-00-0 01-2119471863-27-XXXX

Oxidizing solid, Category 3, H272  
Acute toxicity, Category 3, H301  
Eye irritation, Category 2, H319  
Short-term (acute) aquatic hazard, Category 1, H400  
M-Factor: 1

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 3.2 Mixture

Not applicable

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

*General advice*

First aider needs to protect himself.

After inhalation: fresh air.

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

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

If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

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

depressed respiration, Cyanosis, Unconsciousness, narcosis, Nausea, Vomiting, collapse, Headache  
irritant effects

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

Laxative: Sodium sulfate (1 tablespoon/1/4 l water).

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.

822285

Product name

Sodium nitrite cryst. for synthesis

---

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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

#### *Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Not combustible.

Has a fire-promoting effect due to release of oxygen.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:  
nitrogen oxides

### 5.3 Advice for firefighters

#### *Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

### 6.3 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 carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

#### *Advice on safe handling*

Observe label precautions.

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# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.

822285

Product name

Sodium nitrite cryst. for synthesis

---

## *Hygiene measures*

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

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

### *Storage conditions*

Dry.

Tightly closed. Do not store near combustible materials. Keep locked up or in an area accessible only to qualified or authorised persons.

Recommended storage temperature see product label.

## **7.3 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**

### **8.1 Control parameters**

### **8.2 Exposure controls**

#### **Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

#### **Individual protection measures**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

#### *Eye/face protection*

Safety glasses

#### *Hand protection*

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.

822285

Product name

Sodium nitrite cryst. for synthesis

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)).

#### *Other protective equipment*

protective clothing

#### *Respiratory protection*

required when dusts are generated.

Recommended Filter type: Filter P 3 (acc. to DIN 3181) for solid and liquid particles of toxic and very toxic substances

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.

### **Environmental exposure controls**

Do not let product enter drains.

## **SECTION 9. Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

Form	solid
Colour	white
Odour	odourless
Odour Threshold	Not applicable
pH	9 at 100 g/l 20 °C
Melting point	280 °C (decomposition)
Boiling point	No information available.
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	822285
Product name	Sodium nitrite cryst. for synthesis

---

Relative vapour density	No information available.
Density	2,1 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	820 g/l at 20 °C
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	> 320 °C
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	The substance or mixture is classified as oxidizing with the category 3.

## 9.2 Other data

Bulk density	1.200 kg/m <sup>3</sup>
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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

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

### 10.3 Possibility of hazardous reactions

Risk of explosion with:

combustible substances, Aluminium, Sulphides, Cyanides, potassium cyanide, urea, hydrazine and derivatives, oxidisable substances, unsaturated hydrocarbons, sodium amide, phenol, Ethylene oxide, strong reducing agents, Ammonium salts, amides, hydrochloric acid, Potassium hexacyanoferrate (II)

A risk of explosion and/or of toxic gas formation exists with the following substances:

Acids

with, Amines, Release of:, Nitrosamine

Risk of ignition or formation of inflammable gases or vapours with:

butadiene

Exothermic reaction with:

Ethylene oxide

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.

822285

Product name

Sodium nitrite cryst. for synthesis

---

## 10.4 Conditions to avoid

Strong heating (decomposition).

## 10.5 Incompatible materials

no information available

## 10.6 Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

*Acute oral toxicity*

LD50 Rat: 180 mg/kg

(ECHA)

*Acute inhalation toxicity*

LC50 Rat: 5,5 mg/l; 4 h ; dust/mist

(RTECS)

Symptoms: Possible symptoms:, mucosal irritations, After a latency period:, Lung oedema

*Acute dermal toxicity*

This information is not available.

*Skin irritation*

Rabbit

Result: No irritation

OECD Test Guideline 404

*Eye irritation*

Causes serious eye irritation.

Rabbit

Result: irritating

OECD Test Guideline 405

*Sensitisation*

This information is not available.

*Germ cell mutagenicity*

This information is not available.

*Carcinogenicity*

Did not show carcinogenic effects in animal experiments. (IUCLID)

*Reproductive toxicity*

No impairment of reproductive performance in animal experiments. (IUCLID)

*Teratogenicity*

Did not show teratogenic effects in animal experiments. (IUCLID)

*Specific target organ toxicity - single exposure*

This information is not available.



