



SECTION 1: IDENTIFICATION

PRODUCT IDENTIFIER

Product Name : Heat Curable, Crosslinked Methyl Methacrylate Monomer

Product Code : J-572

Intended Use(s) : Crosslinked acrylic monomer for ocular prosthetics

CONTACT INFORMATION FOR SUPPLIER OF SAFETY DATA SHEET

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SECTION 2: HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

Flammable Liquid	2
Skin Corrosion/Irritation	2
Skin Sensitizer	1
Specific Target Organ Toxicity - Single Exposure	3

Label Elements - Pictograms, Signal Word, Hazard Statements, Precautionary Statements, & supplemental Information



Signal word

Danger



Hazard statements:

Hazards Statements

- H225 Highly flammable liquid and vapour
- H315 Causes skin irritation
- H317 May cause an allergic skin reaction
- H335 May cause respiratory irritation

Precautionary statements :

- P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking Keep container tightly closed. Keep cool.
- P405 - Store locked up.
- P233 Keep container tightly closed
- P240 Ground and bond container and receiving equipment
- P241 Use explosion-proof Electrical / ventilating / light /.../ equipment
- P242 Use only non-sparking tools
- P243 Take precautionary measures against static discharge
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray
- P264 Wash hands and exposed skin thoroughly after Handling
- P272 Contaminated work clothing should not be allowed out of the workplace
- P280 Wear protective gloves/protective clothing/eye protection/face protection
- P321 Specific treatment (see ... on this label)
- P362 Take off contaminated clothing and wash before reuse
- P363 Wash contaminated clothing before reuse
- P302+P352 IF ON SKIN: Wash with soap and water
- P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water / shower
- P332+P313 If skin irritation occurs: Get medical advice / attention
- P333+P313 If skin irritation or a rash occurs: Get medical Advice / attention
- P370+P378 In case of fire: Use CO2 for extinction
- P403+P235 Store in a well ventilated place. Keep cool
- P501 Dispose of contents/container to an authorized disposal facility

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Name	Product Identifier	%	GHS-US classification
Methyl Methacrylate	(CAS No) 80-62-6	90-100	Skin Corrosion/Irritation 2 (H315) Skin Sensitizer 1 (H317) Specific Target Organ Toxicity - Single Exposure 3 (H335)
Ethylene Glycol Dimethacrylate	97-90-5	1-5	Skin Sensitizer 1 (H317) Specific Target Organ Toxicity - Single Exposure 3 (H335)



SECTION 4: FIRST-AID MEASURES

General Advice

Provide the SDS to medical personnel for treatment.

Inhalation:

Remove victim to fresh air. Seek immediate medical attention.

Eye Contact:

If product gets in the eyes, flush with lukewarm water for at least 15 minutes. If irritation occurs, contact a physician.

Skin Contact:

Rinse thoroughly with lukewarm water, followed by a thorough washing of the affected area with soap and water. If irritation, redness or swelling persists, contact a physician immediately.

Clothing:

Remove contaminated clothing, wash thoroughly before reuse.

Ingestion:

If ingested, do not induce vomiting. If product has been swallowed, drink plenty of water or milk IMMEDIATELY. If the patient is vomiting, continue to offer water or milk. Never give anything by mouth to an unconscious person. Provide an estimate of the time at which the material was ingested and the amount of the substance that was swallowed. Get medical attention immediately.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Chemical (alcohol-resistant) foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media

Water spray or water stream may not be effective.

Specific Hazards Arising from the Chemical

High temperatures, inhibitor depletion, accidental impurities, or exposure to radiation or oxidizers may cause spontaneous polymerizing reaction generating heat/pressure. Closed containers may rupture or explode during a runaway polymerization. This product is a flammable liquid. Vapors of this product are heavier than air and may travel to a source of ignition and flash back to a leaking or open container. Vapor forms an explosive mixture with air.

Hazardous Combustion Products

Acrid smoke-fumes/carbon monoxide/carbon dioxide and perhaps other toxic vapors may be released during a fire involving this product.



Special Fire Fighting Procedures:

Use a water spray or fog to reduce or direct vapors, and keep containers cool. Water may not be effective in actually extinguishing a fire involving this product. Do not enter fire area without proper protection. Fight fire from a safe location. Structural firefighters must wear SCBAs and full protective equipment. Heat/impurities may cause pressure to build and/or rupture closed containers, spreading fire, increasing risk of burns/injuries.

