SAFETY DATA SHEET

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

CAS Number: 79-41-4

Product Name: Methacrylic Acid

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Manufacturer's Name: Thames River Chemical Corp.
Address: 5230 Harvester Road Burlington, ON, CA, L7L 4X4
Emergency Phone: CHEMTREC (800) 424-9300
Information Phone Number: 905-681-5353
Fax: 905-681-5377
Product/Recommended Uses: For laboratory or industrial use only.

SECTION 2) HAZARDS IDENTIFICATION

Classification

Acute toxicity Dermal - Category 3

Acute toxicity Oral - Category 4

Flammable Liquids - Category 4

Serious Eye Damage - Category 1

Skin Corrosion - Category 1A

Specific Target Organ Toxicity - Repeated Exposure - Category 1

Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) - Category 3

Pictograms

Signal Word

Danger

Hazardous Statements - Health

H311 - Toxic in contact with skin

H302 - Harmful if swallowed

H318 - Causes serious eye damage

H314 - Causes severe skin burns and eye damage

H372 - Causes damage to organs through prolonged or repeated exposure.

H335 - May cause respiratory irritation

Hazardous Statements - Physical

H227 - Combustible Liquid

Precautionary Statements - General

P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P103 - Read label before use.

Precautionary Statements - Prevention

P280 - Wear protective gloves,protective clothing,eye protection/face protection.

P264 - Wash/Wash hands thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 - Use only outdoors or in a well-ventilated area.

P233 - Keep container tightly closed.

Precautionary Statements - Response

P302 + P352 - IF ON SKIN: Wash with plenty of water and soap.

P312 - Call a POISON CENTER or doctor, if you feel unwell.

P321 - Specific treatment (see first-aid on the SDS).

P361 + P364 - Take off immediately all contaminated clothing. And wash it before reuse.

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor, if you feel unwell.

P330 - Rinse mouth.

P370 + P378 - In case of fire: Use carbon dixoxide, alcohol foam, water spray or dry chemical to extinguish.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a POISON CENTER or doctor.

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P363 - Wash contaminated clothing before reuse.

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P314 - Get Medical advice/attention if you feel unwell.

Precautionary Statements - Storage

P405 - Store locked up.

P403 - Store in a well-ventilated place.

P403 + P405 - Store in a well-ventilated place. Store locked up.

Precautionary Statements - Disposal

P501 - Dispose of contents/container in accordance with local/national/international regulation. Waste management should be in full compliance with national, regional and local laws.

Physical Hazards Not Otherwise Classified

No data available.

Health Hazards Not Otherwise Classified

No data available.

SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0000079-41-4	METHACRYLIC ACID	100% - 100%

SECTION 4) FIRST-AID MEASURES

Inhalation

Get medical advice/attention if you feel unwell or are concerned. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

Eye Contact

Immediately call a POISON CENTER/doctor. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 30 minutes or until medical aid is available. Take care not to rinse contaminated water into the unaffected eye or onto the face.

Skin Contact

Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash contaminated clothing before re-use. Immediately call a POISON CENTER/doctor. Rinse skin with lukewarm, gently flowing water/shower for a duration of 30 minutes or until medical aid is available.

Ingestion

If vomiting occurs naturally, lie on your side, in the recovery position. Immediately call a POISON CENTER/doctor.

Most important symptoms and effects, both acute and delayed

The signs and symptoms of acute exposure to MAA include irritation of the eyes and skin, corneal burns, and possible blindness.

Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Small Fire : Dry chemical, foam, carbon dioxide or alcohol-resistant foam. Carbon dioxide can displace oxygen.

Use caution when applying carbon dioxide in confined spaces. Large Fire: AFFF, fog or alcohol-resistant foam.

Unsuitable Extinguishing Media

Do not use straight stream of water. Water spray may be used to keep fire exposed containers cool.

Specific Hazards in Case of Fire

Above flash point, vapor-air mixtures are explosive within flammable limits noted Section 9 (Physical and chemical properties). Polymerization may be caused by elevated temperature, oxidizers, peroxides, or sunlight. Vapors can flow along surfaces to distant ignition source and flash back. Sealed containers may rupture when heated. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Fire-fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Move undamaged containers from immediate hazard area if it can be done safely. Stop spill/release if it can be done safely. Cool containers with flooding quantities of water until well after fire is out. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. Large Fire: Dike fire-control water for later disposal; do not scatter the material

Special Protective Actions

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit. Keep containers cool with water spray.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure

Eliminate all ignition sources. Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Notify appropriate government, occupational health and safety and environmental authorities.

