

## Material Safety Data Sheet

### Section 1 Chemical Product and Company Identification

MSDS Name: Sodium azide  
 Product Code: 40-1999  
 Synonyms: Azide; Azium; Smite  
 Company identification: Severn Biotech Limited  
 Unit 2 Park Lane Industrial Estate  
 Kidderminster  
 Worcestershire  
 DY11 6TJ

For information call: +44 (0)1562 825286

### Section 2 - Composition, Information on Ingredients

CAS: 26628-22-8  
 Chemical Name: Sodium azide  
 %: 99  
 EINECS: 247-852-1

Risk Phrases: 28 32 50/53

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Danger! May be fatal if inhaled, absorbed through the skin or swallowed. Heating may cause an explosion. Reacts with many heavy metals to form explosive compounds. Contact with acids liberates toxic gas. Causes eye, skin, and respiratory tract irritation. Readily absorbed through the skin. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Potential Health Effects

Eye: Causes eye irritation.

Skin: Causes skin irritation. May be fatal if absorbed through the skin. Substance is readily absorbed through the skin.

Ingestion: May be fatal if swallowed. May cause irritation of the digestive tract. May cause low blood pressure, rapid heartbeat, skin discoloration, and possible coma.

Inhalation: May be fatal if inhaled. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung oedema.

Chronic: May cause liver and kidney damage. Repeated exposure may cause damage to the spleen. Laboratory experiments have resulted in mutagenic effects. Chronic exposure may cause blood effects. Animal studies have reported the development of tumours.

### Section 4 - First Aid Measures

Eye: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. **SPEEDY ACTION IS CRITICAL!**

Ingestion: **POISON** material. If swallowed, get medical aid immediately. Only induce vomiting if directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

**Inhalation:** Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. **SPEED IS ESSENTIAL, OBTAIN MEDICAL AID IMMEDIATELY.** Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**Chronic:**

**Notes to Physician:** Accidental ingestion of sodium azide is potentially life threatening. Treatment includes gastric lavage, followed by saline catharsis. EKG and blood pressure monitoring and support are recommended.

## Section 5 - Fire Fighting Measures

**General Information:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Water spray may be used to keep fire exposed containers cool. Poisonous gases are produced in fire, including nitrogen oxides.

**Fire:** Combustible solid. May pose a fire hazard upon heating, shock, concussion, or friction.

**Explosion:** Decomposes explosively upon heating, shock, concussion, or friction. Reacts with both copper and lead to produce explosive azides. Explosions in laboratory plumbing containing these metals is possible. Sensitive to mechanical impact.

**Extinguishing Media:** Water spray, dry chemical, alcohol foam, or carbon dioxide.

## Section 6 - Accidental Release Measures

Vacuum or sweep up material and place into a suitable disposal container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Avoid generating dusty conditions. Provide ventilation. Evacuate unnecessary personnel. Do not flush down the drain. Over a period of time, sodium azide may react with copper, lead, brass, or solder in plumbing systems to form an accumulation of the highly explosive compounds of lead azide and copper azide. Do not let this chemical enter the environment.

## Section 7 - Handling and Storage

Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood. Acids should not be used around this material unless absolutely necessary and then only after careful planning. Contact with acids liberates toxic gas.

Store in a tightly closed container. Store in a cool, dry, ventilated area away from sources of heat or ignition. Protect container from physical damage. Keep away from acids. Do not store in metal containers. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids).

## Section 8 - Exposure Controls, Personal Protection

**Airborne Exposure Limits:** NIOSH Recommended Exposure Limit (REL): 0.1 ppm skin as HN<sub>3</sub>, 0.3 mg/m<sup>3</sup> skin as NaN<sub>3</sub> (Ceilings). ACGIH Threshold Limit Value (TLV): 0.11 ppm as HN<sub>3</sub>, 0.29 mg/m<sup>3</sup> as Na N<sub>3</sub> (Ceilings), A4 Not classifiable as a human carcinogen.

**Ventilation System:** A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded and engineering controls are not feasible, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134).

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

## Section 9 - Physical and Chemical Properties

Physical State:	Crystalline powder
Colour:	White
Odour:	Odourless
pH:	10 (1M aqueous solution)
Vapour Pressure:	Not available
Vapour Density:	Not available
Evaporation Rate:	Not available
Viscosity:	Not available
Boiling Point:	300 deg C @ 760mmHg
Freezing/Melting Point:	275 deg C
Decomposition Temperature:	Not available
Solubility in water:	Soluble
Specific Gravity/Density:	1.850
Molecular Formula:	NaN <sub>3</sub>
Molecular Weight:	65.01

## Section 10 - Stability and Reactivity

Chemical Stability: Heating may cause an explosion. Contact with acid liberates gas. Heat sensitive.

Conditions to Avoid: Incompatible materials, dust generation, moisture, metals, strong acids, temperatures above 250 deg C.

Incompatibilities with Other Materials: Metals, acids, acid chlorides, halogenated hydrocarbons.

Hazardous Decomposition Products: Nitrogen oxides, sodium oxide, hydrazoic acid.

Hazardous Polymerization will not occur.

## Section 11 - Toxicological Information

CAS: 26628-22-8

LD50/LC50: Inhalation, mouse: LC50 = 32400 ug/m<sup>3</sup>;

Inhalation, rat: LC50 = 37 mg/m<sup>3</sup>;

Oral, mouse: LD50 = 27 mg/kg;

Oral, rat: LD50 = 27 mg/kg;

Skin, rabbit: LD50 = 20 mg/kg;

Skin, rat: LD50 = 50 mg/kg;

Carcinogenicity: Sodium azide - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

## Section 12 - Ecological Information

When released into the soil, this material is not expected to biodegrade and is expected to leach into groundwater. When released into the air, this material may be moderately degraded by photolysis.

Dangerous to the environment. Very toxic to aquatic organisms; may cause long term adverse effects in the aquatic environment. Harmful to aquatic life in very low concentrations. Do not empty into drains.

96 Hr LC50 *Oncorhynchus mykiss*: 0.8 mg/L;

96 Hr LC50 *Lepomis macrochirus*: 0.7 mg/L;

96 Hr LC50 *Pimephales promelas*: 5.46 mg/L [flow-through]

### Section 13 - Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to an approved waste facility. Processing, use or contamination of this product may change the waste management options. Dispose of container and unused contents in accordance with federal, state and local requirements.

### Section 14 - Transport Information

Shipping Name: SODIUM AZIDE  
Hazard Class: 6.1  
UN Number: UN1687  
Packing Group: II

### Section 15 - Regulatory Information

European/International Regulations

European Labelling in Accordance with EC Directives

Hazard Symbols: T+ N

Risk Phrases:

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.

Safety Phrases:

S 28A After contact with skin, wash immediately with plenty of water.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

CAS: 26628-22-8

### Section 16 - Other Information

MSDS Creation Date: 15/03/2000

Revision number: 1

Revision Date: 23/06/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.