Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

MSDS Name: RR LIQUID
Synonyms: Methyl Methacrylate Monomer;

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
80-62-6	METHYL METHACRYLATE	>98	201-297-1

GHS02, GHS07

Signal word Danger

Hazard statement(s)
H225 Highly flammable liquid and vapour.

H315 Causes skin irritation

Section 3 - Hazards Identification

Potential Health Effects
Eye: Contact with eyes may cause severe irritation, and possible eye burns. May cause eye injury.
Skin: May cause severe skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.
Ingestion: May cause central nervous system depression, kidney damage, and liver damage. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause allergic reaction. Exposure may cause headache, anorexia, and irritability.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause allergic respiratory reaction. May cause respiratory tract irritation. May cause effects similar to those described for ingestion.
Chronic: Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration. May cause reproductive and fetal effects. Repeated exposure may cause tingling in the extremities and other nervous system abnormalities.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin: Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.
Inhalation: Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.
Notes to Physician: No specific antidote exists. Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors can travel to a source of ignition and flash back. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Vapor may cause flash fire. Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. May form explosive peroxides. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May polymerize explosively when involved in a fire. Containers may explode when heated.
Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Water may be ineffective. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water. Cool containers with flooding quantities of water until well after fire is out.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section.

Scoop up with a nonsparking tool, then place into a suitable container for disposal. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Avoid contact with skin and eyes. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid ingestion and inhalation. If peroxide formation is suspected, do not open or move container. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage: Keep away from heat, sparks, and flame. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Addition of water or appropriate reducing materials will lessen peroxide formation.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
METHYL METHACRYLATE	50 ppm TWA; 100 ppm STEL	100 ppm TWA; 410 mg/m3 TWA 1000 ppm IDLH	100 ppm TWA; 410 mg/m3 TWA

OSHA Vacated PELs: METHYL METHACRYLATE: 100 ppm TWA; 410 mg/m3 TWA
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133.

Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: colourless
Odor: sweetish odor - sharp odor
Vapor Pressure: 28 mm Hg @ 20 deg C
Vapor Density: 3.5

Evaporation Rate:3.1 (butyl acetate=1)
Viscosity: Not available.
Boiling Point: 100 deg C
Freezing/Melting Point:-12.4 deg C
SAPT (Self-accelerating polymerization temperature): 55 °C
Auto ignition Temperature: 421.11 deg C
Flash Point: 10.00 deg C
Decomposition Temperature: Not available.
NFPA Rating: (estimated) Health: 2; Flammability: 3; Reactivity: 2
Explosion Limits, Lower:1.7
Upper: 8.2
Solubility: Slightly soluble in water.
Specific Gravity/Density:0.94 (water=1)
Molecular Formula:C5H8O2
Molecular Weight:100.0548

Section 10 - Stability and Reactivity

Stability	Add polymerization inhibitors (hydroquinone, hydroquinone monomethyl ether, and so on) for long term storage. Inherent self-polymerization can be accelerated by light.
Hazardous reaction Potentials	Methacrylic acid is produced by hydrolysis. Polymerization induced by elevated temperatures, light, catalysts, or strong oxidizers may cause dangerous fire and explosive events. Drastic polymerization can be induced by the contact with polymerizing catalysts such as organic peroxides and azobis (isobutyronitrile). Oxidizers, peroxides, strong acids, or strong bases are reactive. Mixing with oxidizers may cause dangerous exothermic and combustive events. Some formulations containing such oxidizers may be combustive or explosive.
Conditions to avoid	Contact with high temperatures, light, or incompatible materials Incompatible products polymerizing catalysts such as organic peroxides and Azobis (isobutyronitrile), oxidizers, peroxides, strong acids and strong bases.
Hazardous decomposition products	Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide

Section 11 - Toxicological Information

ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: Group 3 carcinogen
Epidemiology: No information available.
Teratogenicity: Embryo or Fetus: Death, inhalation-rat TCLo=109g/m3/54M.Specific

Developmental Abnormalities: Musculoskeletal, inhalation-rat TCLo=109g/m3/17M.
Reproductive Effects: Fertility: Post-implantation mortality, inhalation-rat
Neurotoxicity: No information available.
Mutagenicity: Please refer to RTECS for specific information.
Other Studies: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: No information reported.
Physical: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	METHYL METHACRYLATE MONOMER, STEBILIZED	METHYL METHACRYLATE MONOMER, STEBILIZED	METHYL METHACRYLATE MONOMER, STEBILIZED	METHYL METHACRYLATE MONOMER, STEBILIZED	METHYL METHACRYLATE MONOMER (FLASHPOINT 10C)
Hazard Class:	3	3	3	3	3(9.2)
UN Number:	UN1247	UN1247	UN1247	UN1247	UN1247
Packing Group:	II	II	II	II	II

Section 15 - Regulatory Information

Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
SARA

Section 16 - Additional Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of 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 Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.

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