

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION



Great Lakes Orthodontics
200 Cooper Ave
Tonawanda, NY 14150

716-871-1161
800-828-7626
CHEMTREC: 800-424-9300

Product Name: Splint Monomer Kit
Product Number: 040-002, 040-009 040-001, 040-008

Effective Date: 03/10/17

SECTION 2. HAZARDOUS IDENTIFICATION

Classification of the substance or mixture

Hazard Class – Physical, Health, Environmental	Category
Flammable Liquid	2
Skin Corrosion / Irritation	2
Skin Sensitizer	1
Carcinogenicity	2

OSHA Defined Hazards

Combustible dust, may form combustible dust concentrations in air, explosion hazard.

Label Elements – Pictograms, Signal Word, Hazard Statements, Precautionary Statements, & Supplemental Information.



Signal Word

Danger

Hazard Statements

- Highly flammable liquid and vapour
- Causes skin irritation
- May cause an allergic skin reaction
- Suspected of causing cancer

Precautionary Statements – Prevention, Response, & Disposal

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Keep away from heat / sparks / open flames / hot surfaces – no smoking.
- Keep container tightly closed.
- Ground and bond container and receiving equipment.
- Use explosion proof electrical / ventilation / light / equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Avoid breathing dust / fume/ gas / mist / vapours / spray
- Wash hands and exposed skin thoroughly after handling.
- Contaminated work clothing should not be allowed out of the workplace.
- Wear protective gloves / protective clothing / eye protection / face protection
- Use personal protective equipment as required.
- Specific treatment (see on this label)
- Take off contaminated clothing and wash before reuse.
- Wash contaminated clothing before reuse.
- IF ON SKIN: Wash with soap and water.
- IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse with water / shower.
- IF exposed or concerned: Get medical advice / attention.
- If skin irritation occurs: Get medical advice / attention.
- If skin irritation or rash occurs: Get medical advice / attention.
- In case of fire: Use CO2 for extinction.
- Store locked up.
- Store in a well ventilated place. Keep cool.
 - Dispose of contents / container to an unauthorized disposal facility.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Hazardous Components</u>	<u>CAS #</u>	<u>Weight %</u>	<u>GHS Rating</u>
Methyl Methacrylate	80-62-6	90 – 100	Skin Corrosion / Irritation 2 Skin Sensitizer 1 Specific Target Organ Toxicity – Single Exposure 3
Ethylene Glycol Dimethacrylate	97-90-5	1 – 5	Skin Sensitizer 1 Specific Target Organ Toxicity – Single Exposure 3
Dimethyltolylamine	99-97-8	0 – 1	Oral Toxicity Acute Tox 3 Dermal Toxicity Acute Tox 3 Inhalation Toxicity Acute Tox 3 Carcinogenicity 2 Specific Target Organ Toxicity – Repeated Exposure 2 Aquatic Toxicity C3

SECTION 4. FIRST AID MEASURES

Eye Contact

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

Skin Contact

If irritation occurs and product is on the skin, 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.

Inhalation

Remove to fresh air. See immediate medical attention.

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.

Clothing

Remove contaminated clothing, was thoroughly before reuse. Treat symptoms conventionally, after thorough decontamination.

Note to Physician

This product contains N, N-Dimethyl-p-Toluidine at a low concentration (does not meet criteria for reporting in section 3). While complications from this component are not expected, the presence of this material in the body leads to formation of methemoglobin, which in sufficient concentration causes cyanosis. This is reversed spontaneously after termination of exposure. Treat cyanosis with supportive measures such as bed rest and oxygen inhalation. Thorough cleanse the entire contaminated area of the body. If extensive cyanosis is present, treat with methylene blue and vitamin B12.

