

MATERIAL SAFETY DATA SHEET**SODIUM AZIDE**

PRODUCT CODE NUMBER(S): 8170-1

PRODUCT IDENTIFICATION**Chemical Name and Synonyms:** Sodium azide; Azium; Hydrazoic acid, sodium salt**Chemical Family:** Azides**Chemical Formula:** NaN₃**Product Use:** Laboratory reagent**Manufacturer's Name and Address:**Caledon Laboratories Ltd.
40 Armstrong Avenue
Georgetown, Ontario L7G 4R9**Telephone No:** (905) 877-0101**Fax No:** (905) 877-6666**Emergency Telephone No:** CANUTEC (613) 996-6666**HAZARDOUS INGREDIENTS OF MATERIALS**

Ingredients	%	TLV Units	CAS No.
Sodium azide	>98	0.3 mg/m ³ (as NaN ₃)	26628-22-8
(0.1 ppm as hydrazoic acid vapour) skin contact can contribute to overall exposure			

PHYSICAL DATA**Physical State:** Solid**Odour and Appearance:** White, crystalline solid, odourless**Odour Threshold (ppm):** Not applicable**Vapour Pressure (mm Hg):** 0.0075 mm Hg @ 20°C**Vapour Density (Air = 1):** 2.2**Evaporation Rate:** Negligible**Boiling Point (degrees C):** Decomposes**Melting Point (degrees C):** 275°C (decomposes)**pH:** Not available**Specific Gravity:** 1.8 @ 20°C**Coefficient of Water/Oil distribution:** Not available**SHIPPING DESCRIPTION****UN:** 1687**T.D.G. Class:** 6.1**Pkg. Group:** II**REACTIVITY DATA****Chemical Stability:** Stable if protected from contact with water or acid, heat, shock or friction. Decomposes explosively upon heating, concussion, or friction. Forms hydrazoic acid on contact with water or acid.**Incompatibility with other substances:** Forms toxic, explosive, shock-sensitive hydrazoic acid vapor in contact with acid or water. Reacts with benzoyl chloride plus potassium hydroxide, bromine, carbon disulphide, chromyl chloride, copper, dibromalomonitrile, dimethyl sulphate, lead, barium

carbonate. Over time, sodium azide reacts with copper, lead, brass or solder in plumbing systems to form an accumulation of highly explosive compounds.

Reactivity: Avoid excessive heat, contact with water or acid, ignition sources, shock, friction, all incompatible materials, generation of dust.**Hazardous Decomposition Products:** Nitrogen gas, sodium, hydrazoic acid which is explosive and shock sensitive.**FIRE AND EXPLOSION DATA****Flammability:** Combustible if heated above 300°C. May pose fire hazard upon heating, shock, concussion, or friction. Decomposes explosively upon heating, shock, concussion, friction. Reacts with copper and lead to produce explosive azides.**Extinguishing Media:** Use an extinguisher appropriate to the surrounding material that is burning. Water spray or fog may be used to disperse dust and fumes and cool containers, but should not be allowed to contact the material directly. Fight fire from upwind, from a safe distance. Fire fighters must wear protective equipment (positive-pressure self-contained breathing apparatus) and clothing (chemical splash suit) sufficient to prevent inhalation of mist or fumes, and contact with skin and eyes.**Flash Point (Method Used):** Not available**Autoignition Temperature:** Not available**Upper Flammable Limit (% by volume):** Not available**Lower Flammable Limit (% by volume):** Not available**Hazardous Combustion Products:** Nitrogen gas, sodium, hydrazoic acid**Sensitivity to Impact:** Sensitive to shock.**Sensitivity to Static discharge:** Mixtures of dust with air may be sensitive under certain conditions, when ignited by an electrostatic or other high-voltage spark, or other ignition source.**TOXICOLOGICAL PROPERTIES AND HEALTH DATA****Toxicological Data:****LD₅₀:** (oral, rat) 27 mg/kg; (dermal, rabbit) 20 mg/kg**LC₅₀:** (rat) 37 mg/m³**Effects of Acute Exposure to Product:**

Toxic by all routes of exposure.

Inhaled: Highly toxic. Readily absorbed through respiratory tract. Inhalation of dust, mist or vapour may cause shortness of breath, rapid heart beat, severe headache, nausea, vomiting, restlessness, diarrhea, pulmonary edema, low blood pressure, lowered body temperature and pH, convulsions, collapse and death.**In contact with skin:** Highly toxic. Causes irritation, redness, pain. Readily absorbed through skin with systemic effects as in "Inhaled".**In contact with eyes:** Causes irritation, redness, pain, blurred vision.