Protective Equipment and Precautions for Firefighters

Wear self-contained breathing apparatus for firefighting if necessary. Do not enter fire area without proper protection. Fight fire from safe distance/protected location. Heat/impurities may increase temperature/build pressure/rupture closed containers, spreading fire, increasing risk of burns/injuries. Use water spray to cool unopened containers. Pressure relief system may plug with solids creating risk of overpressure.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Personal Precautions

Before cleaning any spill or leak, individuals must wear appropriate Personal Protective Equipment that is specified in section 8. Deny entry to all unprotected individuals. Remove any contaminated clothing and wash thoroughly before reuse.

Environmental Precautions

Extinguish all ignition sources. Keep spills and cleaning runoffs out of municipal sewers and open bodies of water. May contaminate water supplies/be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

Methods and Material for Containment and Cleaning Up

Methods for Containment

Prevent further leakage or spillage if safe to do so. Dike and contain spill with inert material (e.g. sand or earth). May contaminate water supply.

Methods for Cleaning Up

Maximize ventilation (open doors and windows) and secure all sources of ignition. Use good, local ventilation with a minimum capture velocity of 100 ft/min (30 m/min) at point of product release. Place into appropriate closed container(s) for disposal in accordance with local, state and federal regulations. Wash all affected areas with plenty of warm water and soap.



SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Advice on Safe Handling

Keep away from heat, sparks, and flame. Keep container closed after each use. Do NOT use localized heat source such as band heaters to heat/melt product. Do NOT use steam. Hot boxes or hot rooms are recommended for heating the product, which can be set at a maximum temperature of 60°C/140°F. Avoid contact with skin, eyes and clothing. Use good personal hygiene and housekeeping. After use, wash hands and exposed skin with soap and water. Do not eat, drink, or smoke while handling product. Observe precautions found on label. Keep away from heat, sparks, and flame. Keep container closed after each use. Ground and bond all containers when transferring. Refer to Section 8 for suggested exposure controls and personal protection. Observe precautions found on label

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions

Store containers in a cool, dry location, away from direct sunlight, heat, sparks, flame, other light sources, or sources of intense heat. Store in accordance with National Fire Protection Association recommendations. Check inhibitor levels periodically, adding to the bulk material if needed. Maintain at a minimum, the original 2-inch headspace in the product container and do not blanket or mix with oxygen-free gas as it renders the inhibitor ineffective. Vapors are uninhibited and may form polymers in vents or flame arresters, resulting in blockage of vents. Product residue may remain in empty containers. Observe all label precautions until the container is cleaned, reconditioned, or destroyed.

Incompatible Materials

Strong oxidizers, strong reducers, free radical initiators, inert gases, oxygen scavengers.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name / CAS No.	OSHA Exposure Limits	ACGIH Exposure Limits	Other Exposure Limits
Methyl Methacrylate 80-62-6	100 ppm TWA; 410 mg/m3 TWA	100 ppm STEL 50 ppm TWA	NIOSH: 100 ppm TWA; 410 mg/m3 TWA
Ethylene Glycol Dimethacrylate 97-90-5			

Engineering Controls

Use local explosion-proof ventilation that is adequate to keep employee exposure to airborne concentrations below exposure limits. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Personnel Protective Equipment (PPE)

Respiratory Protection

A respirator should be worn whenever workplace conditions warrant a respirators use. None required if airborne concentrations are maintained below the exposure limit listed above. If necessary, use only respiratory protection authorized per U.S. OSHA's requirement in 29 CFR



§1910.134 or other appropriate governing standard.

Eye/Face Protection

Wear safety glasses, chemical goggles when splashing is possible, when dealing with this material. If necessary, refer to U.S. OSHA 29 CFR §1910.133, or other appropriate governing standard. Ensure that an eyewash station, sink or washbasin is available in case of exposure to eyes.

Skin and Body Protection

Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact:

Splash contact:

Material:

Nitrile rubber

Minimum layer thickness:

0.4 mm Minimum layer thickness: 0.11 mm

Break through time:

480 min Break through time: 120 min

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. An eyewash station and a safety shower are recommended. Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use. Wash hands thoroughly before eating, drinking, or smoking.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear Odor: Acrid Odor Flammable Limit (Air Volume%, 0% Lower/Upper) Evaporation Rate Specific Gravity 1.052698065	Physical State: Liquid Flash Point: 54 F, 12 C Autoignition Temperature: 421°C Boiling Range (low - high) 101°C
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SECTION 10: STABILITY AND REACTIVITY

Note: Materials listed as stable may become unstable up depletion of inhibitors (such as mequinol or hydroquinone), contact the manufacturer for exact levels and instructions on inhibitor maintenance.

