



## Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 08/13/2004

Reviewed on 07/15/2004

### • 1 Identification of substance:

○ **Product details:**

○ **Product name:** Sodium azide

○ **Stock number:** 14314

○ **Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company  
Johnson Matthey Catalog Company, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Emergency Phone: (978) 521-6300  
CHEMTREC: (800) 424-9300  
Web Site: www.alfa.com

○ **Information Department:** Health, Safety and Environmental Department

○ **Emergency information:**

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

### • 2 Composition/Data on components:

○ **Chemical characterization:**

Description: (CAS#)  
Sodium azide (CAS# 26628-22-8), 100%

○ **Identification number(s):**

○ **EINECS Number:** 247-852-1

○ **EU Number:** 011-004-00-7

### • 3 Hazards identification

○ **Hazard description:**

T+ Very toxic  
N Dangerous for the environment

○ **Information pertaining to particular dangers for man and environment**

R 28 Very toxic if swallowed.  
R 32 Contact with acids liberates very toxic gas.  
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

○ **Classification system**

○ **HMIS ratings (scale 0-4)**

(Hazardous Materials Identification System)  
Health (acute effects) = 3  
Flammability = 3

Reactivity = 3

• **4 First aid measures**

○ **General information**

Immediately remove any clothing soiled by the product.  
In case of irregular breathing or respiratory arrest provide artificial respiration.

○ **After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.  
Seek immediate medical advice.

○ **After skin contact**

Immediately wash with water and soap and rinse thoroughly.  
Seek immediate medical advice.

○ **After eye contact**

Rinse opened eye for several minutes under running water. Then consult a doctor.

○ **After swallowing**

Do not induce vomiting; immediately call for medical help.  
Seek immediate medical advice.

○ **Information for doctor**

○ **The following symptoms may occur:**

Unconsciousness  
Nausea

• **5 Fire fighting measures**

○ **Suitable extinguishing agents** Extinguishing powder. Do not use water.

○ **For safety reasons unsuitable extinguishing agents** Water

○ **Special hazards caused by the material, its products of combustion or resulting gases:**

During heating or in case of fire poisonous gases are produced.

○ **Protective equipment:**

Wear self-contained respirator.  
Wear fully protective impervious suit.

• **6 Accidental release measures**

○ **Person-related safety precautions:**

Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation

○ **Measures for environmental protection:**

Do not allow material to be released to the environment without proper governmental permits.

○ **Measures for cleaning/collecting:**

Dispose contaminated material as waste according to item 13.

○ **Additional information:**

See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

• **7 Handling and storage**

○ **Handling**

○ **Information for safe handling:**

Keep container tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation at the workplace.

○ **Information about protection against explosions and fires:**

The product is not flammable

○ **Storage**

○ **Requirements to be met by storerooms and receptacles:**

No special requirements.

○ **Information about storage in one common storage facility:**

Store away from water/moisture.  
Do not store together with acids.  
Store away from metals.

○ **Further information about storage conditions:**

Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.  
Store under lock and key and with access restricted to technical experts or their assistants only.

● **8 Exposure controls and personal protection**

○ **Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace:

Sodium azide

ACGIH TLV	0.29-Ceiling as sodium azide
	0.11 ppm-Ceiling as hydrazioic acid vapor
Belgium TWA	0.11 ppm-STEL
France TWA	0.1 ppm
Germany TWA	0.2 mg/m <sup>3</sup>
Switzerland TWA	0.07 ppm
United Kingdom TWA	0.3 mg/m <sup>3</sup> -Ceiling
Netherlands TWA	0.1 ppm-Ceiling
Denmark TWA	0.3 mg/m <sup>3</sup>
Finland TWA	0.1 ppm, 0.3 ppm-STEL
Ireland TWA	0.3 mg/m <sup>3</sup> as sodium azide

○ **Additional information:** No data

○ **Personal protective equipment**

○ **General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.  
Keep away from foodstuffs, beverages and feed.  
Remove all soiled and contaminated clothing immediately.  
Wash hands before breaks and at the end of work.

○ **Breathing equipment:**

Use suitable respirator when high concentrations are present.

○ **Protection of hands:** Impervious gloves

○ **Eye protection:** Safety glasses

○ **Body protection:** Protective work clothing.

