

## SAFETY DATA SHEET

Version 6.3  
Revision Date 06/18/2019  
Print Date 06/22/2019**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

**1.3 Details of the supplier of the safety data sheet**

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

Telephone : +1 314 771-5765

Fax : +1 800 325-5052

**1.4 Emergency telephone number**

Emergency Phone # : +1-703-527-3887

**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 statement(s)	
H300 + H310 + H330	Fatal if swallowed, in contact with skin or if inhaled.
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.
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

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

## SECTION 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

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 M-Factor - Aquatic Acute: 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

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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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Sodium oxides

### 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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## SECTION 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. Keep in suitable, closed containers for disposal.

## 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

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.

Storage class (TRGS 510): 6.1B: Non-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

#### 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/m3	USA. NIOSH Recommended Exposure Limits
		Potential for dermal absorption		
		C	0.110000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Lung damage Cardiac impairment Not classifiable as a human carcinogen		
		C	0.290000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Lung damage Cardiac impairment Not classifiable as a human carcinogen		

		C	0.110000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Lung damage Cardiac impairment Not classifiable as a human carcinogen		
		C	0.290000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Lung damage Cardiac impairment Not classifiable as a human carcinogen		
		C	0.1 ppm	USA. NIOSH Recommended Exposure Limits
		Potential for dermal absorption		
		C	0.1 ppm	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		Skin notation		
		C	0.3 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		Skin notation		
		C	0.29 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Lung damage Cardiac impairment Not classifiable as a human carcinogen		
		C	0.11 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Lung damage Cardiac impairment Not classifiable as a human carcinogen		
		C	0.3 mg/m3	USA. NIOSH Recommended Exposure Limits
		Potential for dermal absorption		
		C	0.1 ppm 0.3 mg/m3	California permissible exposure limits for chemical contaminants (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: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (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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## **SECTION 9: Physical and chemical properties**

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

- |                                 |  |
|---------------------------------|--|
| a) Appearance                   | Form: crystalline<br>Colour: white   |
| b) Odour                        | odourless  |
| c) Odour Threshold              | No data available  |
| d) pH                           | 10.0 at 65.0 g/l at 25.0 °C (77.0 °F)  |
| e) Melting point/freezing point | Melting point/range: 370 - 425 °C (698 - 797 °F) - ASTM E 537-76 - Decomposition |
| f) Initial boiling point        | No data available  |

	and boiling range	
g)	Flash point	300.0 °C (572.0 °F) - open cup
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 at 20.0 °C (68.0 °F)
l)	Vapour density	No data available
m)	Relative density	1.85 g/cm <sup>3</sup> at 20.0 °C (68.0 °F)
n)	Water solubility	408 g/l at 20 °C (68 °F)
o)	Partition coefficient: n-octanol/water	Not applicable for inorganic substances
p)	Auto-ignition temperature	309 °C (588 °F) at 1,013 hPa - Relative self-ignition temperature for solids
q)	Decomposition temperature	370 - 425 °C (698 - 797 °F) -
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

## 9.2 Other safety information

Bulk density	0.8 kg/m <sup>3</sup>
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## SECTION 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. Strong heating (decomposition). Exposure to moisture

### 10.5 Incompatible materials

Halogenated hydrocarbon, Metals, Acids, Acid chlorides, Hydrazine, Dimethyl sulfate, Inorganic acid chlorides, Strong oxidizing agents, Aluminium, Heavy metals

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Sodium oxides  
Other decomposition products - No data available

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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  
(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 sensitisation

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

#### Germ cell mutagenicity

No data available

Mutagenicity (mammal cell test): chromosome aberration.

Chinese hamster ovary cells

Result: negative

#### Carcinogenicity

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 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



### **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) - 2.96 mg/l - 96 h  
(OECD Test Guideline 203)

Toxicity to algae                      static test ErC50 - *Pseudokirchneriella subcapitata* - 0.348 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 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.

No data available

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## **SECTION 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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### 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

#### SARA 302 Components

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

Sodium azide	CAS-No. 26628-22-8	Revision Date 2007-07-01
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#### SARA 313 Components

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

Sodium azide	CAS-No. 26628-22-8	Revision Date 2007-07-01
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#### SARA 311/312 Hazards

Acute Health Hazard

#### Massachusetts Right To Know Components

Sodium azide	CAS-No. 26628-22-8	Revision Date 2007-07-01
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No components are subject to the Massachusetts Right to Know Act.

#### Pennsylvania Right To Know Components

Sodium azide	CAS-No. 26628-22-8	Revision Date 2007-07-01
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Sodium azide	CAS-No. 26628-22-8	Revision Date 2007-07-01
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## New Jersey Right To Know Components

Sodium azide

CAS-No.  
26628-22-8

Revision Date  
2007-07-01

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### SECTION 16: Other information

#### Further information

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