Stay uphill and/or upstream. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing. Ventilate closed spaces before entering. Evacuate and isolate hazard area and keep unauthorized personnel away.

Recommended Equipment

Wear chemical protective clothing and positive pressure self-contained breathing apparatus (SCBA). Wear liquid tight chemical protective clothing in combination with positive pressure self-contained breathing apparatus (SCBA).

Personal Precautions

Do not get on skin, eyes or clothing. Avoid breathing vapor or mist.

Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

Methods and Materials for Containment and Cleaning up

SMALL SPILLS: Soak up spill with absorbent material (sand or other non combustible adsorbent material). Place residues in a suitable, covered, properly labeled container. Wash affected area.
LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Clean contaminated surfaces with water or aqueous cleaning agents. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations). Ventilate area after clean-up is complete.

SECTION 7) HANDLING AND STORAGE

General

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Do not breathe vapors/gases/dust. In case of inadequate ventilation wear respiratory protection. Keep the containers closed when not in use. Use non-sparking type tools and equipment, including explosion proof equipment. Use
connections properly earthed to prevent generation of electrostatic charges.

Vapours are heavier than air and may travel considerable distances to a source of ignition and flash back. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labelled. Do not use, store, spill or pour near heat, sparks or open flame. MAA polymerizes at increased temperatures, and in the case of contact with radical donors (e.g. peroxides and azo compounds). Uncontrolled exothermic polymerization in closed systems might lead to explosion caused by increasing pressure.

This product is not intended for human or animal consumption. Use pneumatic and/or mechanical systems for bulk transfer of the substance Use exhaust ventilation and/or dust collecting filters for bulk transfer and storage. Use approved respiratory protection when handling. Keep bulk of materials out of sewer drains. Eyewash stations and showers should be available in areas where this material is used and stored

Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. Report ventilation failures immediately. The use of local ventilation is recommended to control emissions near the source.

Storage Room Requirements

Store in suitable labelled containers. Store the containers tightly closed. Store away from heat and sources of ignition. Protect from direct sunlight. Keep containers placed in cool, well–ventilated areas. Have appropriate fire extinguishers available in and near the storage area. Store separately from incompatibles.

Store in dry, cool areas, out of direct sunlight and away from other sources of heat. Store in original containers. Keep containers securely sealed. Keep containers securely sealed when not in use. Protect containers against banging or other physical damage when storing, transferring, or using them. Procedures must be conducted in a fume hood, glove box, or other suitable containment device. Segregate from other hazard classes and store in a cool, dry, well ventilated area, away from sources of ignition and incompatibilities. Provide secondary containment for toxic materials. Store, handle, and use corrosive materials in well-ventilated areas. Do not store on metal shelves. Store containers in plastic tubs or trays as secondary containment. Keep the smallest amount of material in work areas. Avoid rapid temperature changes in liquid storage areas. Store at temperatures above their respective freezing/melting point. Never store corrosives above eye level. Label cabinets with "TOXIC CHEMICALS" or similar warning.

SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye protection

Wear indirect-vent, impact and splash resistant goggles when working with liquids

Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber.

Respiratory protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Chemical Name	CANsmg	CANsppm	CANtmg	CANtppm	OSHA STEL (mg/m3)	OSHA STEL (ppm)	OSHA TWA (mg/m3)	OSHA TWA (ppm)
METHACRYLIC ACID	105	30	70	20				

Chemical Name	OSHA Carcinogen	OSHA Tables (Z1, Z2, Z3)	OSHA Skin designation	ACGIH STEL (mg/m3)	ACGIH STEL (ppm)	ACGIH TWA (mg/m3)	ACGIH TWA (ppm)	ACGIH TLV Basis
METHACRYLIC ACID							20	Skin & eye irr

Chemical Name	ACGIH Carcinogen	ACGIH Notations
METHACRYLIC ACID		

irr - Irritation

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Density	8.47 lb/gal
Specific Gravity	1.03

