

**MATERIAL SAFETY DATA SHEET****LANTHANUM NITRATE**

PRODUCT CODE NUMBER(S): 4310-1

**PRODUCT IDENTIFICATION****Chemical Name and Synonyms:** *Lanthanum nitrate; Nitric acid, lanthanum salt***Chemical Family:** *Rare earth salt***Chemical Formula:** *La(NO<sub>3</sub>)<sub>3</sub>·6H<sub>2</sub>O***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**

<i>Ingredients</i>	<i>%</i>	<i>TLV Units</i>	<i>CAS No.</i>
<i>Lanthanum nitrate</i>	<i>&gt;98</i>	<i>Not established</i>	<i>10277-43-7</i>

**PHYSICAL DATA****Physical State:** *Solid***Odour and Appearance:** *White hygroscopic crystals or chunks.***Odour Threshold (ppm):** *Not available***Vapour Pressure (mm Hg):** *Not available***Vapour Density (Air = 1):** *Not available***Evaporation Rate:** *Not available***Boiling Point (°C):** *126°C***Melting Point (°C):** *40°C***pH:** *3.0-6.0 (5% solution)***Specific Gravity:** *Not available***Coefficient of Water/Oil distribution:** *Not available***SHIPPING DESCRIPTION****UN:** *1477***T.D.G. Class:** *5.1***Pkg. Group:** *II***REACTIVITY DATA****Chemical Stability:** *Stable, hygroscopic***Incompatibility with other substances:** *May react violently or explosively with reducing agents, strong acids, combustible materials. Forms a dibasic salt at elevated temperatures.***Reactivity:** *Avoid excessive heat, all ignition sources, shock, moisture. Avoid generation of dust.***Hazardous Decomposition Products:** *NO<sub>x</sub>***FIRE AND EXPLOSION DATA****Flammability:** *Not combustible but strong oxidizer. Will increase the burning rate of combustible matter. Contact with easily oxidizable, organic, or other combustible materials may result in ignition, violent combustion or explosion. Containers may explode in heat of fire.***Extinguishing Media:** *Use flooding amounts of water as spray or fog, to extinguish fire and to minimize dust, absorb heat, cool containers, and disperse vapours. Fight fire from upwind, from a safe distance. Do not allow runoff to enter sewers or waterways. Firefighters must wear protective equipment (positive-pressure, full face-piece self-contained breathing apparatus) and clothing sufficient to prevent inhalation of dust or fumes, and contact with skin and eyes (full Bunker Gear).***Flash Point (Method Used):** *Not applicable***Autoignition Temperature:** *Not applicable***Upper Flammable Limit (% by volume):** *Not applicable***Lower Flammable Limit (% by volume):** *Not applicable***Hazardous Combustion Products:** *NO<sub>x</sub>***Sensitivity to Impact:** *May explode when shocked***Sensitivity to Static discharge:** *Mixtures of dust with air may be sensitive under certain conditions, particularly when contaminated with organic materials, when ignited by an electrostatic or other high-voltage spark, or other ignition source.***TOXICOLOGICAL PROPERTIES AND HEALTH DATA****Toxicological Data:****LD<sub>50</sub>:** *(oral, rat) 4,500 mg/kg; (ipr, mouse) 410 mg/kg***LC<sub>50</sub>:** *Not available***Effects of Acute Exposure to Product:****Inhaled:** *Irritating to the mucous membranes, symptoms may include coughing, sore throat, and shortness of breath. At high temperatures, exposure to toxic nitrogen oxides decomposition products can quickly cause acute respiratory problems. Absorption leads to systemic poisoning with headache, fall in blood pressure, the formation of methemoglobin which decreases the ability of the blood to carry oxygen, causing cyanosis, possible convulsions, coma, and death. Onset may be delayed 2 to 4 hours or longer. Severe overexposure can be fatal.***In contact with skin:** *May irritate, particularly on broken skin, causing redness, itching and pain. Extent of irritation depends on concentration and duration of exposure. Risk of absorption is slight.***In contact with eyes:** *Dust or solutions cause redness, watering, itching, pain, blurred vision. Extent of tissue damage depends on concentration and duration of exposure.***Ingested:** *Low oral toxicity; may irritate gastrointestinal tract, causing nausea, vomiting. Large oral doses of nitrates may cause dizziness, abdominal pain, vomiting, bloody diar-*

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reha, weakness, convulsions, and collapse. May cause methemoglobinemia and cyanosis (see "Inhaled").

