

## SAFETY DATA SHEET

Version 6.17  
Revision Date 06/06/2024  
Print Date 07/13/2024**SECTION 1: Identification of the substance/mixture and of the company/undertaking****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

Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

**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)**

Acute toxicity, Oral (Category 2), H300

Acute toxicity, Inhalation (Category 2), H330

Acute toxicity, Dermal (Category 1), H310

Specific target organ toxicity - repeated exposure, Oral (Category 2), Brain, H373  
Short-term (acute) aquatic hazard (Category 1), H400  
Long-term (chronic) aquatic hazard (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 Statements

H300 + H310 + H330  
H373

Fatal if swallowed, in contact with skin or if inhaled.  
May cause damage to organs (Brain) through prolonged or repeated exposure if swallowed.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P260

Do not breathe dust.

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.

P271

Use only outdoors or in a well-ventilated area.

P273

Avoid release to the environment.

P280

Wear protective gloves/ protective clothing.

P284

Wear respiratory 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.

P304 + P340 + P310

IF INHALED: Remove person to fresh air and keep comfortable  
for breathing. Immediately call a POISON CENTER/ doctor.

P314

Get medical advice/ attention if you feel unwell.

P362

Take off contaminated clothing and wash before reuse.

P391

Collect spillage.

P403 + P233

Store in a well-ventilated place. Keep container tightly closed.

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.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Formula :  $N_3Na$   
Molecular weight : 65.01 g/mol  
CAS-No. : 26628-22-8

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EC-No. : 247-852-1  
Index-No. : 011-004-00-7

| Component           | Classification  | Concentration |
|---------------------|---|---------------|
| <b>sodium azide</b> |   |               |
|                     | Acute Tox. 2; Acute Tox. 1; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H300, H330, H310, H373, H400, H410<br>M-Factor - Aquatic Acute: 1<br>M-Factor - Aquatic Chronic: 1 | <= 100 %      |

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

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

#### In case of skin contact

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

#### In case of eye contact

After eye contact: rinse out with plenty of water. 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

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Sand Special powder against metal fire Cement

#### Unsuitable extinguishing media

Foam Water

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

Sodium oxides

Combustible.

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

### 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.

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## SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. 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.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Work under hood. Do not inhale substance/mixture.

#### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage conditions

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Do not store near acids.

### Storage class

Storage class (TRGS 510): 6.1A: Combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

## 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

#### Ingredients with workplace control parameters

| Component    | CAS-No.    | Value                                  | Control parameters               | Basis   |
|--------------|------------|--|----------------------------------|---|
| sodium azide | 26628-22-8 | C                                      | 0.29 mg/m <sup>3</sup>           | USA. ACGIH Threshold Limit Values (TLV)   |
|              | Remarks    | Not classifiable as a human carcinogen |                                  |   |
|              |            | C                                      | 0.11 ppm                         | USA. ACGIH Threshold Limit Values (TLV)   |
|              |            | Not classifiable as a human carcinogen |                                  |   |
|              |            | C                                      | 0.1 ppm                          | USA. NIOSH Recommended Exposure Limits  |
|              |            | Potential for dermal absorption        |                                  |   |
|              |            | C                                      | 0.3 mg/m <sup>3</sup>            | USA. NIOSH Recommended Exposure Limits  |
|              |            | Potential for dermal absorption        |                                  |   |
|              |            | C                                      | 0.1 ppm<br>0.3 mg/m <sup>3</sup> | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
|              |            | Skin                                   |                                  |   |

### 8.2 Exposure controls

#### Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face 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 EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://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

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 EN 16523-1 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: 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**

Recommended Filter type: Filter type P3

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.  
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**

- |                                 |  |
|---------------------------------|--|
| a) Appearance                   | Form: crystalline<br>Color: white  |
| b) Odor                         | odorless   |
| c) Odor Threshold               | No data available  |
| d) pH                           | 10 at 65 g/l at 25 °C (77 °F)  |
| e) Melting point/freezing point | Melting point/range: 370 - 425 °C (698 - 797 °F) - ASTM E 537-76 - Decomposition |

|    |  |  |
|----|--|--|
| f) | Initial boiling point and boiling range      | No data available  |
| 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                                      | 1.850 g/cm <sup>3</sup> at 20 °C (68 °F)                                     |
|    | Relative density                             | No data available  |
| n) | Water solubility                             | 65 g/l at 20 °C (68 °F) - completely soluble                                 |
| o) | Partition coefficient: n-octanol/water       | Not applicable for inorganic substances                                      |
| p) | Autoignition temperature                     | 309 °C (588 °F) at 1,013 hPa - Relative self-ignition temperature for solids |
| q) | Decomposition temperature                    | 370 - 425 °C (698 - 797 °F), 0.8 kJ/kg -                                     |
| r) | Viscosity                                    | No data available  |
| s) | Explosive properties                         | Not classified as explosive.   |
| t) | Oxidizing properties                         | none   |

