

Material Safety Data Sheet
Sodium Azide
ACC# 20960

Section 1 - Chemical Product and Company Identification

MSDS Name: Sodium Azide

Catalog Numbers: AC190380000, AC190380050, AC190381000, AC190385000, S75204, BP922I-500, NC9812538, NC9899182, S227B100, S227B25, S227I-1, S227I-100, S227I-25, S227I-500, S227I100LC, S227I500LC

Synonyms: Sodium salt of hydrazoic acid; Smite; Azium.

Company Identification:

BioDtech, Inc.

2100 Southbridge Parkway, Suite 650

Birmingham, AL 35209

For information, call: 205-7-414-7586

Emergency Number: 911

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
26628-22-8	Sodium azide	>99	247-852-1
7732-18-5	Water	<0.5	231-791-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless to white crystals.

Danger! May be fatal if inhaled, absorbed through the skin or swallowed. Contact with acids liberates very toxic and explosive gas, hydrazoic acid vapor. Reacts with many heavy metals to form explosive compounds. Forms hydrazoic acid in water which volatilizes readily at 99°F. Hydrazoic acid is a colorless, volatile, highly toxic and highly explosive liquid with a characteristic odor, which has been described as sickening. Heating may cause an explosion. Causes eye, skin, and respiratory tract irritation. May cause cardiac disturbances. Heat sensitive. Dangerous for the environment.

Target Organs: Central nervous system, lungs, cardiovascular system, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation. Contact with dust or vapor may cause systemic toxic

Skin: Causes skin irritation. May be fatal if absorbed through the skin. If absorbed, causes symptoms similar to those of ingestion.

Ingestion: May be fatal if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. Sodium azide may cause hypotension (abnormally low blood pressure), tachycardia (rapid heart rate), tachypnea (quick, shallow breathing), hypothermia (low body temperature), convulsions and severe headache.

Inhalation: May be fatal if inhaled. Dust is irritating to the respiratory tract. May cause effects similar to those described for ingestion. Rapidly absorbed. The vapor of hydrazoic acid may be present where sodium azide is handled. Symptoms of acute exposure to hydrazoic acid include eye irritation, headache, dramatic decrease in blood pressure, weakness, pulmonary edema, and collapse.

Chronic: Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion: Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: POISON material. If inhaled, get medical aid immediately. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Water Reactive. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Forms explosion sensitive compounds with some metals such as lead and copper. Form hydrazoic acid vapor in contact with acid or water. Hydrazoic acid vapor is highly toxic and a dangerous explosive. Hydrazoic acid is shock sensitive.

Extinguishing Media: Use dry chemical, carbon dioxide, or alcohol-resistant foam. Do NOT get water inside containers.

Flash Point: Not applicable.

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 4; Flammability: 1; Instability: 3; Special Hazard: -W-

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation. 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.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Use only with adequate ventilation. Do not use with metal spatula or other metal items.

Storage: Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Keep away from acids. Do not store in metal containers. Keep containers tightly closed. Some have recommended storage in an explosion-proof refrigerator.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sodium azide	0.29 mg/m ³ Ceiling (as sodium azide); 0.11 ppm Ceiling (as Hydrazoic acid, vapor)	none listed	none listed
Water	1 mg/m ³ TWA (as W) (listed under Tungsten, soluble compounds). 3 mg/m ³ STEL (as W) (listed under Tungsten, soluble compounds).	3 mg/m ³ TWA (as W) (listed under Tungsten, soluble compounds).	none listed
Hydrazoic acid	none listed	none listed	none listed

OSHA Vacated PELs: Sodium azide: No OSHA Vacated PELs are listed for this chemical. Water: No OSHA Vacated PELs are listed for this chemical. Hydrazoic acid: No OSHA Vacated PELs are

listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Crystals

Appearance: colorless to white

Odor: odorless

pH: Not available.

Vapor Pressure: Negligible.

