

Material Safety Data Sheet

Butyl Methacrylate MSDS

Section 1: Chemical Product and Company Identification

Product Name: Butyl Methacrylate

Catalog Codes: SLB3535

CAS#: 97-88-1

RTECS: OZ3675000

TSCA: TSCA 8(b) inventory: Butyl Methacrylate

CI#: Not available.

Synonym: Methacrylic Acid, Butyl Ester (Stabilized with Methylhydroquinone)

Chemical Name: Butyl Methacrylate

Chemical Formula: C₈-H₁₄-O₂

Section 2: Composition and Information on Ingredients

Composition:

Name CAS # % by Weight

Butyl Methacrylate 97-88-1 100

Toxicological Data on Ingredients: Butyl Methacrylate: ORAL (LD50): Acute: 16000 mg/kg [Rat]. 12900 mg/kg [Mouse]. 25000 mg/kg [Rabbit].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of eye contact (irritant), of inhalation. Slightly hazardous in case of skin contact (irritant), of ingestion.

Potential Chronic Health Effects:

Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Classified POSSIBLE for human. DEVELOPMENTAL TOXICITY: Not available.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

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Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 562 °C (1043.6 °F)

Flash Points: OPEN CUP: 52.2 °C (126 °F).

Flammable Limits: LOWER: 2% UPPER: 8%

Products of Combustion: These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances:

Flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Explosive in presence of open flames and sparks, of heat.

Fire Fighting Media and Instructions:

Flammable liquid, insoluble in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Explosive in the form of vapor when exposed to heat or ignition sources (flames, sparks etc.)

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:

Flammable liquid, insoluble in water. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk.

Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.

Section 7: Handling and Storage

Precautions:

Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Avoid contact with eyes. Wear suitable protective clothing. In case of

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insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the

container or the label. Keep away from incompatibles such as oxidizing agents, reducing agents, acids, alkalis.

Storage:

Light Sensitive. Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Do not store above 25 °C (77 °F). Preferable to refrigerate.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Characteristic odor of esters. (Slight.)

Taste: Not available.

Molecular Weight: 142.2 g/mole

Color: Colorless.

pH (1% soln/water): Not applicable.

Boiling Point: 160 °C (320 °F)

Melting Point: -75 °C (-103 °F)

Critical Temperature: Not available.

Specific Gravity: 0.8936 (Water = 1)

Vapor Pressure: 0.7 kPa (@ 20 °C)

Vapor Density: 4.8 (Air = 1)

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: The product is more soluble in oil; log(oil/water) = 2.9

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether.

Solubility:

Partially soluble in diethyl ether. Insoluble in cold water, hot water.

Section 10: Stability and Reactivity Data

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Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources, moisture, incompatible materials.

Incompatibility with various substances:

Reactive with oxidizing agents, reducing agents, acids, alkalis. Slightly reactive to reactive with moisture.

Corrosivity: Not available.

Special Remarks on Reactivity:

Violent polymerization can be caused by heat, moisture, and oxidizers. Butyl methacrylate polymerizes much less readily than corresponding ordinary acrylates. None the less, it is stabilized by adding methylhydroquinone.

Special Remarks on Corrosivity: Not available.

Polymerization:

Yes. Violent polymerization can be caused by heat, moisture, and oxidizers. Butyl methacrylate polymerizes much less readily than corresponding ordinary acrylates. None the less, it is stabilized by adding methylhydroquinone.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact. Inhalation.

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 12900 mg/kg [Mouse]. Acute toxicity of the vapor (LC50): 4910 4 hours [Rat].

Chronic Effects on Humans: TERATOGENIC EFFECTS: Classified POSSIBLE for human.

Other Toxic Effects on Humans:

Hazardous in case of inhalation. Slightly hazardous in case of skin contact (irritant), of ingestion.

Special Remarks on Toxicity to Animals: LD50 [Rabbit] - Route: Skin; Dose: 11,300 uL/kg

Special Remarks on Chronic Effects on Humans:

May cause adverse reproductive effects (fetotoxicity, post-implantation mortality) and birth defects (teratogenic) based on animal data.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes skin irritation. Eyes: Causes eye irritation. May cause conjunctivitis Inhalation:

May cause respiratory tract and mucous membrane irritation, with sore throat, coughing, shortness of breath, and delayed pulmonary edema. Vapors may cause dizziness or suffocation. Ingestion: May cause gastrointestinal tract irritation with

nausea, vomiting and diarrhea. May affect blood, behavior, brain, liver and metabolism. Chronic Potential Health Effects: Skin: Chronic or prolonged exposure may cause skin sensitization, an allergic reaction.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation: Possibly hazardous short/long term degradation products are to be expected.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

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Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 3: Flammable liquid.

Identification: : n-Butyl Methacrylate, Inhibited UNNA: 2227 PG: III

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

Pennsylvania RTK: Butyl Methacrylate Massachusetts RTK: Butyl Methacrylate Massachusetts spill list: Butyl Methacrylate

New Jersey: Butyl Methacrylate TSCA 8(b) inventory: Butyl Methacrylate TSCA 8(a) PAIR: Butyl Methacrylate TSCA 8(d) H

and S data reporting: Butyl Methacrylate: Effective: 8/13/89; Sunset: 12/19/95

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):

R10- Flammable. R36/37/38- Irritating to eyes, respiratory system and skin. R43- May cause sensitization by skin contact.

R63- Possible risk of harm to the unborn child. S2- Keep out of the reach of children. S16- Keep away from sources of

ignition - No smoking. S33- Take precautionary measures against static discharges. S46- If swallowed, seek medical advice immediately and show this container or label.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 2

Reactivity: 1

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 2

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.