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Ingested: *Highly toxic. Symptoms such as shortness of breath, rapid heartbeat can occur within 5 minutes of exposure. Nausea, vomiting, headache, restlessness, diarrhea occur within 15 minutes. For other symptoms, see "Inhaled"*

Effects of Chronic Exposure to Product:

Carcinogenicity: *Carcinogenicity designation A4 (ACGIH), inadequate data available to classify as human or animal carcinogen.*

Teratogenicity: *No information available*

Reproductive Effects: *No information available*

Mutagenicity: *Some positive references cited; results inconclusive.*

Synergistic Products: *None known*

PREVENTIVE MEASURES

Engineering Controls: *Local exhaust ventilation required.*

Respiratory Protection: *Dust/mist mask; use only in fumehood. For concentrations above TLV: NIOSH approved full face-piece respirator, or full face-piece self-contained breathing apparatus. For higher or unknown concentrations, or for fire or spill conditions, positive-pressure, full face-piece self-contained breathing apparatus.*

Eye Protection: *Chemical safety goggles or face-shield.*

Skin Protection: *Impervious rubber or plastic gloves. Impervious labcoat, apron, sleeves and boots sufficient to prevent any contact.*

Other Personal Protective Equipment: *Safety shower and eye-wash fountain in work area.*

Leak and Spill Procedure: *Evacuate area of spill. Cleanup personnel must be thoroughly trained in the handling of hazardous materials, and must wear protective equipment and clothing sufficient to prevent inhalation of dusts or fumes and contact with skin and eyes. Do not touch spilled material. Avoid raising dust. Avoid shock or friction. Mix with sand, 10 to 20 times by weight, transfer carefully into container and arrange removal by disposal company. Do not empty into drains; substance corrodes copper and lead to form highly explosive compounds. After cleanup is complete, wash site of spillage thoroughly with copious amounts of water and detergent.*

Waste Disposal: *Follow all federal, provincial and local regulations for disposal.*

Handling Procedures and Equipment: *HIGHLY TOXIC. REACTS WITH WATER. Workers must be thoroughly trained in the hazards of this substance and its safe use, and must wear appropriate protective equipment and clothing. Avoid all contact and inhalation. Avoid generating dust. DO NOT SHOCK. Avoid friction or concussion. Use the smallest amount possible for the purpose, in a designated area with adequate ventilation. Do not empty into drains; substance corrodes copper and lead to form highly explosive compounds. Follow routine safe handling and good housekeeping procedures. Keep work area free of extraneous materials. Empty containers may contain hazardous residues; treat with extreme caution.*

Storage Requirements: *Store in suitable, labelled containers, in a cool, dry, well-ventilated area, out of direct sunlight and away from all incompatible or combustible materials. Keep containers tightly closed when not in use and when empty. DO NOT SHOCK. Avoid friction or concussion. Protect from damage, and inspect frequently for signs of damage or leaking.*

FIRST AID MEASURES

Specific Measures:

Eyes: *Flush thoroughly with gently running water for at least fifteen (15) minutes, holding eyelids open while flushing. Take care not to flush contaminated water into unaffected eye. Wear protective gloves during first aid procedures to avoid contact with this chemical. Get medical attention immediately.*

Skin: *Remove contaminated clothing (including shoes, watches, belts, and rings). Wear protective gloves to avoid contact with this chemical. Wipe excess material from skin and then flush skin with plenty of running water for at least twenty (20) minutes. GET MEDICAL ATTENTION IMMEDIATELY. Decontaminate clothing before reuse, or discard. Inform laundry of hazard.*

Inhalation: *Remove to fresh air. Give oxygen for any breathing difficulty. If breathing has stopped give artificial respiration. GET MEDICAL ATTENTION IMMEDIATELY.*

Ingestion: *If the person is conscious and NOT convulsing, give 2 to 4 glasses of water immediately. After the water has been swallowed induce vomiting, under medical supervision, by touching the back of throat with finger. GET MEDICAL ATTENTION IMMEDIATELY.*

REFERENCES USED

CCINFO disc: Cheminfo

Budavari: *The Merck Index*, 12th ed., 1997

Sax, Lewis: *Hawley's Condensed Chemical Dictionary*, 11th ed., 1987

Suppliers' Material Safety Data Sheets

ADDITIONAL INFORMATION

Date Issued: *March 30, 1999*

Revision: *March 2011*

MSDS: *8170-1*

Proposed WHMIS Designation: *D1A; D2B; F*

*Prepared by: Caledon Laboratories Ltd. (905) 877-0101
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