

**MATERIAL SAFETY DATA SHEET****BUTYL METHACRYLATE**

PRODUCT CODE NUMBER(S): 2320-5

**PRODUCT IDENTIFICATION**

**Chemical Name and Synonyms:** *Butyl methacrylate; Methacrylic acid, butyl ester; 2-Methyl butylacrylate*  
**Chemical Family:** *Carboxylic acid ester*  
**Chemical Formula:**  $CH_2=C(CH_3)COO(CH_2)_3CH_3$   
**Product Use:** *Laboratory reagent*  
**Manufacturer's Name and Address:**  
*Caledon Laboratories Ltd.  
40 Armstrong Avenue  
Georgetown, Ontario L7G 4R9*  
**Telephone No:** (905) 877-0101  
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**HAZARDOUS INGREDIENTS OF MATERIALS**

<i>Ingredients</i>	<i>%</i>	<i>TLV Units</i>	<i>CAS No.</i>
<i>Butyl methacrylate</i>	<i>99</i>	<i>Not established</i>	<i>97-88-1</i>

**PHYSICAL DATA**

**Physical State:** *Liquid*  
**Odour and Appearance:** *Clear, colourless liquid with a sweet, fruity odour.*  
**Odour Threshold (ppm):** *Not available*  
**Vapour Pressure (mm Hg):** *1.8 mm Hg @ 20°C*  
**Vapour Density (Air = 1):** *4.8*  
**Evaporation Rate:** *Not available*  
**Boiling Point (degrees C):** *160°C to 170.5°C*  
**Freezing Point (degrees C):** *<-50°C*  
**pH:** *Not applicable*  
**Specific Gravity:** *0.89 @ 20°C*  
**Coefficient of Water/Oil distribution:** *LogP (oct)=2.88*

**SHIPPING DESCRIPTION**

**UN:** 2227  
**T.D.G. Class:** 3  
**Pkg. Group:** III

**REACTIVITY DATA**

**Chemical Stability:** *Thermally unstable. Moderate heating, exposure to light, oxidants or contaminants can cause violent polymerization.*  
**Incompatibility with other substances:** *May react vigorously or violently with strong oxidizing agents.*  
**Reactivity:** *Avoid heat, light, moisture. Flow, agitation can cause buildup of electrostatic charge, resulting in fire/explosion hazard.*  
**Hazardous Decomposition Products:** *CO, CO<sub>2</sub>*

**FIRE AND EXPLOSION DATA**

**Flammability:** *Combustible liquid. Can form explosive mixtures with air at, or above 50°C. Vapours may travel to distant source of ignition and flash back.*  
**Extinguishing Media:** *Dry chemical, carbon dioxide, alcohol-resistant foam, water spray or fog. Heat can cause violent polymerization. Water spray or fog may be used to cool containers, disperse vapours, flush spill away from ignition source, or dilute spill to non-flammable mixture. Fight fire from upwind, from a safe distance. Firefighters must wear NIOSH/MSHA approved positive-pressure, full face-piece self-contained breathing apparatus, and full protective clothing (Bunker Gear). Containers may explode in heat of fire; withdraw immediately in case of rising sound from vent or discoloration of tank.*

**Flash Point (Method Used):** *50°C*  
**Autoignition Temperature:** *294°C*  
**Upper Explosion Limit (% by volume):** *8*  
**Lower Explosion Limit (% by volume):** *2*  
**Hazardous Combustion Products:** *CO, CO<sub>2</sub>*

**Sensitivity to Impact:** *None identified*  
**Sensitivity to Static discharge:** *Liquid or vapour may be ignited by static discharge*

**TOXICOLOGICAL PROPERTIES AND HEALTH DATA****Toxicological Data:**

**LD<sub>50</sub>:** *(oral, rat) 20,114 mg/kg; (dermal, rabbit) 10,057 mg/kg*  
**Irritation:** *(rabbit) eye, no or mild; skin, severe*  
**LC<sub>50</sub>:** *(inh, rat) saturated vapours/8h caused no deaths*

**Effects of Acute Exposure to Product:**

**Inhaled:** *Irritating. Vapour or mist can cause irritation of the respiratory tract. Overexposure may cause headache, nausea, drowsiness, coma*  
**In contact with skin:** *Effects may vary from mild to severe irritation. May be harmful through skin absorption. May cause allergic skin reaction.*  
**In contact with eyes:** *May cause mild to severe irritation.*  
**Ingested:** *May be harmful. May cause gastrointestinal irritation, nausea, vomiting, headache, drowsiness, coma, liver and kidney damage.*

