1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Sodium azide
Product Number : S2002
Brand : Sigma-Aldrich
Supplier : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555
Preparation Information : Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Target Organ Effect, Highly toxic by ingestion, Highly toxic by skin absorption

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.

GHS Classification
Acute toxicity, Oral (Category 2)
Acute toxicity, Dermal (Category 1)
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
H410 Very toxic to aquatic life with long lasting effects.
Precautionary statement(s)
P264 Wash hands thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing.
P302 + P350 IF ON SKIN: Gently wash with plenty of soap and water.
P310 Immediately call a POISON CENTER or doctor/ physician.
P501 Dispose of contents/ container to an approved waste disposal plant.
Other hazards
Contact with acids liberates very toxic gas.

HMIS Classification

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health hazard:</td>
<td>4</td>
</tr>
<tr>
<td>Chronic Health Hazard:</td>
<td>*</td>
</tr>
<tr>
<td>Flammability:</td>
<td>0</td>
</tr>
<tr>
<td>Physical hazards:</td>
<td>0</td>
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</tbody>
</table>

NFPA Rating

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health hazard:</td>
<td>4</td>
</tr>
<tr>
<td>Fire:</td>
<td>0</td>
</tr>
<tr>
<td>Reactivity Hazard:</td>
<td>0</td>
</tr>
</tbody>
</table>

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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

**Formula**: $\text{N}_3\text{Na}$
**Molecular Weight**: 65.01 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>26628-22-8</td>
</tr>
<tr>
<td>EC-No.</td>
<td>247-852-1</td>
</tr>
<tr>
<td>Index-No.</td>
<td>011-004-00-7</td>
</tr>
</tbody>
</table>

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.

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 fire fighting if necessary.

**Hazardous combustion products**
Hazardous decomposition products formed under fire conditions. - Sodium oxides

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**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
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</thead>
<tbody>
<tr>
<td>Sodium azide</td>
<td>26628-22-8</td>
<td>C</td>
<td>0.1 ppm</td>
<td>USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000</td>
</tr>
</tbody>
</table>

**Remarks**

- **Skin notation**

<p>| | | | | |</p>
<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>0.1 ppm</td>
<td>USA. NIOSH Recommended Exposure Limits</td>
</tr>
<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
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<td>C</td>
<td>0.3 mg/m3</td>
<td>USA. NIOSH Recommended Exposure Limits</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>0.11 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td>Lung damage</td>
<td>Cardiac impairment</td>
<td>Not classifiable as a human carcinogen</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>0.29 mg/m3</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td>Lung damage</td>
<td>Cardiac impairment</td>
<td>Not classifiable as a human carcinogen</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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: 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.

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.

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
Ignition temperature no data available
Auto-ignition temperature no data available
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/cm³
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
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

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

**Thermal decomposition**
300 °C

11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

Oral LD50
LD50 Oral - rabbit - 10 mg/kg

**Inhalation LC50**
LC50 Inhalation - rat - 37 mg/m3
Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Other. Behavioral:Convulsions or effect on seizure threshold. Lungs, Thorax, or Respiration:Structural or functional change in trachea or bronchi.

Dermal LD50
LD50 Dermal - rabbit - 20 mg/kg

**Other information on acute toxicity**
no data available

**Skin corrosion/irritation**
no data available

**Serious eye damage/eye irritation**
no data available

**Respiratory or skin sensitisation**
no data available

**Germ cell mutagenicity**
no data available

**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 identified as a carcinogen or potential carcinogen by OSHA.

**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)
no data available

Aspiration hazard
no data available

Potential health effects
- Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
- Ingestion: May be fatal if swallowed.
- Skin: May be fatal if absorbed through skin. May cause skin irritation.
- Eyes: 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
RTECS: VY8050000

12. ECOLOGICAL INFORMATION

Toxicity
no data available
- Toxicity to daphnia and other aquatic invertebrates
  EC50 - Daphnia pulex (Water flea) - 4.2 mg/l - 48 h

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.

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.

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

15. REGULATORY INFORMATION

OSHA Hazards
Target Organ Effect, Highly toxic by ingestion, Highly toxic by skin absorption

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

<table>
<thead>
<tr>
<th>CAS-No.</th>
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<td>26628-22-8</td>
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Sodium azide

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

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Sodium azide

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

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Sodium azide

Pennsylvania Right To Know Components

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Sodium azide

New Jersey Right To Know Components

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</table>

Sodium azide

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.

16. OTHER INFORMATION

Further information
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