

MATERIAL SAFETY DATA SHEET**ZINC, GRANULAR**

PRODUCT CODE NUMBER(S): 9060-1

PRODUCT IDENTIFICATION**Chemical Name and Synonyms:** Zinc, granular, No. 20 mesh**Chemical Family:** Metal**Chemical Formula:** Zn**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.
Zinc	>99	Not established	7440-66-6

PHYSICAL DATA**Physical State:** Solid**Odour and Appearance:** Bluish-gray metal granules or shot; odourless**Odour Threshold (ppm):** Not applicable**Vapour Pressure (mm Hg):** 1 mm Hg at 487°C**Vapour Density (Air = 1):** Not applicable**Evaporation Rate:** Not applicable**Boiling Point (degrees C):** 908°C**Melting Point (degrees C):** 419.5°C**pH:** Not available**Specific Gravity:** 7.140**Coefficient of Water/Oil distribution:** Not available**SHIPPING DESCRIPTION****UN:** Not regulated (as granules or shot)**T.D.G. Class:** Not regulated**Pkg. Group:** Not regulated**REACTIVITY DATA****Chemical Stability:** Stable in dry air. Becomes covered with a white coating of basic carbonate on exposure to moist air. Damp powder may heat spontaneously and ignite on exposure to air.**Incompatibility with other substances:** Incompatible with water, acids, strong oxidizers, halogenated hydrocarbons, strong alkalis, alkali hydroxides, sulphur. Contact with strong acids or alkali hydroxides releases flammable/explosive hydrogen gas. Contact with acidic arsenic solutions may release toxic arsene gas. Reacts violently with sulphur. Reacts explosively with halogenated hydrocarbons if heated.

Powdered zinc becomes incandescent or ignites in the presence of fluorine, bromine, or chlorine. Wetted mixtures with ammonium nitrate react violently. Powder may ignite spontaneously with air, especially when damp. Powder can form explosive mixtures with air and may explode if ignited by flame.

Reactivity: Avoid excessive heat, all ignition sources, generation of dust, all incompatible materials. Avoid water.**Hazardous Decomposition Products:** Explosive hydrogen gas, ZnO**FIRE AND EXPLOSION DATA****Flammability:** Metal is not combustible. Powder form is flammable under almost all ambient conditions.**Extinguishing Media:** USE ONLY dry powder or sand (for powder). Avoid water since contact will cause the liberation of highly flammable gases. Fight fire from safe distance and from upwind. Firefighters must wear protective equipment and clothing sufficient to prevent inhalation of dust or fumes and contact with skin and eyes.**Flash Point (Method Used):** Not available**Autoignition Temperature:** 650°C (dust cloud), 460°C (layers)**Upper Flammable Limit (% by volume):** Not available**Lower Flammable Limit (% by volume):** 0.5g/L**Hazardous Combustion Products:** Explosive hydrogen gas, ZnO**Sensitivity to Impact:** None identified**Sensitivity to Static discharge:** Mixtures of dust in air may be ignited by static discharge**TOXICOLOGICAL PROPERTIES AND HEALTH DATA****Toxicological Data:****LD₅₀:** Not available**LC₅₀:** Not available**Effects of Acute Exposure to Product:****Inhaled:** Inhalation of dust or fumes may cause zinc fume fever, with a metallic taste in the mouth, and flu-like symptoms, including throat dryness, cough, weakness, generalized aching, chills, fever, nausea and vomiting. Symptoms last about 24 hours after exposure, and recovery is complete with no permanent effects.**In contact with skin:** Dust may cause mechanical irritation.**In contact with eyes:** Dust may cause mechanical irritation.**Ingested:** Not an expected route of exposure. Would probably cause gastrointestinal irritation and zinc fume fever, as in "Inhaled", if large amounts were ingested.**Effects of Chronic Exposure to Product:****Carcinogenicity:** No evidence of carcinogenicity**Teratogenicity:** No information available

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Reproductive Effects: No information available**Mutagenicity:** No information available**Synergistic Products:** Zinc is antagonistic to the toxic effects of cadmium to the kidneys. Zinc is also antagonistic to some of the toxic effects of lead.

PREVENTIVE MEASURES

Engineering Controls: Non-sparking, grounded, separate, exhaust ventilation required, if dust is present.**Respiratory Protection:** Dust mask if dust is present. NIOSH/MSHA approved self-contained breathing apparatus for high or unknown concentrations, as in fire or spill conditions.**Eye Protection:** Chemical safety goggles. Use heat resistant goggles if working with molten form.**Skin Protection:** Wear protective gloves and clean body-covering clothing. Wear heat resistant clothing if working with molten form. Zinc dust can react with chlorinated hydrocarbons such as CPE or PVC when heated.**Other Personal Protective Equipment:** Safety shower and eye-wash fountain in work area.**Leak and Spill Procedure:** If dust is present, eliminate all sources of ignition. In dusty conditions, cleanup personnel must be thoroughly trained in the hazards of this material and must wear protective equipment and clothing sufficient to prevent inhalation of dust or fumes, and contact with skin and eyes. Mix dust with dry sand or other inert material, transfer carefully into container and arrange for collection by disposal company. Granules or wire should be recycled. Wash site of spillage thoroughly with water and detergent.**Waste Disposal:** Follow all federal, provincial and local regulations for disposal. Use only licensed disposal and waste hauling companies.**Handling Procedures and Equipment:** Workers handling this material must be thoroughly trained in its hazards and its safe use. Use the smallest amount possible for the purpose, in designated areas with adequate ventilation. Follow routine safe handling and good housekeeping procedures. Avoid generating dust. Avoid use of water. Avoid contact with skin and eyes and inhalation of dust. If dust is present, eliminate all ignition sources, and use non-sparking tools.**Storage Requirements:** Store in suitable, labelled containers, in a cool, dry, well-ventilated area, out of direct sunlight, and away from incompatible materials. Store in an area that does NOT have sprinklers. Keep containers tightly closed. Store away from ignition sources. Protect from air and moisture.

FIRST AID MEASURES

Specific Measures:

Eyes: Do not allow victim to rub eyes. Let eyes to water naturally for a few minutes. If particles/dusts are not dislodged, flush eyes thoroughly with gently running water, holding eyelids open while flushing, for five (5) minutes or until particle is removed. Do not attempt to manually remove any remaining particles. Get medical attention if irritation develops, or if particles cannot be removed by flushing.**Skin:** Wash skin with plenty of running water for five (5) minutes or until chemical is removed. If irritation persists, get medical attention.**Inhalation:** Remove to fresh air. Give oxygen and get medical attention for any breathing difficulty.**Ingestion:** Probably not applicable; not a normal route of exposure. If victim is alert and not convulsing, rinse mouth thoroughly with water and give 1 to 2 glasses of water to drink to dilute. If victim feels unwell, or if a very large amount has been ingested, get medical attention.

REFERENCES USED

CCINFO disc: MSDS's, January 2007

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

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

Sax: Dangerous Properties of Industrial Materials, 5th ed., 1979

Suppliers' Material Safety Data Sheets

ADDITIONAL INFORMATION

Date Issued: May 2, 1991**Revision:** January 2007**MSDS:** 9060-1**Proposed WHMIS Designation:** B6 (as dust)

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