

Material Safety Data Sheet

Methacrylic Acid

Section 1 – Chemical Product and Company Identification

Product Name: Methacrylic Acid

Company Identification:

Ayers International Corp.
Greenwich, Ct. 06831
For Information, call: (203) 329-8919
For CHEMTREC assistance, call: 800-424-9300

Manufacturer:

Zhejiang Union Chemicals Industry Co.,Ltd

Section 2 – Composition, Information on Ingredients

CAS#	Ingredient Name	Typical Wt %	OSHA
79-41-4	Methacrylic Acid	> 99	Y
150-76-5	Monomethyl ether of hydroquinone (MEHQ)	230-270ppm	Y

The substance(s) marked with a “Y” in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are all on the TSCA inventory list.

Section 3 – Hazards Identification

EMERGENCY OVERVIEW

Clear liquid with pungent odor

DANGER!

CAUSES EYE AND SKIN BURNS. MAY CAUSE BLINDNESS.

CAUSES RESPIRATORY TRACT IRRITATION.

HARMFUL IF ABSORBED THROUGH SKIN

Potential Health Effects:

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be no more than slightly toxic if swallowed, no more than moderately toxic if absorbed through skin, practically non-toxic if inhaled and corrosive to eyes and skin. Exposure to vapor may cause severe respiratory tract irritation.

Section 4 – First Aid Measures

IF IN THE EYES, immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

IF ON SKIN, immediately flush with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Destroy contaminated shoes.

IF SWALLOWED, do NOT induce vomiting. Give water to drink. Get medical attention immediately. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. Call a poison Control Center.

Section 5 – Fire Fighting Measures

Fire and Explosive Properties

Auto-Ignition Temperature	400 C	
Flash Point	68 C closed cup	Flash Point Method
Flammable Limits – Upper	NE	
Lower	2.7%	

Extinguishing Media

Use water spray, carbon dioxide, foam or dry chemical.

Fire Fighting Instructions

Fight fire from a protected location – EXPLOSION HAZARD. Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire-fighting equipment should be thoroughly decontaminated after use.

Fire and Explosion Hazards

When burned, the following hazardous products of combustion can occur:

Oxides of carbon

A large amount of head can be generated when monomers are exposed to a fire. Heated sealed containers can explode.

Section 6 – Accidental Release Measures
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In case of Spill or Leak:

Stop the leak if you can do so without risk. Ventilate the area and remove all ignition sources. Contain the spill by building a dike using absorbent material. Collect the liquid and solid absorbent into a drum approved for waste disposal. Contaminated monomer may be unstable. Add inhibitor to prevent polymerization

The product can be neutralized with sodium bicarbonate, lime, or soda ash. CAUTION: neutralization of the acid may result in an exothermic reaction, accompanied by some spattering of unreacted material. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Section 7 – Handling and Storage

Handling:

Do not get in eyes, on skin or on clothing.

Avoid breathing vapor.

Do not taste or swallow.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. DO NOT CUT OR WELD ON OR NEAR THIS CONTAINER.

Storage:

This product should be stored in a closed container, away from direct sunlight, at ambient temperatures. Storage of this product at elevated temperatures (>30 C or >85F) reduces the shelf-life. The typical shelf-life for this product is 12 months. An air space is required above the liquid in all containers; avoid storage under an oxygen-free atmosphere.

The stability of this product should be checked periodically; typically every 90 days for bulk containers. Materials recommended for packaging include: stainless steel, aluminum, glass, HDPE, PP or PTFE.

Section 8 – Exposure Controls, Personal Protection

Engineering Controls:

Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Eye/Face Protection:

Where there is a potential for eye contact, wear a face shield, chemical goggles, and have eye flushing equipment immediately available.

Skin Protection:

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Butyl rubber Gloves should be worn when handling this material. Wear chemical goggles, a face shield, and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse immediately if skin is contaminated. Remove contaminated clothing promptly and wash before reuse. Clean protective equipment before reuse. Provide a safety shower at any location where skin contact may occur. Wash skin thoroughly after handling.

Respiratory Protection

Avoid breathing vapor or mist. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained

breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Airborne Exposure Guidelines for Ingredients

Exposure Limit	Limit
Methacrylic Acid ACGIH TWA	20 ppm 70 mg/m ³
Monomethyl ether of hydroquinone (MEHQ) ACGIH TWA	5 mg/m ³

- Only those components with exposure limits are printed in this section.
- Skin contact limits designated with a “Y” above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.
- ACGIH Sensitizer designator with a value of “Y” above means that exposure to this material may cause allergic reactions.
- WELL-AIHA Sensitizer designator with a value of “Y” above means that exposure to this material may cause allergic skin reactions.

