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MSDS Number: **S2906** \* \* \* \* \* *Effective Date: 03/16/06* \* \* \* \* \* *Supersedes: 08/10/04*

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# SODIUM AZIDE

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## 1. Product Identification

**Synonyms:** Azide; Azium; Smite

**CAS No.:** 26628-22-8

**Molecular Weight:** 65.01

**Chemical Formula:** NaN<sub>3</sub>

**Product Codes:**

J.T. Baker: V015

Mallinckrodt: 1953

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## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Hazardous		
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Sodium Azide	26628-22-8	90 - 100%
Yes		

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## 3. Hazards Identification

### Emergency Overview

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**POISON! DANGER! MAY BE FATAL IF SWALLOWED OR ABSORBED THROUGH SKIN. HARMFUL IF INHALED. HAZARDOUS SOLID. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE OR EXPLOSION. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM, KIDNEYS, AND CARDIOVASCULAR SYSTEM.**

**SAF-T-DATA<sup>(tm)</sup>** Ratings (Provided here for your convenience)

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Health Rating: 4 - Extreme (Poison)

Flammability Rating: 1 - Slight

Reactivity Rating: 4 - Extreme (Explosive)

Contact Rating: 4 - Extreme (Life)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER

Storage Color Code: Yellow Stripe (Store Separately)

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### Potential Health Effects

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**Inhalation:**

May cause irritation to the respiratory tract and mucous membranes, sore throat, coughing, dizziness, shortness of breath, and fainting. May be absorbed through inhalation. Symptoms may parallel ingestion.

**Ingestion:**

Highly Toxic! May cause breathlessness, pulmonary edema and rapid heart beat within 5 minutes. Nausea, vomiting, headache, restlessness, and diarrhea may occur within 15 minutes. Other symptoms may include low blood pressure, abnormal breathing, reduced body temperature, reduced body pH, convulsions, collapse and death.

**Skin Contact:**

Highly Toxic! Causes irritation, redness, and pain. May be absorbed through the skin; symptoms may parallel ingestion.

**Eye Contact:**

Causes irritation, redness, pain, and blurred vision.

**Chronic Exposure:**

No information found.

**Aggravation of Pre-existing Conditions:**

No information found.

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## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Ingestion:**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Skin Contact:**

Wipe off excess material from skin then immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eye Contact:**

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

**Note 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.

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## 5. Fire Fighting Measures

**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.

**Fire Extinguishing Media:**

Water spray, dry chemical, alcohol foam, or carbon dioxide.

**Special 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.

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## 6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

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## 7. Handling and Storage

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. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

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## 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. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

**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.

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## 9. Physical and Chemical Properties

**Appearance:**

Colorless crystals.

**Odor:**

Odorless.

**Solubility:**

42 g/100 g water @ 17C (63F)

**Specific Gravity:**

1.85

**pH:**

No information found.

**% Volatiles by volume @ 21C (70F):**

0

**Boiling Point:**

Not applicable.

**Melting Point:**

275 (decomposes to sodium and nitrogen)

**Vapor Density (Air=1):**

2.2

**Vapor Pressure (mm Hg):**

No information found.

**Evaporation Rate (BuAc=1):**

No information found.

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## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage. Decomposes explosively upon heating, shock, concussion, or friction.

**Hazardous Decomposition Products:**

Explodes upon decomposition liberating nitrogen gas (N<sub>2</sub>) and sodium (Na).

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Benzoyl chloride plus potassium hydroxide, bromine, carbon disulfide, chromyl chloride, copper, dibromalonitrile, dimethyl sulfate, lead, barium carbonate, sulfuric acid, water, and nitric acid.

**Conditions to Avoid:**

Heat, flames, ignition sources and incompatibles.

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## 11. Toxicological Information

Oral rat LD50: 27 mg/kg Skin rabbit LD50: 20 mg/kg.

Inhalation rat LC50: 37 mg/m3 Investigated as a tumorigen and mutagen.

-----\Cancer Lists\-----			
Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
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Sodium Azide (26628-22-8)	No	No	None

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## 12. Ecological Information

### Environmental Fate:

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

### Environmental Toxicity:

Dangerous to the environment. Very toxic to aquatic organisms; may cause long term adverse effects in the aquatic environment. Freshwater Fish Species Data:

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]

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## 13. Disposal Considerations

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

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## 14. Transport Information

### Domestic (Land, D.O.T.)

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**Proper Shipping Name:** SODIUM AZIDE

**Hazard Class:** 6.1

**UN/NA:** UN1687

**Packing Group:** II

**Information reported for product/size:** 15KG

### International (Water, I.M.O.)

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**Proper Shipping Name:** SODIUM AZIDE

**Hazard Class:** 6.1

**UN/NA:** UN1687

**Packing Group:** II

**Information reported for product/size:** 15KG

## 15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----				
Ingredient	TSCA	EC	Japan	Australia
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Sodium Azide (26628-22-8)	Yes	Yes	Yes	

Yes

-----\Chemical Inventory Status - Part 2\-----				
Ingredient	Korea	--Canada--		
		DSL	NDSL	Phil.
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Sodium Azide (26628-22-8)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----				
Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
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Sodium Azide (26628-22-8)	1000	500	Yes	No

-----\Federal, State & International Regulations - Part 2\-----			
Ingredient	CERCLA	-RCRA-	-TSCA-
		261.33	8(d)
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Sodium Azide (26628-22-8)	1000	P105	No

Chemical Weapons Convention: No      TSCA 12(b): No      CDTA: No  
SARA 311/312: Acute: Yes      Chronic: No      Fire: Yes      Pressure: No  
Reactivity: Yes      (Pure / Solid)

**Australian Hazchem Code:** 2X

**Poison Schedule:** None allocated.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: 3 Flammability: 1 Reactivity: 3

**Label Hazard Warning:**

POISON! DANGER! MAY BE FATAL IF SWALLOWED OR ABSORBED THROUGH SKIN. HARMFUL IF INHALED. HAZARDOUS SOLID. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE OR EXPLOSION. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM, KIDNEYS, AND CARDIOVASCULAR SYSTEM.

**Label Precautions:**

Do not get in eyes, on skin, or on clothing.  
Do not breathe dust.

Keep container closed and away from acids.

Use only with adequate ventilation.

Wash thoroughly after handling.

Keep away from heat, sparks and flame.

Avoid friction or rough handling because of fire and explosion hazard.

**Label First Aid:**

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, wipe off excess material from skin then immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases, get medical attention.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

MSDS Section(s) changed since last revision of document include: 3, 11, 12.

**Disclaimer:**

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**Prepared by:** Environmental Health & Safety

Phone Number: (314) 654-1600 (U.S.A.)