




Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
 	<p>Corrosive to eyes and skin on contact. Toxic compound, do not ingest or inhale. Avoid all contact with this material. Combustible material; avoid heat and sources of ignition. Stench -- do not inhale, use under a fume hood. Readily absorbed through skin.</p>	

Section I. Chemical Product and Company Identification

Chemical Name	Methacrylic Acid (stabilized with MEHQ)		
Catalog Number	M0079	Supplier	TGI America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	2-Methylpropenoic Acid		
Chemical Formula	CH ₂ C(CH ₃)COOH		
CAS Number	79-41-4	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 (stabilized with MEHQ)	79-41-4	Min. 99.0 (GC)	Not available.	Rat LD ₅₀ (oral) 1060 mg/kg Mouse LD ₅₀ (oral) 1250 mg/kg Rabbit LD ₅₀ (dermal) 500 mg/kg

Section III. Hazards Identification

Acute Health Effects	<p>Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death.</p> <p>Readily absorbed through skin. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.</p>
Chronic Health Effects	<p>CARCINOGENIC EFFECTS : Not available. MUTAGENIC EFFECTS : Not available. TERATOGENIC EFFECTS : Not available. DEVELOPMENTAL TOXICITY: Not available.</p> <p>Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.</p>

Section IV. 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.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation	If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.
Ingestion	DO NOT INDUCE VOMITING. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

Section V. Fire and Explosion Data

Flammability	Combustible.	Auto-Ignition	400 °C (752 °F)
Flash Points	77 °C (170.6 °F).	Flammable Limits	LOWER: 1.6% UPPER: 8.8%
Combustion Products	These products are toxic carbon oxides (CO, CO ₂).		
Fire Hazards	Not available.		
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.		

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Emergency phone number (800) 424-9300

Fire Fighting Media
and Instructions

Combustible liquid.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.
Consult with local fire authorities before attempting large scale fire-fighting operations.

Section VI. Accidental Release MeasuresSpill Cleanup
Instructions

Corrosive material. Toxic material. Combustible material. Material is readily absorbed through skin. Material is a stench. Keep away from heat. Mechanical exhaust required. Stop leak if without risk. If the product is in its solid form: Use a shovel to put the material into a convenient waste disposal container. If the product is in its liquid form: Absorb with DRY earth, sand or other non-combustible material. DO NOT get water inside container. Absorb with an inert material and put the spilled material in an appropriate waste disposal. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Consult federal, state, and/or local authorities for assistance on disposal.

Section VII. Handling and StorageHandling and Storage
Information

CORROSIVE. TOXIC. COMBUSTIBLE. READILY ABSORBED THROUGH SKIN. STENCH. Keep container dry. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Treat symptomatically and supportively.
Always store away from incompatible compounds such as oxidizing agents, acids, alkalis (bases).

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

Face shield. Lab coat. Vapor respirator. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. Be sure to use a MSHA/NIOSH approved respirator or equivalent.



Exposure Limits

Not available.

Section IX. Physical and Chemical Properties

Physical state @ 20°C	Liquid. (Clear, colorless.)	Solubility	Soluble in warm water. Miscible with alcohol, ether.
Specific Gravity	1.015 (water=1)		
Molecular Weight	86.09	Partition Coefficient	Log P _{ow} : 0.93
Boiling Point	159 to 161 °C (318.2 to 321.8 °F)	Vapor Pressure	130 Pa (@ 25 °C)
Melting Point	15 °C (59 °F) (Freezing Point)	Vapor Density	2.97 (Air = 1)
Refractive Index	1.430 - 1.432	Volatility	Not available.
Critical Temperature	Not available.	Odor	Pungent.
Viscosity	1.4 Pas @ 20 °C	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 excessive heat and light.

Incompatibilities

Reactive with oxidizing agents, strong acids, strong alkalis (bases).

Section XI. Toxicological Information

RTECS Number

OZ2975000

Routes of Exposure

Eye Contact. Ingestion. Inhalation. Skin contact.

Toxicity Data

Rat LD₅₀ (oral) 1060 mg/kg
Mouse LD₅₀ (oral) 1250 mg/kg
Rabbit LD₅₀ (dermal) 500 mg/kg

Chronic Toxic Effects

CARCINOGENIC EFFECTS : Not available.
MUTAGENIC EFFECTS : Not available.
TERATOGENIC EFFECTS : Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Acute Toxic Effects	Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Readily absorbed through skin. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
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Section XII. Ecological Information

Ecotoxicity	Not available.
Environmental Fate	Methacrylic acid's production and use in methacrylate resins and plastics, in hydrogel contact lenses, and in engineering adhesives may result in its release to the environment through various waste streams. Methacrylic acid also occurs naturally in the oil from Roman chamomile. If released to air, a vapor pressure of 0.99 mm Hg at 25 deg C indicates methacrylic acid will exist solely as a vapor in the ambient atmosphere. Vapor-phase methacrylic acid will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 21 hours. Because the structurally similar compound methyl methacrylate does not absorb light in the environmental UV spectrum (>290 nm), methacrylic acid is not expected to directly photolyze. If released to soil, methacrylic acid is expected to have very high mobility based upon a Koc of 15. A pKa of 4.65 indicates methacrylic acid will exist almost entirely in the anionic form at pH values of 5 to 9. Volatilization from moist soil surfaces is expected to be slow based upon a Henry's Law constant of 3.9X10 ⁻⁷ atm-cu m/mole. Methacrylic acid may potentially volatilize from dry soil surfaces based upon its vapor pressure. If released into water, methacrylic acid is not expected to adsorb to suspended solids and sediment in the water column based upon the estimated Koc. Methacrylic acid reached 53% of its theoretical BOD in 5 days using a sewage inoculum. Volatilization from water surfaces is expected to occur slowly based upon this compound's estimated Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 27 days and 200 days, respectively. Methacrylic acid's pKa indicates that it will exist almost entirely in the anionic form at environmental pHs and therefore volatilization from water surfaces is not expected to be an important fate process. An estimated BCF of 3 suggests the potential for bioconcentration in aquatic organisms is low. Methacrylic acid is stable to hydrolysis at pH 3, 7, and 11. Occupational exposure to methacrylic acid may occur through inhalation and dermal contact with this compound at workplaces where methacrylic acid is produced or used. The general population may be exposed to methacrylic acid via contact with resins, plastics, contact lenses, and engineering adhesives which may contain small amounts of this compound.

Section XIII. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local 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 the substance.
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Section XIV. Transport Information

DOT Classification	DOT Class 8: Corrosive Material
PIN Number	UN2531
Proper Shipping Name	Methylacrylic acid, stabilized
Packing Group (PG)	II
DOT Pictograms	



Section XV. Other Regulatory Information and Pictograms

TSCA Chemical Inventory (EPA)	This compound is ON the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). CLASS E: Corrosive liquid. On DSL
EINECS Number (EEC)	201-204-4
EEC Risk Statements	R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. R34- Causes burns.
Japanese Regulatory Data	ENCS No. 2-1025

Section XVI. Other Information

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Notice to Reader

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Emergency phone number (800) 424-9300

TCl laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, 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.