Section 9 – Physical and Chemical Properties

Appearance/Odor:	Clear liquid with pungent odor
pH:	pKa – 4.66
Specific Gravity:	1.015@20C
Vapor Pressure:	<1 mbar @ 20C
Vapor Density:	3
Melting Point:	NA
Freezing Point:	15C
Boiling Point:	161C
Solubility in water:	Completely Soluble at 20C
Viscosity:	1.3 mPa.s@20C
Molecular Weight:	86.09
n-Octanol/Water Partition Coefficient:	log Pow = 0.93
Other Physical Data:	Refractory index: 1.4288 @ 20C Henry’s Constant: 126mPa.m ³ /mol

Section 10 – Stability and Reactivity

Stability:

This material is chemically stable under normal and anticipated storage and handling conditions. However, this material can undergo hazardous polymerization. See Hazardous Polymerization below for conditions to avoid.

Hazardous Polymerization:

An uncontrolled polymerization may produce a rapid release of energy with the potential for an explosion of unvented closed containers or inadequate vented containers.

Incompatibility:

This material polymerizes exothermically in the presence of heat, contamination, oxygen free atmosphere, free radicals, peroxides, and inhibitor depletion liberating heat.

Hazardous Decomposition Products:

Oxides of carbon can be liberated at temperatures above ambient.

Section 11 – Toxicological Information

Toxicological Information

Data on this material and/or its components are summarized below.

Single exposure (acute) studies indicate:

Oral – No more than slightly Toxic to Rats (LD50 1,060-9,400 mg/kg)

Dermal- No more than moderately toxic to rabbits (LD50 between 500 and 2,000 mg/kg)

Inhalation – practically non-toxic to rats (4-hr LC50 7.1 mg/l)

Eye irritation – Corrosive to Rabbits

Skin irritation: Corrosive to rabbits (24-hr exposure)

No skin allergy was observed in guinea pigs following repeated exposure. Adverse effects noted in rats following repeated inhalation include eye and nose irritation with weight loss and kidney congestion. Repeated inhalation exposure produced nasal injury in rats and mice and kidney effects in mice. Repeated oral administration in rats produced changes in the liver and lung No genetic changes were observed in test using bacteria.

Section 12 – Ecological Information

Ecotoxicological Information

Data on this material and/or its components are summarized below.

This material is highly toxic to algae (96hr EC50 0.59mg/l), slightly toxic to rainbow trout (96-hr LC50 85 mg/l), and practically non-toxic to Daphnia Magna (48-hr EC50>130 mg/l)

Chemical Fate Information

Data on this material and/or its components are summarized below.

This material is readily biodegradable (86% after 28-days) and practically not bioaccumulable (log Pow 0.93). It is slightly adsorptive in soil and sediment (log Koc 1.88), has a half-life in air of 6.12 hours and has an evaporation half-life of 27.5 days (river to 298 days (pond). It is not expected to bioconcentrate (BF 3.0)

Section 13 – Disposal Considerations

Waste Disposal

Incineration is the recommended method for disposal observing all local, state and federal regulations. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

Section 14 – Transportation Information

DOT Name	Methacrylic acid, stabilized
DOT Technical Name	
DOT Hazard Class	8
UN Number	UN 2531
DOT Packing Group	PG II
RQ	No
DOT Special Information	Primary Hazard – CORROSIVE

Section 15 – Regulatory Information

Hazard Categories Under Criteria f SARA Title III Rules (40CFR Part 370)

Immediate (Acute) Health	Y	Fire	N
Delayed (Chronic) Health	N	Reactive	Y

Sudden Release of Pressure N

The components of this product are all on the TSCA Inventory list

Ingredients Related Regulatory Information:

SARA Reportable Quantities

	<u>CERCLA RQ</u>	<u>SARA TPQ</u>
Methacrylic Acid	NE	
Monomethyl ether of hydroquinone (MEHQ)	NE	

Massachusetts Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

Methacrylic Acid
Monomethyl ether of hydroquinone (MEHQ)

New Jersey Right to Know

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right to Know Substance List.

Methacrylic Acid
Monomethyl ether of hydroquinone (MEHQ)

Pennsylvania Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.

Methacrylic Acid
Monomethyl ether of hydroquinone (MEHQ)

Section 16 – Additional Information

Revision Information

Revision Date: January 1, 2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty or merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Ayers International Corporation be liable for any claims, losses, or damages or any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Ayers International Corporation has been advised of the possibility of such damages.