

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product identifiers

Product name : Sodium azide  
Product Number : S2002  
Brand : Sigma-Aldrich  
Index-No. : 011-004-00-7  
CAS-No. : 26628-22-8

#### 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  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA  
Telephone : +1 800-325-5832  
Fax : +1 800-325-5052

#### 1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

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

Acute toxicity, Oral (Category 2), H300  
Acute toxicity, Dermal (Category 1), H310  
Specific target organ toxicity - repeated exposure, Oral (Category 2), Brain, H373  
Acute aquatic toxicity (Category 1), H400  
Chronic aquatic toxicity (Category 1), H410

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)

H300 + H310

Fatal if swallowed or in contact with skin

H373

May cause damage to organs (Brain) through prolonged or repeated exposure if swallowed.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P260

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

P262

Do not get in eyes, on skin, or on clothing.

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/ protective clothing/ eye protection/ face protection.                                 |
| P301 + P310 + P330 | IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.   |
| P302 + P350 + P310 | IF ON SKIN: Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/ physician. |
| P314               | Get medical advice/ attention if you feel unwell.   |
| P362               | Take off contaminated clothing and wash before reuse.   |
| 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

Contact with acids liberates very toxic gas.

Sodium Azide may react with lead and copper plumbing to form highly explosive metal azides., Rapidly absorbed through skin.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

|                  |                     |
|------------------|---------------------|
| Formula          | : N <sub>3</sub> Na |
| Molecular weight | : 65.01 g/mol       |
| CAS-No.          | : 26628-22-8        |
| EC-No.           | : 247-852-1         |
| Index-No.        | : 011-004-00-7      |

#### Hazardous components

| Component    | Classification   | Concentration |
|--------------|--|---------------|
| Sodium azide | Acute Tox. 2; Acute Tox. 1; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H300 + H310, H373, H410 | 90 - 100 %    |

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

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 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

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## 5. FIREFIGHTING MEASURES

- 5.1 Extinguishing media**  
Suitable extinguishing media  
Dry powder
- 5.2 Special hazards arising from the substance or mixture**  
No data available
- 5.3 Advice for firefighters**  
Wear self-contained breathing apparatus for firefighting if necessary.
- 5.4 Further information**  
No data available

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## 6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures**  
Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.  
For personal protection see section 8.
- 6.2 Environmental precautions**  
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- 6.3 Methods and materials for containment and cleaning up**  
Pick up and arrange disposal without creating dust. Sweep up and shovel. Do not flush with water. Keep in suitable, closed containers for disposal.
- 6.4 Reference to other sections**  
For disposal see section 13.

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## 7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling**  
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.  
Provide appropriate exhaust ventilation at places where dust is formed.  
For precautions see section 2.2.
- 7.2 Conditions for safe storage, including any incompatibilities**  
Keep container tightly closed in a dry and well-ventilated place.  
Never allow product to get in contact with water during storage. Do not store near acids.
- 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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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

| Component    | CAS-No.    | Value                           | Control parameters         | Basis                                   |
|--------------|------------|---------------------------------|----------------------------|---|
| Sodium azide | 26628-22-8 | C                               | 0.100000 ppm               | USA. NIOSH Recommended Exposure Limits  |
|              | Remarks    | Potential for dermal absorption |                            |   |
|              |            | C                               | 0.300000 mg/m <sup>3</sup> | USA. NIOSH Recommended Exposure Limits  |
|              |            | Potential for dermal absorption |                            |   |
|              |            | C                               | 0.110000 ppm               | USA. ACGIH Threshold Limit Values (TLV) |
|              |            | Lung damage                     |                            |   |