Material stability

Stable

Incompatible materials

Strong oxidizers, strong reducers, free radical initiators, inert gases, oxygen scavengers. Material has strong solvent properties and can soften paint and rubber.



Hazardous decomposition products

Oxides of Carbon

Hazardous polymerization may occur.

Possibility of hazardous reactions

SECTION 11: TOXICOLOGICAL INFORMATION

Mixture Toxicity

Inhalation Toxicity: 4,876mg/L

Component Toxicity

Routes of Exposure

No data available

Target Organs

Eyes Skin Respiratory System

Effects of Overexposure

Product Components Listed as Carcinogenic

Cas Number	Description	%weight	Carcinogen Rating
None			No Data Available

SECTION 12: ECOLOGICAL INFORMATION

Component Ecotoxicity

Methyl Methacrylate 96 Hr LC50 Pimephales promelas: 243 - 275 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 125.5 - 190.7 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 170 - 206 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 153.9 - 341.8 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: >79 mg/L [flowthrough]; 96 Hr LC50 Oncorhynchus mykiss: >79 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 326.4 - 426.9 mg/L [static] 48 Hr EC50 Daphnia magna: 69 mg/L 96 Hr EC50 Pseudokirchneriella subcapitata: 170 mg/L

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes

It is the responsibility of the generator to determine at the time of disposal whether the product meets the criteria of a hazardous waste. When discarded as shipped it is a hazardous waste by the EPA under RCRA. After addition of excess inhibitor, dispose waste material in accordance with Federal, State, and Local regulations. Comply with all applicable federal, state and local regulations. Waste disposal options include landfilling solids at permitted sites. Incinerate in a chemical



incinerator equipped with an afterburner and scrubber. Use registered transporters.

Contaminated Packaging

Reuse of empty drums or containers is not recommended. Employees should be advised of the potential hazards, due to residual flammable material, associated with empty containers. Dispose of all empty containers properly, in accordance with Federal, State and Local regulations

SECTION 14: TRANSPORT INFORMATION

Agency	Proper Shipping Name	UN Number	Packing group	Haz. class
DOT	METHYL METHACRYLATE MONOMER, STABILIZED RQ: MMA=1000	UN1247	II	3
IATA	METHYL METHACRYLATE MONOMER, STABILIZED	UN1247	II	3
IMDG	METHYL METHACRYLATE MONOMER, STABILIZED	UN1247	II	3

SECTION 15: REGULATORY INFORMATION

State of California Safe Drinking Water and Toxic Enforcement Act of 1986

(Proposition 65): WARNING! This product contains the following chemicals which are listed by the State of California as carcinogenic or a reproductive toxin: - None

SARA 313

Methyl Methacrylate 80-62-6

US State Right-to-Know Regulations

- None

Country	Regulation	All Components Listed
	Canada DSL	Yes
	EINECS	Yes
	SARA Hazard categories	Yes
	TSCA Inventory	Yes



SECTION 16: OTHER INFORMATION

Hazardous Material Information System (HMIS)

HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZARD	2
PERSONAL PROTECTION	B

HMIS & NFPA Hazard Rating

Legend

* = Chronic Health Hazard

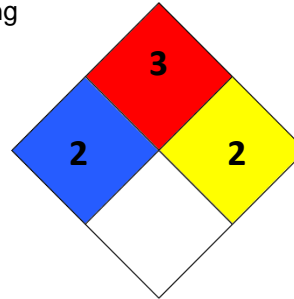
0 = INSIGNIFICANT

1 = SLIGHT

2 = MODERATE

3 = HIGH

National Fire Protection Association (NFPA)



Flammability
Health
Reactivity
Special Hazard

DISCLAIMER / STATEMENT OF LIABILITY:

Factor II, Inc. urges each customer or recipient of this SDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology and/or fire prevention as necessary or appropriate to the use and understanding of the data contained in this SDS.

To promote safe handling each customer or recipient should 1) notify and furnish its employees, agents, contractors, customers and/or others whom it knows or believes will use this material of the information regarding hazards or safety, and 2) request its customers to notify their employees, customers and other users of the product of this information.