

MATERIAL SAFETY DATA SHEET**INDOLE**

PRODUCT CODE NUMBER(S): 4390-5

PRODUCT IDENTIFICATION

Chemical Name and Synonyms: *Indole; 2,3-Benzopyrrole*
Chemical Family: *Organic compounds*
Chemical Formula: C_8H_7N
Product Use: *Laboratory reagent*
Manufacturer's Name and Address:
*Caledon Laboratories Ltd.
40 Armstrong Avenue
Georgetown, Ontario L7G 4R9*
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HAZARDOUS INGREDIENTS OF MATERIALS

<i>Ingredients</i>	<i>% TLV Units</i>	<i>CAS No.</i>
<i>Indole</i>	<i>~99 Not established</i>	<i>120-72-9</i>

PHYSICAL DATA

Physical State: *Solid*
Odour and Appearance: *White to yellowish scales, with a strong, unpleasant, fecal odour.*
Odour Threshold (ppm): *Not available*
Vapour Pressure (mm Hg): *0.012 mm Hg @ 25°C*
Vapour Density (Air = 1): *Not available*
Evaporation Rate: *Not available*
Boiling Point (°C): *253°C*
Melting Point (°C): *52-54°C*
pH: *Not available*
Specific Gravity: *1.22g/cm³ @ 25°C*
Coefficient of Water/Oil distribution: *Not available*

SHIPPING DESCRIPTION

UN: *Not regulated*
T.D.G. Class: *Not regulated*
Pkg. Group: *Not regulated*

REACTIVITY DATA

Chemical Stability: *Stable under normal conditions of use and storage. Darkens on exposure to light.*
Incompatibility with other substances: *May react violently or explosively with strong oxidizing agents, strong bases, iron, iron salts. May decompose on exposure to air, light, or moisture.*
Reactivity: *Avoid excessive heat, ignition sources, exposure to air, light, or moisture, generation of dust.*
Hazardous Decomposition Products: *NO_x, CO_x, hydrogen cyanide*

FIRE AND EXPLOSION DATA

Flammability: *May be combustible if strongly heated. As with most organic compounds, fine dust dispersed in air in the presence of an ignition source is a potential dust explosion hazard.*
Extinguishing Media: *Use extinguisher appropriate to the surrounding fire. Use water spray or fog to disperse vapours, and cool fire-exposed containers. Fight fire from upwind, from a safe distance. 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 applicable*
Autoignition Temperature: *Not applicable*
Upper Flammable Limit (% by volume): *Not applicable*
Lower Flammable Limit (% by volume): *Not applicable*
Hazardous Combustion Products: *NO_x, CO_x, hydrogen cyanide*
Sensitivity to Impact: *None identified*
Sensitivity to Static discharge: *As with most organic powders, 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

To the best of our knowledge, the physical, chemical and toxicological properties of this substance have not yet been thoroughly investigated.

Toxicological Data:

LD₅₀: *(oral, rat) 1,000 mg/kg; (dermal, rabbit) 790 mg/kg*
LC₅₀: *Not available*

Effects of Acute Exposure to Product:

Inhaled: *Toxic. Causes irritation of the nasal and respiratory passages, CNS effects, headaches, nausea, vomiting.*
In contact with skin: *Dust or solutions are irritating to skin, causing redness, itching and pain. Severity of effects depends on degree and duration of exposure. Readily absorbed through skin, causing toxic effects, as in "Inhaled".*
In contact with eyes: *Dust or solutions cause severe irritation, with redness, tearing, pain, possible permanent corneal injury. Severity of effects depends on degree and duration of exposure.*
Ingested: *No human or animal information available. May be harmful. May cause gastrointestinal irritation, with nausea, vomiting, diarrhea, possible CNS effects, as in "Inhaled".*

Effects of Chronic Exposure to Product:

Carcinogenicity: *No human information available. May be carcinogenic. Results in animal studies indicate probable carcinogen.*
Teratogenicity: *No human or animal information available*

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Reproductive Effects: No human or animal information available

Mutagenicity: Insufficient information available

Synergistic Products: None known

PREVENTIVE MEASURES

Engineering Controls: Local exhaust ventilation

Respiratory Protection: Dust/mist mask. Up to 10x TLV, or the maximum use specified by the respirator supplier, whichever is lowest, NIOSH/OSHA approved half-face dust/mist filter respirator. Up to 50x TLV, or the maximum use specified by the respirator supplier, whichever is lowest, NIOSH/OSHA approved full face-piece dust/mist filter respirator. 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: Protective gloves. Long sleeved shirt, apron, sleeves, other protective clothing sufficient to prevent contact.

Other Personal Protective Equipment: Safety shower or eyewash fountain in work area.

Leak and Spill Procedure: Evacuate area. If dust is present, eliminate all sources of ignition and all combustible materials. Cleanup personnel must be thoroughly trained in the handling of hazardous materials and must wear protective equipment and clothing sufficient to prevent inhalation of mist or fumes, and contact with skin and eyes. Prevent from entering sewers or waterways. Mix with inert material and collect in a manner that does not raise dust. Wet if necessary. Contaminated absorbent may pose the same hazards as the chemical; treat with caution. Wash site of spillage thoroughly with water and detergent.

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

Handling Procedures and Equipment: COMBUSTIBLE DUST, IRRITANT. Workers using this chemical must be properly trained in its hazards and its safe use, and must wear appropriate protective equipment and clothing. Avoid generating dust. If there is dust, keep away from heat, sparks, and all sources of ignition; avoid the accumulation of static charge, use anti-sparking tools and ground and bond equipment and containers. Use the smallest amount possible for the purpose, in a designated area with adequate ventilation. Use good housekeeping to prevent accumulations of dust. Avoid contact with skin and eyes. Avoid inhalation. Wash thoroughly after handling.

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

FIRST AID MEASURES

Specific Measures:

Eyes Flush thoroughly with 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 to avoid contact during first aid procedures. Get medical attention immediately.

Skin: Remove contaminated clothing, including watches, rings, belts, and shoes. Wear impervious gloves to avoid contact. Flush skin with plenty of running water for ten to

twenty (10-20) minutes, until no trace of chemical remains. Get medical attention. Decontaminate clothing completely before reuse, or discard.

Inhalation: Remove to fresh air. Prompt action is essential. If breathing is difficult, give oxygen and get medical attention. If breathing has stopped, begin artificial respiration immediately. Use a mouth guard to avoid contact with residual chemical.

Ingestion: If victim is alert, conscious, and NOT convulsing, rinse mouth thoroughly with water, and give 2 to 4 glasses of water to drink to dilute. Induce vomiting immediately under medical supervision, by touching a finger to the back of the throat. Get medical attention immediately.

REFERENCES USED

CCINFO disc: MSDS's

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: May 14, 1999

Revision: May 2011

MSDS: 4390-5

Proposed WHMIS Designation: D1B; D2B

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