|  |  |   |                      |   |
|--|--|---|----------------------|---|
|  |  | Cardiac impairment<br>Not classifiable as a human carcinogen                |                      |   |
|  |  | C   | 0.290000<br>mg/m3    | USA. ACGIH Threshold Limit Values<br>(TLV)  |
|  |  | Lung damage<br>Cardiac impairment<br>Not classifiable as a human carcinogen |                      |   |
|  |  | C   | 0.110000 ppm         | USA. ACGIH Threshold Limit Values<br>(TLV)  |
|  |  | Lung damage<br>Cardiac impairment<br>Not classifiable as a human carcinogen |                      |   |
|  |  | C   | 0.290000<br>mg/m3    | USA. ACGIH Threshold Limit Values<br>(TLV)  |
|  |  | Lung damage<br>Cardiac impairment<br>Not classifiable as a human carcinogen |                      |   |
|  |  | C   | 0.1 ppm              | USA. NIOSH Recommended<br>Exposure Limits   |
|  |  | Potential for dermal absorption   |                      |   |
|  |  | C   | 0.1 ppm              | USA. OSHA - TABLE Z-1 Limits for<br>Air Contaminants - 1910.1000                              |
|  |  | Skin notation   |                      |   |
|  |  | C   | 0.3 mg/m3            | USA. OSHA - TABLE Z-1 Limits for<br>Air Contaminants - 1910.1000                              |
|  |  | Skin notation   |                      |   |
|  |  | C   | 0.29 mg/m3           | USA. ACGIH Threshold Limit Values<br>(TLV)  |
|  |  | Lung damage<br>Cardiac impairment<br>Not classifiable as a human carcinogen |                      |   |
|  |  | C   | 0.11 ppm             | USA. ACGIH Threshold Limit Values<br>(TLV)  |
|  |  | Lung damage<br>Cardiac impairment<br>Not classifiable as a human carcinogen |                      |   |
|  |  | C   | 0.3 mg/m3            | USA. NIOSH Recommended<br>Exposure Limits   |
|  |  | Potential for dermal absorption   |                      |   |
|  |  | C   | 0.1 ppm<br>0.3 mg/m3 | California permissible exposure<br>limits for chemical contaminants<br>(Title 8, Article 107) |
|  |  | Skin  |                      |   |

## 8.2 Exposure controls

### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

#### Eye/face protection

Face shield and safety glasses 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.

#### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min  
Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact  
Material: Nitrile rubber  
Minimum layer thickness: 0.11 mm  
Break through time: 480 min  
Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### **Body Protection**

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) 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**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## **9. PHYSICAL AND CHEMICAL PROPERTIES**

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

- |   |   |
|---|---|
| a) Appearance                                   | Form: crystalline<br>Colour: white                    |
| b) Odour  | No data available                                     |
| c) Odour Threshold                              | No data available                                     |
| d) pH   | 10 at 65 g/l at 25 °C (77 °F)                         |
| e) Melting point/freezing point                 | 275 °C (527 °F)                                       |
| 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)                    | The product is not flammable. - Flammability (solids) |
| j) Upper/lower flammability or explosive limits | No data available                                     |
| k) Vapour pressure                              | 0.01 hPa (0.01 mmHg) at 20 °C (68 °F)                 |
| l) Vapour density                               | No data available                                     |
| m) Relative density                             | 1.850 g/cm <sup>3</sup>                               |
| n) Water solubility                             | 65 g/l at 20 °C (68 °F) - completely soluble          |
| o) Partition coefficient: n-octanol/water       | No data available                                     |
| p) Auto-ignition temperature                    | 309 °C (588 °F) at 1,013 hPa (760 mmHg)               |

- |                              |                   |
|------------------------------|-------------------|
| q) Decomposition temperature | 300 °C (572 °F) - |
| r) Viscosity                 | No data available |
| s) Explosive properties      | Not explosive     |
| t) Oxidizing properties      | No data available |

## 9.2 Other safety information

|              |                       |
|--------------|-----------------------|
| Bulk density | 0.8 kg/m <sup>3</sup> |
|--------------|-----------------------|

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## 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

An explosion occurred when a mixture of sodium azide, methylene chloride, dimethyl sulfoxide, and sulfuric acid were being concentrated on a rotary evaporator.