● **9 Physical and chemical properties:**

○ **General Information**

○ **Form:** Granules

○ **Color:** White

○ **Odor:** Odorless

○

<u>Value/Range</u>	<u>Unit</u>	<u>Method</u>
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○ **Change in condition**

○ **Melting point/Melting range:** (DEC) 300 ° C

○ **Boiling point/Boiling range:** Not determined

○ **Sublimation temperature / start:** Not determined

○ **Flash point:** Not applicable

○ **Ignition temperature:** Not determined

○ **Decomposition temperature:** Not determined

- **Danger of explosion:**  
Forms very sensitive explosive metallic compounds.
- **Explosion limits:**
- **Lower:** Not determined
- **Upper:** Not determined
- **Vapor pressure:** Not determined
- **Density:** at 20 ° C 1.846 g/cm<sup>3</sup>
- **Solubility in / Miscibility with**
- **Water:** at 17 ° C 417 g/l

## • **10 Stability and reactivity**

- **Thermal decomposition / conditions to be avoided:**  
Decomposition will not occur if used and stored according to specifications.
- **Materials to be avoided:**  
Acids  
Heavy metal powders
- **Dangerous reactions**  
Reacts with certain metals  
Reacts with acids
- **Dangerous products of decomposition:**  
Explosive heavy metal azides  
Metal oxide fume

## • **11 Toxicological information**

- **Acute toxicity:**  
**LD/LC50 values that are relevant for classification:** \_\_\_\_\_  
Oral: LD50: 27 mg/kg (mus)  
LD50: 27 mg/kg (rat)  
Dermal: LD50: 20 mg/kg (rbt)
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:**  
If sodium azide is swallowed, symptoms similar to strychnine poisoning will develop. Effects include violent heart stimulation within minutes, throbbing at the base of the brain, loss of consciousness, nausea and vomiting. If hydrazoic acid is released, death may result due to respiratory paralysis. Sodium azide has caused mutagenic and teratogenic effects on laboratory animals.
- **Additional toxicological information:**  
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for components in this product.  
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

## • **12 Ecological information:**

- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **General notes:**  
Do not allow product to reach ground water, water course or sewage system.  
Water hazard class 2 (Self-assessment): hazardous for water.  
Danger to drinking water if even small quantities leak into the ground.  
Also poisonous for fish and plankton in water bodies.  
Do not allow material to be released to the environment without proper governmental permits.

• **13 Disposal considerations**

- **Product:**
- **Recommendation**  
Consult state, local or national regulations to ensure proper disposal.
- **Uncleaned packagings:**
- **Recommendation:**  
Disposal must be made according to official regulations.

• **14 Transport information**

- **DOT regulations:**
- **Hazard class:** 6.1
- **Identification number:** UN1687
- **Packing group:** II
- **Proper shipping name (technical name):**  
Sodium azide
  
- **Land transport ADR/RID (cross-border)**
- **ADR/RID class:** 6.1 Toxic substances
- **Item:** 42b
- **Danger code (Kemler):** 60
- **UN-Number:** 1687
- **Description of goods:** Sodium azide
  
- **Maritime transport IMDG:**
- **IMDG Class:** 6.1
- **UN Number:** 1687
- **Packaging group:** II
- **Proper shipping name:** Sodium azide
  
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** 6.1
- **UN/ID Number:** 1687
- **Packaging group:** II
- **Proper shipping name:** Sodium azide

• **15 Regulations**

- **Product related hazard informations:**
  
- **Hazard symbols:**  
T+ Very toxic N Dangerous for the environment
  
- **Risk phrases:**  
28 Very toxic if swallowed.  
32 Contact with acids liberates very toxic gas.  
50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
  
- **Safety phrases:**  
28 After contact with skin, wash immediately with plenty of water  
45 In case of accident or if you feel unwell, seek medical advice immediately.  
60 This material and its container must be disposed of as hazardous waste.  
61 Avoid release to the environment. Refer to special instructions/Safety data sheets

○ **National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

○ **Information about limitation of use:**

For use only by technically qualified individuals.

○ **Water hazard class:**

Water hazard class 2 (Self-assessment): hazardous for water.

• **16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees.

This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

○ **Department issuing MSDS:** Health, Safety and Environmental Department.

○ **Contact:** Darrell R. Sanders

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