Appearance	Clear, colorless liquid
Odor Description	an acrid, penetrating odour
Odor Threshold	N/A
pH	2.8 (0.1 molar solution)
Melting/Freezing Point	16.00 °C
Low Boiling Point	159.00 °C
High Boiling Point	163.00
Flash Point	65-67 (closed cup) °C
Vapor Pressure	0.9 hPa (20°C)
Vapor Density	2.97 (air=1)
Evaporation Rate	N/A
Upper Explosion Level	8.80
Lower Explosion Level	1.60
Water Solubility	90 grams per litre at 25 C
Coefficient Water/Oil	0.93 (Octanol/H2O partition)
Viscosity	1.3 mPa

SECTION 10) STABILITY AND REACTIVITY

Reactivity

Polymerizes easily, especially on heating or in presence of traces of hydrochloric acid.

Stability

Inhibited MAA is stable at room temperature for a limited storage period. Vapors are uninhibited and may form polymers in vents, causing stoppage. Polymerization may be caused by elevated temperature, oxidizers, peroxides, or sunlight.

Conditions To Avoid

Insufficient inhibitor, incompatibles, heat, flame and ignition sources.

Hazardous Reactions/Polymerization

Polymerizes easily, especially on heating or in presence of traces of hydrochloric acid . The product is readily polymerized by light, heat, or oxidants without inhibitor.

Incompatible Materials

Contact with polymerization catalysts (e.g. peroxides, persulfates), hydrochloric acid, strong oxidizers and other bases (e.g. ammonia, amines).

Hazardous Decomposition Products

Oxides of carbon (COx).

SECTION 11) TOXICOLOGICAL INFORMATION

Likely Route of Exposure

Inhalation, ingestion, skin absorption

Acute Toxicity

Toxic in contact with skin

Harmful if swallowed

ACUTE ORAL TOXICITY:
Rat LD50: 1,320 mg/kg
Rat LD50: 2,260 mg/kg
Rat LD50: 1,060 mg/kg
Mouse LD50: 1,250 mg/kg

ACUTE DERMAL TOXICITY:
Rabbit LD50: 500 mg/kg
Guinea pig LD50: 1,000 mg/kg

ACUTE INHALATION TOXICITY:
Rat LC50: 7.1 mg/L/4hrs

Aspiration Hazard

No data available.

Carcinogenicity

No data available.

Germ Cell Mutagenicity

No data available.

Reproductive Toxicity

No data available.

Respiratory/Skin Sensitization

No data available.

Serious Eye Damage/Irritation

Causes serious eye damage

Skin Corrosion/Irritation

Causes severe skin burns and eye damage

Specific Target Organ Toxicity - Repeated Exposure

Causes damage to organs through prolonged or repeated exposure.

Specific Target Organ Toxicity - Single Exposure

May cause respiratory irritation

SECTION 12) ECOLOGICAL INFORMATION

Toxicity

No data available.

Persistence and Degradability

Methacrylic Acid is stable in neutral solution and is classified as "readily biodegradable" - Biodegradation: 91 % (14 days (BOD test))

Bioaccumulative Potential

Methacrylic Acid is not expected to significantly bioaccumulation.

Mobility in Soil

Due to the high mobility of Methacrylic Acid in soils, a potential for leaching to groundwater has to be expected.

Other Adverse Effects

No data available.

SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal

Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with national, provincial and local laws.

SECTION 14) TRANSPORT INFORMATION

	Transport Canada Information	U.S. DOT Information
UN number:	UN2531	UN2531
Proper shipping name:	Methacrylic acid, stabilized	Methacrylic acid, stabilized
Hazard class:	8	
Hazard class:		8
Packaging group:	II	II
Hazardous substance (RQ):		No Data Available
Marine Pollutant:	No Data Available	No Data Available
Note / Special Provision:	Note / Special Provision	No Data Available
Toxic-Inhalation Hazard:		No Data Available
Transport in bulk (according to Annex II of MARPOL 73/78):	No Data Available	

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
0000079-41-4	METHACRYLIC ACID	100% - 100%	DSL, TSCA, EU_EC_Inventory - European_EC_Inventory

SECTION 16) OTHER INFORMATION

Glossary

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CANsmg or CANsppm - Canadian Short Term Exposure Level in mg/L or in ppm; CANtmg or CANtppm - Canadian Time Weighted Average in mg/L or in ppm; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center(US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self Contained Breathing Apparatus; STEL-Short Term Exposure Limit; TCEQ Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

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