**Effects of Chronic Exposure to Product:**

**Carcinogenicity:** *Not listed as a carcinogen.*  
**Teratogenicity:** *Fetotoxic, has caused developmental abnormalities in animal testing. (RTECS No. OZ3675000)*  
**Reproductive Effects:** *No human or animal information available.*  
**Mutagenicity:** *No human or animal information available.*  
**Synergistic Products:** *None known*

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**PREVENTIVE MEASURES**

**Engineering Controls:** Local exhaust ventilation required

**Respiratory Protection:** Use only in a fume hood. Up to 1000 ppm: NIOSH/MSHA approved full-facepiece, air-purifying respirator, or full-facepiece positive-pressure supplied-air respirator. Higher or unknown concentrations, as in fire or spill conditions: full face-piece, positive-pressure self-contained breathing apparatus or positive-pressure, full face-piece supplied-air respirator with auxiliary positive-pressure self-contained breathing apparatus.

**Eye Protection:** Chemical safety goggles

**Skin Protection:** Polyvinyl alcohol gloves, apron. Other impervious protective clothing (apron, sleeves, coveralls, splash suit, boots) sufficient to prevent contact.

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

**Leak and Spill Procedure:** Evacuate area, and provide maximum ventilation. Eliminate all sources of ignition. Cleanup personnel must be thoroughly trained in the handling of hazardous materials, and must wear protective equipment and clothing sufficient to prevent inhalation of mists or vapours and contact with skin and eyes. Do not touch spilled material. Contain spill with earth, sand or other inert material. Prevent from entering sewers or waterways. Collect contaminated adsorbent in labelled containers and hold for disposal. Contaminated adsorbent will have the same hazards as the product; treat with caution. Wash site of spill thoroughly with detergent and water.

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

**Handling Procedures and Equipment:** COMBUSTIBLE; TOXIC; POSSIBLE TERATOGEN. Eliminate all sources of ignition and have all engineering controls operating before handling. Workers must be thoroughly trained in the hazards of this material and its safe use, and must wear appropriate protective clothing and equipment. Ground and bond equipment to prevent static charge accumulation. Moderate heating, exposure to light, oxidants or contaminants can cause violent polymerization. Use the smallest amount possible for the purpose, in a designated area with adequate ventilation. Avoid contact with skin and eyes, and inhalation of mist or fumes.

**Storage Requirements:** Store in a cool, well-ventilated area out of sunlight and away from all ignition sources. Keep storage area free of combustible materials and incompatible materials such as strong oxidizers. Storage facilities should be made of fire-resistant materials, and have raised sills and be trenched to safe location. Keep containers tightly closed. Use drums on a first in, first out basis. Protect from damage. Inspect frequently for signs of damage or leaking.

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

**Eyes:** Immediately flush eyes with gently running water for five to ten (5-10) minutes, holding eyelids open during flushing, until no trace of chemical remains. Take care not to flush contaminated water into unaffected eye. Wear protective gloves and other clothing to avoid contact. Get medical attention.

**Skin:** Remove contaminated clothing (including shoes, watches, belts, and rings). Wash affected areas with soap and large amounts of running water for five to ten (5-10) minutes, or until no trace of chemical remains. Wear protective gloves and other clothing to avoid contact. If irritation per-

sists, get medical advice. Decontaminate clothing before reuse, or discard.

**Inhalation:** IMMEDIATELY remove casualty from contaminated area to fresh air (caution must be used by rescuers to avoid exposure to contaminating fumes). If breathing is difficult give oxygen. If breathing has stopped give artificial respiration. If breathing and pulse are absent give CPR. IMMEDIATELY OBTAIN MEDICAL ATTENTION. Stay with casualty until medical assistance is reached.

**Ingestion:** If victim is alert and not convulsing, give 1/2 to 1 glass of water 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 IMMEDIATELY.

**REFERENCES USED**

- CCINFO disc: Cheminfo, MSDS's, March 2001  
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:** February 14, 1992

**Revision:** March 2011 Disc. update for request only

**MSDS:** 2320-5

**Proposed WHMIS Designation:** B3; insufficient information for toxicology designation

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