

Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	Combustible liquid having a flash point between 37.8°C (100°F) and 93.3°C (200°F). Irritating to skin, eyes, and the respiratory system. Lachrymator.	

Section I. Chemical Product and Company Identification

Chemical Name	Methacrylic Acid n-Butyl Ester (stabilized with HQ)		
Catalog Number	M0081	Supplier	TCl America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	N-Butyl methacrylate		
Chemical Formula	CH ₂ :C(CH ₃)COO(CH ₂) ₃ CH ₃		
CAS Number	97-88-1	In case of Emergency Call	Chemtrec® (800) 424-9300 (U.S.) (703) 527-3887 (International)

Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Methacrylic Acid n-Butyl Ester <small>(stabilized with HQ)</small>	97-88-1	Min. 99.0 (GC)	Not available.	Rat LD ₅₀ (oral): 16000 mg/kg Rat LD ₅₀ (intraperitoneal): 2304 mg/kg Mouse LD ₅₀ (oral): 12900 mg/kg

Section III. Hazards Identification

Acute Health Effects	Irritating to eyes (lachrymator) and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. Toxicity to the reproductive system: Not available. There is no known effect from chronic exposure to this product. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention. Treat symptomatically and supportively.
Skin Contact	If the chemical gets spilled on a clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.
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 artificial respiration. Seek medical attention. Treat symptomatically and supportively.
Ingestion	Remove dentures if any. Watch for an obstruction in the victim's mouth. Remove if possible what is causing the obstruction but do not force fingers or a hard object between the victim's teeth. Have conscious person drink several glasses of water or milk. INDUCE VOMITING by sticking finger in throat. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.

Section V. Fire and Explosion Data

Flammability	Combustible.	Auto-Ignition	294°C (561.2°F)
Flash Points	closed cup: 51°C (123.8°F) open cup: 66°C (150.8°F)	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO ₂).		
Fire Hazards	Reactive with strong oxidizers. Vapors may travel to source of ignition and flash back. Closed containers may explode from the heat of a fire. Highly flammable in presence of open flames and sparks, of heat.		

Continued on Next Page

Emergency phone number (800) 424-9300

(stabilized with HQ)

Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. No additional information is available regarding the risks of explosion.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemicals, CO ₂ , water spray or foam. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.

Section VI. Accidental Release Measures

Spill Cleanup Instructions	Combustible material. Keep away from heat and sources of ignition. Mechanical exhaust required. Stop leak if without risk. Absorb with an inert material and put the spilled material in an appropriate waste disposal.
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Section VII. Handling and Storage

Handling and Storage Information	IRRITANT. Keep away from heat and sources of ignition. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas, fumes, vapor or spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Avoid contact with skin and eyes. Always store away from incompatible compounds such as oxidizing agents.
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Section VIII. 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 station and safety shower is proximal to the work-station location.
Personal Protection	Splash goggles. Lab coat. Vapor respirator. Boots. Gloves. A MSHA/NIOSH approved respirator 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 IX. Physical and Chemical Properties

Physical state @ 20°C	Liquid.	Solubility	Partially soluble in diethyl ether. Insoluble in cold water, hot water.
Specific Gravity	0.89		
Molecular Weight	142.2	Partition Coefficient	Not available.
Boiling Point	164°C (327.2°F)	Vapor Pressure	4.9 mm of Hg (@ 20°C)
Melting Point	-50 to -75°C	Vapor Density	4.8 (air=1)
Refractive Index	Not available.	Volatility	100% (v/v).
Critical Temperature	Not available.	Odor	Not available.
Viscosity	Not available.	Taste	Not available.

Section X. Stability and Reactivity Data

Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Avoid heat, flame and all sources of ignition. Avoid excessive light.
Incompatibilities	Slightly reactive to reactive with oxidizing agents.

Section XI. Toxicological Information

RTECS Number	OZ3675000
Routes of Exposure	Ingestion. Inhalation. Eye contact. Skin contact.
Toxicity Data	Rat LD ₅₀ (oral): 16000 mg/kg Rat LD ₅₀ (intraperitoneal): 2304 mg/kg Mouse LD ₅₀ (oral): 12900 mg/kg
Chronic Toxic Effects	CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. Toxicity to the reproductive system: Not available. There is no known effect from chronic exposure to this product. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.
Acute Toxic Effects	Irritating to eyes (lachrymator) and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

Section XII. Ecological Information

Ecotoxicity Not available.

Environmental Fate Not available.

Section XIII. Disposal Considerations

Waste Disposal Recycle to process, if possible. Consult your local or regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state, and local regulations when disposing of this substance.

Section XIV. Transport Information

DOT Classification DOT CLASS 3: Flammable liquid.

PIN Number UN2227

Proper Shipping Name n-Butyl methacrylate

Packing Group (PG) III

DOT Pictograms

**Section XV. Other Regulatory Information and Pictograms**

TSCA Chemical Inventory (EPA) This product is **ON** the EPA Toxic Substances Control Act (TSCA) inventory.

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

EINECS Number (EEC) Not available.

EEC Risk Statements
R10- Flammable.
R18- In use, may form flammable/explosive vapor-air mixture.
R38- Irritating to skin.
R41- Risk of serious damage to eyes.

Japanese Regulatory Data Not available.

Section XVI. Other Information

Version 1.0
Validated on 1/29/1997.
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Notice to Reader

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, household, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.