SECTION 5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Chemical foam, Dry chemical, Carbon Dioxide (CO₂)

Special Fire Fighting Procedures

This product is a flammable liquid. When involved in a fire, this product may ignite readily and decompose to produce carbon oxides. 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. Do not enter fire area without proper protection. Fight fire from a safe location. Heat / impurities may cause pressure to build and/or rupture closed containers, spreading fire, increasing risk of burns/injuries. Structural firefighters must wear SCBAs and full protective equipment.

Unusual Fire / Explosion Hazards

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. Use a water spray or fog to reduce or direct vapors. Water may not be effective in actually extinguishing a fire involving this product.

- **Sensitive to mechanical impact:** NO
- **Sensitive to static discharge:** YES

SECTION 6. ACCIDENTAL RELEASE MEASURES

Spill and Leak Procedures

Before cleaning any spill or leak, individuals involved must wear appropriate personal protective equipment (e.g.: goggles, gloves). Deny entry to all unprotected individuals. Dike and contain spill with inert material (e.g.: sand and earth). Use ONLY non-sparking tools for recovery and cleanup. Maximize ventilation (open doors and windows) and secure all sources of ignition. 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. Remove any contaminated clothing and wash thoroughly before reuse. Keep spills and cleaning runoffs out of municipal sewers and open bodies of water.

SECTION 7. HANDLING & STORAGE

Handling Precautions

Use local explosion-proof ventilation with a minimum capture velocity of 100 ft. /min (30 m/min) at point of material release. Refer to industrial ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Hygienist. Observe precautions found on label.

Storage Precautions

Store containers in a cool, dry location, away from direct sunlight, heat, sparks, flame, other light sources, or sources of intense heat. Keep container closed after each use. Ground and bond all containers when transferring. Check inhibitor levels periodically, add to the bulk material if needed. Maintain at a minimum, the original 2-inch headspace in the product container. Do not blanket or mix with oxygen-free gas as it renders the inhibitor ineffective.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Industrial Hygiene

Avoid contact with skin, eyes, clothing, and prolonged contact with the product. 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.

Ventilation Measures

Refer to section #7 regarding ventilation requirements for working with this product. Use explosion-proof local exhaust at processing equipment, including buffers, sanders, grinders, and polishers. High temperature processing equipment should be well ventilated.

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 in Section 2. If necessary, use only respiratory protection authorized per U.S. OSHA's requirement in 29 CFR 1910.134 or other appropriate governing standard.

Hand Protection

If anticipated that prolonged and repeated skin contact will occur during use of this product, wear chemical resistant gloves for routine industrial use. If necessary, refer to U.S. OSHA's requirement in 29 CFR 1910.138 or other appropriate governing standards.

Eye Protection

Depending on the use of this product, splash or safety glasses may be worn. 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.

Additional Protective Measures

No special body protection is required under typical circumstances of use and handling. If necessary, refer to appropriate governing standards. An eyewash station and a safety shower are recommended.

SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

- **Appearance** – Liquid
- **Color** – Clear
- **Odor** – Acrid odor
- **PH** – Not determined
- **Flash Point** – 12 °C (54 °F)
- **Lower Explosion Limit** – 2.12
- **Upper Explosion Limit** – 12.5
- **Boiling Point** – 101 °C
- **Freezing Point** - -48°C
- **Viscosity** – Like water
- **Density** – 0.949 g/ml @ 15.5 °C
- **Vapor Pressure** – 28 mm Hg @ 20 °C (68 °F)
- **Percent Volatile W/W%** - 99+
- **Vapor Density (AIR=1)** – 3.5 @ 15.5 °C (60 °F)
- **Evaporation Rate (BuAc=1)** – 3.1
- **Solubility in Water** – Moderate, 1.6 WT% @ 20 °C (68 °F)
- **Auto-ignition Temperature** - 421 °C (790 °F)

SECTION 10. STABILITY & REACTIVITY

Hazardous Reactions – Hazardous polymerization may occur.

Stability – Stable / Reactive upon depletion of inhibitor.