**Effects of Chronic Exposure to Product:**

Chronic overexposure to nitrates can lead to methemoglobinemia (see "Inhaled"), and conversion of nitrate to nitrite in the stomach, causing nausea and vomiting, blood and central nervous system effects, weakness, depression, headache, irregular heart rate; severe overexposure can cause coma and death.

**Carcinogenicity:** No information available

**Teratogenicity:** No information available

**Reproductive Effects:** Reproductive effects in some animal testing

**Mutagenicity:** Some mutation references cited.

**Synergistic Products:** None found

**PREVENTIVE MEASURES**

**Engineering Controls:** Local exhaust ventilation required.

**Respiratory Protection:** Dust mask. Up to maximum use specified by the respirator supplier, NIOSH/MSHA approved half-face or full face-piece dust/mist respirator, depending on concentration present. Higher or unknown concentrations, or for fire or spill conditions, self-contained breathing apparatus, or full face-piece, positive-pressure supplied-air respirator.

**Eye Protection:** Chemical safety goggles. Do not wear contact lenses when working with chemicals.

**Skin Protection:** Impervious gloves. Other impervious protective clothing, sleeves, apron, coverall, boots, sufficient to prevent contact.

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

**Leak and Spill Procedure:** Restrict access to area of spill. Eliminate all sources of ignition and combustible materials. Cleanup personnel must be thoroughly trained in the hazards of this chemical and its safe use, and must wear protective equipment and clothing sufficient to prevent inhalation of dust or fumes, and contact with skin and eyes.

Wet if necessary to avoid generating dust. Prevent from entering sewers and waterways. Contain spill with inert material (earth, sand, inert absorbent). Use non-sparking tools to collect material, in suitable, labelled, covered containers for disposal. Contaminated absorbent may pose the same hazards as the chemical; treat with caution. Flush area of spill with large amounts of running water.

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

**Handling Procedures and Equipment:** OXIDIZER.

Workers using this chemical must be thoroughly trained in its hazards and its safe use, and must wear appropriate protective equipment and clothing. Keep away from combustible or organic materials, and all sources of ignition. Use non-sparking tools. Avoid all contact and inhalation. Do not shock. Use the smallest amount possible for the purpose, in designated areas with adequate ventilation. Keep work area clean and free of extraneous, particularly combustible, materials. Do not use on porous surfaces (wood); use surfaces that can be easily and thoroughly cleaned. Clean up spills immediately and thoroughly. Keep containers closed when not in use and when empty. Empty containers may contain hazardous residues; treat with caution. Wash hands thoroughly after use.

**Storage Requirements:** Store in suitable, labelled containers, in a cool, dry, well-ventilated area, out of direct sunlight,

and away from incompatible, combustible or organic materials. Storage facilities (shelves, floors) should be constructed of non-combustible materials. Keep away from all ignition sources. Keep containers tightly closed when not in use and when empty. Protect from damage, and inspect frequently for signs of leaking; unattended spillage onto combustible materials (wood, paper, etc.) could result in fire.

**FIRST AID MEASURES****Specific Measures:**

**Eyes:** Flush eyes immediately with large amounts of gently running water or normal saline, holding eyelids open, for at least fifteen (15) minutes, or until no evidence of chemical remains. Take care not to flush contaminated water into unaffected eye. Get medical attention if irritation persists.

**Skin:** Remove contaminated clothing, including watches, rings, belts, and shoes. Wash skin with plenty of running water for five to ten (5-10) minutes, or until no trace of chemical remains. If irritation develops get medical attention. Decontaminate clothing before reuse, or discard; clothing may become dangerously flammable after contact with this chemical.

**Inhalation:** Remove to fresh air. Rescuer should take precaution to limit his own exposure. Eliminate all sources of ignition. Give oxygen and get medical attention for any breathing difficulty. Because exposure to nitrates can cause methemoglobinemia, the symptoms of which may be delayed, unless exposure is minor, the victim needs to be monitored for several hours for cyanosis, irregular heart rate, loss of consciousness.

**Ingestion:** If victim is alert and not convulsing, give 1 to 2 glasses of water to drink to dilute material. Do not induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. Obtain medical attention.

**REFERENCES USED**

CCINFO disc: MSDS's, February 2007

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:** June 17, 1991

**Revision:** February 2010

**MSDS:** 4310-1

**Proposed WHMIS Designation:** C

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