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	822285
Product name	Sodium nitrite cryst. for synthesis

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*Specific target organ toxicity - repeated exposure*

This information is not available.

*Aspiration hazard*

This information is not available.

## 11.2 Further information

After absorption:

Nausea, narcosis, Cyanosis

After absorption of large quantities:

Headache, Vomiting, Unconsciousness, drop in blood pressure, depressed respiration, collapse, Methaemoglobinemia

The following applies to nitrites in general: risk of methaemoglobin formation.

Possibility of formation of nitrosamines with secondary and in given circumstances even tertiary amines. Nitrosamines have shown themselves to be carcinogenic in animal experiments.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### 12.1 Toxicity

*Toxicity to fish*

flow-through test LC50 *Oncorhynchus mykiss* (rainbow trout): 0,54 - 26,3 mg/l; 96 h

Analytical monitoring: yes  
(ECHA)

*Toxicity to daphnia and other aquatic invertebrates*

static test *Daphnia magna* (Water flea): 15,4 mg/l; 48 h

Analytical monitoring: yes  
OECD Test Guideline 202

*Toxicity to algae*

static test EC50 *Desmodesmus subspicatus* (green algae): > 100 mg/l; 72 h

Analytical monitoring: yes  
OECD Test Guideline 201

*Toxicity to bacteria*

static test EC50 activated sludge: 510 mg/l; 3 h  
OECD Test Guideline 209

### 12.2 Persistence and degradability

*Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

No information available.

### 12.4 Mobility in soil

No information available.

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### 12.6 Other adverse effects

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 822285  
Product name Sodium nitrite cryst. for synthesis

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Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

### *Waste treatment methods*

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

### Land transport (ADR/RID)

<b>14.1 UN number</b>	UN 1500
<b>14.2 Proper shipping name</b>	SODIUM NITRITE
<b>14.3 Class</b>	5.1 (6.1)
<b>14.4 Packing group</b>	III
<b>14.5 Environmentally hazardous</b>	yes
<b>14.6 Special precautions for user</b>	yes
Tunnel restriction code	E

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

<b>14.1 UN number</b>	UN 1500
<b>14.2 Proper shipping name</b>	SODIUM NITRITE
<b>14.3 Class</b>	5.1 (6.1)
<b>14.4 Packing group</b>	III
<b>14.5 Environmentally hazardous</b>	yes
<b>14.6 Special precautions for user</b>	no

### Sea transport (IMDG)

<b>14.1 UN number</b>	UN 1500
<b>14.2 Proper shipping name</b>	SODIUM NITRITE
<b>14.3 Class</b>	5.1 (6.1)
<b>14.4 Packing group</b>	III
<b>14.5 Environmentally hazardous</b>	yes
<b>14.6 Special precautions for user</b>	yes
EmS	F-A S-Q

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	822285
Product name	Sodium nitrite cryst. for synthesis

## 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard Legislation	SEVESO III ACUTE TOXIC H2 Quantity 1: 50 t Quantity 2: 200 t  SEVESO III OXIDIZING LIQUIDS AND SOLIDS P8 Quantity 1: 50 t Quantity 2: 200 t  SEVESO III ENVIRONMENTAL HAZARDS E1 Quantity 1: 100 t Quantity 2: 200 t
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Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.
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Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC	not regulated
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Substances of very high concern (SVHC)	This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of $\geq 0.1\%$ (w/w).
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#### *National legislation*

Storage class	5.1B
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### 15.2 Chemical safety assessment

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.  
Product name

822285  
Sodium nitrite cryst. for synthesis

For this product a chemical safety assessment was not carried out.

## SECTION 16. Other information

### Full text of H-Statements referred to under sections 2 and 3.

H272	May intensify fire; oxidizer.
H301	Toxic if swallowed.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

*Hazard pictograms*



*Signal word*

Danger

*Hazard statements*

H272 May intensify fire; oxidizer.  
H301 Toxic if swallowed.  
H319 Causes serious eye irritation.  
H400 Very toxic to aquatic life.

*Precautionary statements*

Prevention

P273 Avoid release to the environment.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/physician.

Contains: sodium nitrite

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

### Regional representation

This information is given on the authorised Safety Data Sheet for your country.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.

822285

Product name

Sodium nitrite cryst. for synthesis

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*

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