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

highly reactive

Risk of dust explosion.

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.

Contact with acids liberates very toxic gas.

### 10.2 Chemical stability

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

### 10.3 Possibility of hazardous reactions

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

Heavy metals

Bromine

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dimethylsulfate  
Acid  
dichloromethane  
carbon disulfide  
sulfuric acid  
Halogenated hydrocarbon  
Copper  
Lead  
chromyl chloride  
Generates dangerous gases or fumes in contact with:  
Acids  
Water  
with  
Heat.  
Violent reactions possible with:  
nitrates  
benzoyl chloride  
Generates dangerous gases or fumes in contact with:  
Acids

#### **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.  
Strong heating (decomposition).  
Exposure to moisture.  
no information available

#### **10.5 Incompatible materials**

Aluminum, Heavy metals

#### **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 toxicity**

LD50 Oral - Rat - 27 mg/kg

Remarks: (RTECS)

LC50 Inhalation - Rat - male and female - 4 h - 0.054 - 0.52 mg/l - dust/mist

(US-EPA)

LD50 Dermal - Rabbit - 20 mg/kg

Remarks: (RTECS)

No data available

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

Skin - In vitro study

Result: No skin irritation



(OECD Test Guideline 439)

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

Eyes - Bovine cornea

Result: No eye irritation - 4 h

(OECD Test Guideline 437)

### **Respiratory or skin sensitization**

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

### **Germ cell mutagenicity**

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: unscheduled DNA synthesis assay

Test system: Chinese hamster lung cells

Metabolic activation: without metabolic activation

Method: OECD Test Guideline 482

Result: negative

Test Type: sister chromatid exchange assay

Test system: Chinese hamster ovary cells

Metabolic activation: without metabolic activation

Method: OECD Test Guideline 479

Result: negative

### **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**

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

- Brain

### **Aspiration hazard**

No data available

## **11.2 Additional Information**

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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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish                      flow-through test LC50 - *Oncorhynchus mykiss* (rainbow trout) - 2.75 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to algae                      static test ErC50 - *Pseudokirchneriella subcapitata* - 0.35 mg/l - 96 h (OECD Test Guideline 201)

Toxicity to bacteria

### 12.2 Persistence and degradability

The methods for determining the biological degradability 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.

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**SECTION 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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**SECTION 15: Regulatory information****CERCLA Reportable Quantity**

| Components   | CAS-No.    | Component RQ (lbs) | Calculated product RQ (lbs) |
|--------------|------------|--------------------|-----------------------------|
| sodium azide | 26628-22-8 | 1000               | 1000                        |

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

| Components   | CAS-No.    | Component RQ (lbs) | Calculated product RQ (lbs) |
|--------------|------------|--------------------|-----------------------------|
| sodium azide | 26628-22-8 | 1000               | 1000                        |

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

| Components   | CAS-No.    | Component TPQ (lbs) |
|--------------|------------|---------------------|
| sodium azide | 26628-22-8 | 500                 |

**SARA 311/312 Hazards** : Acute Health Hazard

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

sodium azide 26628-22-8 >= 90 - <= 100 %  
8

**Clean Air Act**

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

### Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

### US State Regulations

#### Massachusetts Right To Know

sodium azide 26628-22-8

#### Pennsylvania Right To Know

sodium azide 26628-22-8

#### Maine Chemicals of High Concern

Product does not contain any listed chemicals

#### Vermont Chemicals of High Concern

Product does not contain any listed chemicals

#### Washington Chemicals of High Concern

Product does not contain any listed chemicals

### The ingredients of this product are reported in the following inventories:

TSCA : All substances listed as active on the TSCA inventory

### TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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## SECTION 16: Other information

### Further information

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. 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](http://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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