

## SAFETY DATA SHEET

Version 6.13  
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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Sodium azide

Product Number : S2002

Brand : Sigma-Aldrich

Product Use : For laboratory research purposes.

Supplier : Sigma-Aldrich Canada Co.  
 2149 Winston Park Drive  
 OAKVILLE ON L6H 6J8  
 CANADA

Manufacturer : Sigma-Aldrich Corporation  
 3050 Spruce St.  
 St. Louis, Missouri 63103  
 USA

Telephone : +1 9058299500

Fax : +1 9058299292

Emergency Phone # (For both supplier and manufacturer) : +1-703-527-3887 (CHEMTREC)

Preparation Information : Sigma-Aldrich Corporation  
 Product Safety - Americas Region  
 1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### Target Organs

Heart, Central nervous system, Brain

##### Other hazards which do not result in classification

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

##### WHMIS Classification

D1A	Very Toxic Material Causing Immediate and Serious Toxic Effects	Highly toxic by ingestion
D2B	Toxic Material Causing Other Toxic Effects	Highly toxic by skin absorption Chronic toxicity

##### GHS Classification

Acute toxicity, Oral (Category 2)  
 Acute toxicity, Dermal (Category 1)  
 Specific target organ toxicity - repeated exposure, Oral (Category 2), Brain  
 Acute aquatic toxicity (Category 1)  
 Chronic aquatic toxicity (Category 1)

##### 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 + P352 + P310 IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/doctor.  
P314 Get medical advice/ attention if you feel unwell.  
P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.  
P391 Collect spillage.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.

**HMIS Classification**

**Health hazard:** 4  
**Flammability:** 0  
**Physical hazards:** 0

**Potential Health Effects**

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.  
**Skin** May be fatal if absorbed through skin. May cause skin irritation.  
**Eyes** May cause eye irritation.  
**Ingestion** May be fatal if swallowed.

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Formula :  $N_3Na$   
Molecular weight : 65.01 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Sodium azide</b>			
26628-22-8	247-852-1	011-004-00-7	<=100%

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**4. 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.

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**5. FIREFIGHTING MEASURES**

**Conditions of flammability**

Not flammable or combustible.

**Suitable extinguishing media**

Dry powder

**Special protective equipment for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**Hazardous combustion products****Explosion data - sensitivity to mechanical impact**

No data available

**Explosion data - sensitivity to static discharge**

No data available

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**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.

**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.

**7. HANDLING AND STORAGE****Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

**Conditions for safe storage**

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.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Basis
Sodium azide	26628-22-8	(c)	0.290000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks		(c)	0.110000 ppm 0.300000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		C	0.110000 ppm	Canada. British Columbia OEL
		C	0.290000 mg/m3	Canada. British Columbia OEL
		C	0.110000 ppm 0.300000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	A substance which may not be recirculated in accordance with section 108			
		C	0.11 ppm 0.3 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	A substance which may not be recirculated in accordance with section 108			

		(c)	0.29 mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		(c)	0.11 ppm 0.3 mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		C	0.29 mg/m <sup>3</sup>	Canada. British Columbia OEL
		C	0.11 ppm	Canada. British Columbia OEL
		C	0.110000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		C	0.290000 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		C	0.110000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		C	0.290000 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		C	0.29 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		C	0.11 ppm	USA. ACGIH Threshold Limit Values (TLV)

## Personal protective equipment

### 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).

### Hand 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.

### Eye 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 and 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.

#### Hygiene measures

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

#### Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Appearance

Form	crystalline
Colour	white

#### Safety data

pH	10 at 65 g/l at 25 °C (77 °F)
Melting point/freezing point	275 °C (527 °F)
Boiling point	No data available
Flash point	No data available
Flammability (solid, gas)	The product is not flammable. - Flammability (solids)
Ignition temperature	No data available
Auto-ignition temperature	309 °C (588 °F) at 1,013 hPa (760 mmHg)
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	0.01 hPa (0.01 mmHg) at 20 °C (68 °F)
Density	1.850 g/cm <sup>3</sup>
Water solubility	65 g/l at 20 °C (68 °F) - completely soluble
Partition coefficient: n-octanol/water	No data available
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

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### 10. STABILITY AND REACTIVITY

#### Chemical stability

Stable under recommended storage conditions.

#### Possibility of hazardous reactions

No data available

#### 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.

#### Materials to avoid

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

### **Hazardous decomposition products**

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

### **Thermal decomposition**

300 °C

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## **11. TOXICOLOGICAL INFORMATION**

### **Acute toxicity**

#### **Oral LD50**

LD50 Oral - Rat - 27 mg/kg

#### **Inhalation LC50**

No data available

#### **Dermal LD50**

No data available

#### **Other information on acute toxicity**

No data available

### **Skin corrosion/irritation**

Skin - reconstructed human epidermis (RhE) - No skin irritation - 15 min

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

Eyes - Bovine cornea - No eye irritation - 4 h - OECD Test Guideline 437

### **Respiratory or skin sensitisation**

in vivo assay - Mouse - 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.

### **Reproductive toxicity**

No data available

### **Teratogenicity**

No data available

### **Specific target organ toxicity - single exposure (Globally Harmonized System)**

No data available

### **Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

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

### **Aspiration hazard**

No data available

### **Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Ingestion</b>	May be fatal if swallowed.
<b>Skin</b>	May be fatal if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.

### **Signs and Symptoms of Exposure**

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

**Synergistic effects**

No data available

**Additional Information**

Repeated dose toxicity - Rat - male and female - Oral - Lowest observed adverse effect level - 5 mg/kg  
RTECS: VY8050000

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**12. ECOLOGICAL INFORMATION**

**Toxicity**

Toxicity to fish	mortality LC50 - Pimephales promelas (fathead minnow) - 5.46 mg/l - 96 h Method: OECD Test Guideline 203
Toxicity to algae	static test EC50 - Pseudokirchneriella subcapitata - 0.35 mg/l - 96 h Method: OECD Test Guideline 201

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**PBT and vPvB assessment**

No data available

**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**

**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		
Marine pollutant: No		
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: No			

**IATA**

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

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**15. REGULATORY INFORMATION**

**WHMIS Classification**

D1A	Very Toxic Material Causing Immediate and Serious Toxic Effects	Highly toxic by ingestion
D2B	Toxic Material Causing Other Toxic Effects	Highly toxic by skin absorption Chronic toxicity

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

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**16. OTHER INFORMATION****Text of H-code(s) and R-phrase(s) mentioned in Section 3****Further information**

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