SAFETY DATA SHEET

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

1.1 Product identifiers

Product name: Sodium nitrite
Product Number: 563218
Brand: Aldrich
Index-No.: 007-010-00-4
CAS-No.: 7632-00-0

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

Identified uses: Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company: Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone: +1 314 771-5765
Fax: +1 800 325-5052

1.4 Emergency telephone

Emergency Phone #: 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

- Oxidizing solids (Category 3), H272
- Acute toxicity, Oral (Category 3), H301
- Eye irritation (Category 2A), H319
- Short-term (acute) aquatic hazard (Category 1), H400

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

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word: Danger
Hazard statement(s)
H272 May intensify fire; oxidizer.
H301 Toxic if swallowed.
H319 Causes serious eye irritation.
H400 Very toxic to aquatic life.

Precautionary statement(s)
P210 Keep away from heat.
P220 Keep/Store away from clothing/ combustible materials.
P221 Take any precaution to avoid mixing with combustibles.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391 Collect spillage.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: Composition/information on ingredients

3.1 Substances
Formula : NNaO₂
Molecular weight : 69.00 g/mol
CAS-No. : 7632-00-0
EC-No. : 231-555-9
Index-No. : 007-010-00-4

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium nitrite</td>
<td>Ox. Sol. 3; Acute Tox. 3; Eye Irrit. 2A; Aquatic Acute 1; H272, H301, H319, H400; M-Factor - Aquatic Acute: 1</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.
SECTION 4: First aid measures

4.1 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. Call in ophthalmologist. Remove contact lenses.

If swallowed
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.

4.2 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

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
Water Foam Carbon dioxide (CO2) Dry powder

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

5.2 Special hazards arising from the substance or mixture
Nitrogen oxides (NOx)
Sodium oxides
Combustible.
Development of hazardous combustion gases or vapours possible in the event of fire. Has a fire-promoting effect due to release of oxygen.

5.3 Advice 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.

5.4 Further information
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
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.
For personal protection 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
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures
Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Storage conditions
Tightly closed. Away from combustible materials and sources of ignition and heat. Keep locked up or in an area accessible only to qualified or authorized persons. Do not store near combustible materials.

hygroscopic

Storage class
Storage class (TRGS 510): 5.1B: Oxidizing hazardous materials

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Ingredients with workplace control parameters
Contains no substances with occupational exposure limit values.

8.2 Exposure controls
Appropriate engineering controls
Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.
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).

- **Full contact**
  - Material: Nitrile rubber
  - Minimum layer thickness: 0.11 mm
  - Break through time: 480 min
  - Material tested: KCL 741 Dermatril® L

- **Splash contact**
  - Material: Nitrile rubber
  - Minimum layer thickness: 0.11 mm
  - Break through time: 480 min
  - Material tested: KCL 741 Dermatril® L

**Body Protection**
protective clothing

**Respiratory protection**
required when dusts 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.

**Control of environmental exposure**
Do not let product enter drains.

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**SECTION 9: Physical and chemical properties**

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a) Appearance</strong></td>
<td>Form: solid</td>
</tr>
<tr>
<td></td>
<td>Color: white, light yellow</td>
</tr>
<tr>
<td><strong>b) Odor</strong></td>
<td>odorless</td>
</tr>
<tr>
<td><strong>c) Odor Threshold</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>d) pH</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>e) Melting point/freezing point</strong></td>
<td>Melting point/range: 271 °C (520 °F)</td>
</tr>
<tr>
<td><strong>f) Initial boiling point and boiling range</strong></td>
<td>No data available</td>
</tr>
</tbody>
</table>
g) Flash point
   ( ) Not applicable

h) Evaporation rate
   No data available

i) Flammability (solid, gas)
   No data available

j) Upper/lower flammability or explosive limits
   No data available

k) Vapor pressure
   No data available

l) Vapor density
   No data available

m) Density
   2.168 g/cm³ at 20 °C (68 °F)
   Relative density
   No data available

n) Water solubility
   820 g/l at 20 °C (68 °F)

o) Partition coefficient: n-octanol/water
   Not applicable for inorganic substances

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
   The substance or mixture is classified as oxidizing with the category 3.

9.2 Other safety information
   No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
   The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

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
   Aluminum
   Sulfides
   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

10.4 Conditions to avoid
Exposure to moisture,
no information available

10.5 Incompatible materials
No data available

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - 186 mg/kg
Remarks: (RTECS)
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Moderate eye irritation
(OECD Test Guideline 405)

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.

**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

### 11.2 Additional Information

RTECS: RA1225000

Headache, Nausea, Incoordination., 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.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

### 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
Remarks: (ECHA)

**Toxicity to daphnia and other aquatic invertebrates**
static test EC50 - Daphnia magna (Water flea) - 15.4 mg/l - 48 h
(OECD Test Guideline 202)

**Toxicity to algae**
static test ErC50 - Desmodesmus subspicatus (green algae) - > 100 mg/l - 72 h
(OECD Test Guideline 201)

**Toxicity to bacteria**
static test EC50 - activated sludge - 510 mg/l - 3 h
(OECD Test Guideline 209)

**Toxicity to fish(Chronic toxicity)**
NOEC - Cyprinus carpio (Carp) - 1.05 mg/l - 29 d
(OECD Test Guideline 210)

**Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)**
semi-static test NOEC - Penaeus duorarum (Pink shrimp) - 9.86 mg/l - 80 d
Remarks: (ECHA)
12.2 **Persistence and degradability**  
The methods for determining biodegradability are not applicable to inorganic substances.

12.3 **Bioaccumulative potential**  
No data available

12.4 **Mobility in soil**  
No data available

12.5 **Results of PBT and vPvB assessment**  
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 **Endocrine disrupting properties**  
No data available

12.7 **Other adverse effects**  
No data available

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

**Product**  
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

---

### SECTION 14: Transport information

**DOT (US)**  
<table>
<thead>
<tr>
<th>UN number: 1500</th>
<th>Class: 5.1 (6.1)</th>
<th>Packing group: III</th>
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</thead>
<tbody>
<tr>
<td>Proper shipping name: Sodium nitrite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reportable Quantity (RQ): 100 lbs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poison Inhalation Hazard: No</td>
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<td></td>
</tr>
</tbody>
</table>

**IMDG**  
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<tr>
<th>UN number: 1500</th>
<th>Class: 5.1 (6.1)</th>
<th>Packing group: III</th>
<th>EMS-No: F-A, S-Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper shipping name: SODIUM NITRITE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine pollutant: yes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**IATA**  
<table>
<thead>
<tr>
<th>UN number: 1500</th>
<th>Class: 5.1 (6.1)</th>
<th>Packing group: III</th>
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</thead>
<tbody>
<tr>
<td>Proper shipping name: Sodium nitrite</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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### SECTION 15: Regulatory information

**SARA 302 Components**  
This material does not contain any components with a section 302 EHS TPQ.

**SARA 313 Components**  
The following components are subject to reporting levels established by SARA Title III, Section 313:
sodium nitrite

CAS-No. 7632-00-0

Revision Date 2007-07-01

SARA 311/312 Hazards
Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

SECTION 16: Other information

Further information
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. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Version: 6.7  Revision Date: 12/28/2022  Print Date: 12/16/2023