### 10.5 Incompatible materials

Halogenated hydrocarbon, Metals, Acids, Acid chlorides, Hydrazine, Dimethyl sulfate, Inorganic acid chlorides

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Sodium oxides

Other decomposition products - No data available

In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 27 mg/kg

Inhalation: No data available

Dermal: No data available

No data available

#### Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE)

Result: No skin irritation - 15 min

#### Serious eye damage/eye irritation

Eyes - Bovine cornea

Result: No eye irritation - 4 h

(OECD Test Guideline 437)

#### Respiratory or skin sensitisation

in vivo assay - Mouse

Result: Does not cause skin sensitisation.

(OECD Test Guideline 429)

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

Carcinogenicity - Rat - male and female - Oral

No significant adverse effects were reported

IARC: No component 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 component 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 identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

No data available

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

Oral - May cause damage to organs through prolonged or repeated exposure. - Brain

**Aspiration hazard**

No data available

**Additional Information**

Repeated dose toxicity Rat - male and female - Oral - LOEL : 5 mg/kg

RTECS: VY8050000

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

Nausea; Headache, Vomiting, Laboratory experiments in animals have shown sodium azide to produce a profound hypotensive effect, demyelination of myelinated nerve fibers in the central nervous system, testicular damage, blindness, attacks of rigidity, and hepatic and cerebral effects., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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**12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

Toxicity to fish mortality LC50 - Pimephales promelas (fathead minnow) - 5.46 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to algae static test EC50 - Pseudokirchneriella subcapitata - 0.35 mg/l - 96 h (OECD Test Guideline 201)

**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**

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

**12.6 Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

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**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**  
Dispose of as unused product.

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#### 14. TRANSPORT INFORMATION

##### DOT (US)

UN number: 1687      Class: 6.1      Packing group: II  
Proper shipping name: Sodium azide  
Reportable Quantity (RQ): 1000 lbs  
Poison Inhalation Hazard: No

##### IMDG

UN number: 1687      Class: 6.1      Packing group: II      EMS-No: F-A, S-A  
Proper shipping name: SODIUM AZIDE  
Marine pollutant: yes

##### IATA

UN number: 1687      Class: 6.1      Packing group: II  
Proper shipping name: Sodium azide

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#### 15. REGULATORY INFORMATION

##### SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

|              | CAS-No.    | Revision Date |
|--------------|------------|---------------|
| Sodium azide | 26628-22-8 | 2007-07-01    |

##### SARA 313 Components

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

|              | CAS-No.    | Revision Date |
|--------------|------------|---------------|
| Sodium azide | 26628-22-8 | 2007-07-01    |

##### SARA 311/312 Hazards

Acute Health Hazard

##### Massachusetts Right To Know Components

|              | CAS-No.    | Revision Date |
|--------------|------------|---------------|
| Sodium azide | 26628-22-8 | 2007-07-01    |

##### Pennsylvania Right To Know Components

|              | CAS-No.    | Revision Date |
|--------------|------------|---------------|
| Sodium azide | 26628-22-8 | 2007-07-01    |

##### New Jersey Right To Know Components

|              | CAS-No.    | Revision Date |
|--------------|------------|---------------|
| Sodium azide | 26628-22-8 | 2007-07-01    |

##### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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#### 16. OTHER INFORMATION

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

|                 |   |
|-----------------|---|
| Acute Tox.      | Acute toxicity  |
| Aquatic Acute   | Acute aquatic toxicity  |
| Aquatic Chronic | Chronic aquatic toxicity  |
| H300            | Fatal if swallowed.   |
| H300 + H310     | Fatal if swallowed or in contact with skin                                      |
| H310            | Fatal in contact with skin.   |
| H373            | May cause damage to organs through prolonged or repeated exposure if swallowed. |
| H400            | Very toxic to aquatic life.   |



**HMIS Rating**

Health hazard: 4  
Chronic Health Hazard:  
Flammability: 0  
Physical Hazard 0

**NFPA Rating**

Health hazard: 4  
Fire Hazard: 0  
Reactivity Hazard: 3

**Further information**

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**Preparation Information**

Sigma-Aldrich Corporation  
Product Safety – Americas Region  
1-800-521-8956

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