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

Conditions to Avoid – Temperatures above 21 °C (70 °F), localized heat sources (example drum or band heaters) oxidizing conditions, freezing conditions, direct sunlight, ultraviolet radiation, inert gas blanketing.

Hazardous Decomposition Products – Oxides of Carbon when burned.

SECTION 11. TOXICOLOGICAL INFORMATION

Target Organs (Methyl Methacrylate) – Nose, liver, and kidneys (long term to high levels)

Mutagenicity Data – There is no reason to believe that methyl methacrylate represents a carcinogenic or mutagenic hazard to man based upon evidence from well-conducted studies in relevant cohorts.

Reproductive Toxicity Data – Recent studies in animals have shown that high exposure do not have reproductive effects. Similarly, none of these effects are likely to occur in humans provided exposure is maintained at or below the occupational exposure limit.

Toxicity Data - This product has not been tested on animals to obtain toxicology data. There is toxicology data for the components of the product, which is found in scientific literature. Some of this data is presented below.

Toxicity Data for Methacrylate:

Acute oral toxicity

- LD50: > 7,900 mg/kg (Rat)

Acute dermal toxicity

- LD50: > 35,500 mg/kg (Dermal Rat)

Inhalation Human

- TCLO: 125ppm
- TCLO: 60 mg/m³

Inhalation Rat

- LC50: 7,094 ppm / 4H

SECTION 12. ECOLOGICAL INFORMATION (non-mandatory)

For Monomer – There is no specific data available for this product; however, very large releases of this product may be harmful or fatal to overexposed aquatic life. There is ecological data for the components of the product which is found in scientific literature. Some of this data is presented below.

Aquatic Toxicity (Methyl Methacrylate)

- LC50: 130 mg/L, 96 H (Flathead Minnows)
- EC50: 69 mg/L, 48H (Daphnia Magna)
- LC50: 170 mg/L, 96H (Algae)

Environmental Fate (Methyl Methacrylate)

- 28 Day Biodegradation Study – Not readily biodegradable.
 - Chemical Oxygen Demand: 88% within 28 days.
- Inherent Biodegradation Study –
 - Dissolved Organic Carbon Removal > 95% within 28 days
- Adsorption / Desorption – Highly mobility in soil.

SECTION 13. DISPOSAL CONSIDERATIONS (non-mandatory)**Waste Disposal Method**

When discarded it is a hazardous waste by the EPA under RCRA. The reportable quantity (RQ) for Methyl Methacrylate is 1000 pounds (40 CFR Part 302). After addition of excess inhibitor, dispose waste material in accordance with Federal, State, and Local regulations.

Disposal of Empty Containers

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 (non-mandatory)

Agency	Shipping Name	UN Number	Packing Group	Hazard Class
DOT	Methyl Methacrylate Monomer, Stabilized DOT RQ: 1000lbs	UN1247	II	3
IATA	Methyl Methacrylate Monomer, Stabilized	UN1247	II	3
IMDG	Methyl Methacrylate Monomer, Stabilized EmS F-E, S-D	UN1247	II	3

SECTION 15. REGULATORY INFORMATION (non-mandatory)

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: 99-97-8 Dimethyltolylamine 0.1 to 1.0% Carcinogen.

SARA 313

Methyl Methacrylate 80-62-6

US State Right-to-Know Regulations

None

<u>Country</u>	<u>Regulation</u>	<u>All Components Listed</u>
	EINECS	Yes
	SARA Hazard Categories	No
	TSCA Inventory	Yes

SECTION 16. OTHER INFORMATION (non-mandatory)

HMIS Rating:

- **Health** – 2
- **Flammability** – 3
- **Reactivity** – 2
- **Personal Protective Equipment** – Gloves and safety glasses or Chemical Splash Goggles.

NFPA Rating:

- **Health** – 2
- **Flammability** – 3
- **Reactivity** - 2

0 = Minimal, 1 = Slight, 2 = Moderate, 3 = Serious, 4 = Severe

* = Chronic Health Hazard