Vapor Density: 2.2

Evaporation Rate: negligible

Viscosity: Not applicable.

Boiling Point: Not applicable.

Freezing/Melting Point: 527 deg F (dec)

Decomposition Temperature: 527 deg F

Solubility: Soluble.

Specific Gravity/Density: 1.85

Molecular Formula: N₃Na

Molecular Weight: 65.01

Section 10 - Stability and Reactivity

Chemical Stability: Stable. However, may decompose if heated. May be shock-sensitive.

Conditions to Avoid: Mechanical shock, light, contact with water, temperatures above 275°C.

Incompatibilities with Other Materials: Acids, some metals, oxidizing agents.

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

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 26628-22-8: VY8050000

CAS# 7732-18-5: ZC0110000

CAS# 7782-79-8: MW2800000

LD50/LC50:

CAS# 26628-22-8:

Inhalation, mouse: LC50 = 32400 ug/m³;

Inhalation, rat: LC50 = 37 mg/m³;

Oral, mouse: LD50 = 27 mg/kg;

Oral, rat: LD50 = 27 mg/kg;
Skin, rabbit: LD50 = 20 mg/kg;
Skin, rat: LD50 = 50 mg/kg;

CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg;

CAS# 7782-79-8:
Inhalation, mouse: LC50 = 34 mg/m³;
Oral, rat: LD50 = 33 mg/kg;

Carcinogenicity:

CAS# 26628-22-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 7782-79-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.

Teratogenicity: No information found.

Reproductive Effects: No information available.

Mutagenicity: See actual entry in RTECS for complete information.

Neurotoxicity: See actual entry in RTECS for complete information.

Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Rainbow trout: LC50 = 0.8-1.6 mg/L; 96 Hr.; 13 degrees C
Bluegill/Sunfish: LC50 = 0.7-0.8 mg/L; 96 Hr.; 18 degrees C
No data available.

Environmental: Aquatic Fate: Photolysis of sodium azide may result in metal nitrides initially, with the eventual formation of the free metal and nitrogen gas.

Physical: No information available.

Other: Harmful to aquatic life in very low concentrations.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: CAS# 26628-22-8: waste number P105.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	SODIUM AZIDE	SODIUM AZIDE

Hazard Class:	6.1	6.1
UN Number:	UN1687	UN1687
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 26628-22-8 is listed on the TSCA inventory.

CAS# 7732-18-5 is listed on the TSCA inventory.

CAS# 7782-79-8 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 26628-22-8: 1000 lb final RQ; 454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

CAS# 26628-22-8: 500 lb TPQ (This material is a reactive solid. The TP Q does not default to 10000 pounds for non-powder, non-molten, non-so lvent form)

SARA Codes

CAS # 26628-22-8: acute, chronic, reactive.

Section 313

This material contains Sodium azide (CAS# 26628-22-8, >99%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Water (listed as Water Dissociable Nitrate Compounds), <0.5%, (CAS# 7732-18-5) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 26628-22-8 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 7782-79-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations European Labeling 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 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 28A After contact with skin, wash immediately with plenty of water.

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

WGK (Water Danger/Protection)

CAS# 26628-22-8: 2

CAS# 7732-18-5: No information available.

CAS# 7782-79-8: No information available.

Canada - DSL/NDSL

CAS# 26628-22-8 is listed on Canada's DSL List.

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 7782-79-8 is listed on Canada's NDSL List.

Canada - WHMIS

This product has a WHMIS classification of D1A, D2B, F.

Canadian Ingredient Disclosure List

CAS# 26628-22-8 is listed on the Canadian Ingredient Disclosure List.

CAS# 7732-18-5 is not listed on the Canadian Ingredient Disclosure List.

CAS# 7782-79-8 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 7/01/1999

Revision #10 Date: 4/05/2004

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 BioDtech, Inc. 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 BioDtech, Inc. has been advised of the possibility of such damages.