SAFETY DATA SHEET

Version 6.3
Revision Date 06/18/2019
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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_3Na
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
Sodium azide		
	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.

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

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

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.

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

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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: crystalline 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/cm3 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/m3

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

In the event of fire: see section 5

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.

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

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.

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

SECTION 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

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

Pennsylvania Right To Know Components

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

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

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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