

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

SDS #982

- 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

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.

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

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.

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

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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)**SDS #982****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

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

SECTION 1. IDENTIFICATION

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Product Name: Splint Polymer Kit
Product Number: 040-003, 040-005, 040-010 040-001, 040-008

Effective Date: 03/10/17

SECTION 2. HAZARDOUS IDENTIFICATION**Classification of the substance or mixture**

Hazard Class – Physical, Health, Environmental	Category
Eye Damage	2B
Reproductive Toxicity	2
Aquatic Toxicity	A3

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**

Warning

Hazard Statements

- Causes eye irritation
- Suspected of damaging fertility or the unborn child
- Harmful to aquatic life

Precautionary Statements – Prevention, Response, & Disposal

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Ground and bond container and receiving equipment.
- Wash hands and exposed skin thoroughly after handling.
- Avoid release to the environment.
- Wear protective gloves / protective clothing / eye protection / face protection
- Use personal protective equipment as required.
- IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
- IF exposed or concerned: Get medical advice / attention
- Get medical advice / attention
- Store locked up
- Dispose of contents / container to an authorized disposal facility

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SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Hazardous Components</u>	<u>CAS #</u>	<u>Weight %</u>	<u>GHS Rating</u>
Polymethyl Methacrylate	9011-14-7	80 – 90	Eye Damage/Irritation 2B
Diethyl Phthalate	84-66-2	10 – 20	Eye Damage / Irritation 2B Reproductive Toxicity 2 Aquatic Toxicity A3

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.

Treatment

Treat symptoms conventionally, after thorough decontamination.

Suitable Extinguishing Media

Water, Dry chemical, Carbon Dioxide (CO₂)

Special Fire Fighting Procedures

Avoid extinguishing methods, which may generate dust clouds. Water stream can disperse dust into air producing a fire hazard and possible explosion hazard if exposed to ignition source.

Unusual Fire / Explosion Hazards

Polymer dust is combustible. The explosive limits of the polymer particles suspended in air are approximately those of coal dust. Firefighters should wear self-contained breathing apparatus.

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

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. Keep airborne particulates at a minimum when cleaning up spills. 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. 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 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. Not a RCRA Hazardous waste.

Handling Precautions

Use in well ventilated areas. Avoid contact with skin, eyes, and clothing. Avoid breathing dust. Use good personal hygiene and housekeeping.

Storage Precautions

Store containers in a cool, dry location, away from direct sunlight, other light sources, or sources of intense heat. Keep container closed to prevent water absorption and contamination.

Industrial Hygiene**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Avoid prolonged contact with product. Use good personal hygiene and housekeeping. Use in a well-ventilated location (e.g.: local exhaust ventilation, fans). After use, wash hands and exposed skin with soap and water. Do not eat, drink, or smoke while handling product.

Ventilation Measures

When working with large quantities of product, provide adequate ventilation (e.g.: local exhaust ventilation, fans). Ensure that an eyewash station, sink, or washbasin is available in case of exposure to eyes. Use good local exhaust at processing equipment, including buffers, sanders, grinders, and polishers.

Respiratory Protection

A respirator should be worn whenever workplace conditions warrant use of a respirator. If dusts conditions are present, a N95 respirator dust mask is required. None required if airborne concentrations are maintained below any exposure limit that may be 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.

Hand Protection

If anticipated that prolonged and repeated skin contact will occur during use of this product, wear 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, safety glasses or goggles may be worn. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian standards, or European Standard EN166. 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 standards of Canada, the E.C. member states, or U.S. OSHA. An eyewash station and a safety shower are recommended. High temperature processing equipment should be well ventilated.

SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

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- **Appearance** – Powder
- **Color** – Fine clear to pigmented
- **Odor** – Faint odor in bulk
- **PH** – Not Available
- **Flash Point** – 304 °C (580 °F)
- **Lower Explosion Limit** – Not available
- **Upper Explosion Limit** – Not available
- **Boiling Point** – Not available
- **Freezing Point** – Not available
- **Viscosity** – Not available
- **Vapor Pressure** – Not available
- **Percent Volatile W/W%** - Not available
- **Vapor Density (AIR=1)** – Not available
- **Evaporation Rate (BuAc=1)** – Not available
- **Solubility in Water** – Insoluble

SECTION 10. STABILITY & REACTIVITY

Hazardous Reactions – Hazardous polymerization will not occur.

Stability – Stable.

Materials to Avoid – Strong oxidizing agents.

Conditions to Avoid – Heating above 240 °C (464 °F)

Hazardous Decomposition Products – Methacrylate Monomer and Oxides of carbon when burned.

SECTION 11. TOXICOLOGICAL INFORMATION

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. This data has not been presented in this document.

Mutagenicity Data – This product is not reported to produce mutagenic effects in humans.

Reproductive Toxicity Data

- **Embryo toxicity** – This product is not reported to produce embryo toxic effects in humans.
- **Teratogenicity** – This product is not reported to cause teratogenic effects in humans.
- **Reproductive Toxicity** – This product is not reported to cause reproductive effects in humans.

SECTION 12. ECOLOGICAL INFORMATION (non-mandatory)

Aquatic Toxicity – 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.

Environmental Fate (Methyl Methacrylate)

There is no specific data available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS (non-mandatory)**SDS #982****Waste Disposal Method**

Dispose of properly 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 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)

- **DOT / UN Shipping Name** – Polymer, NOS

SECTION 15. REGULATORY INFORMATION (non-mandatory)**SARA Reporting Requirements** – YES

SARA Threshold Planning Quantity – There are specific threshold planning quantities for the components of this product.

TSCA Inventory Status – The components of this product are listed on the TSCA inventory. For use in FDA regulated products only.

CERCLA Reportable Quantity (RQ): Not available

Other Federal Requirements – This product complies with the appropriate sections of the Food and Drug Administration's 21 CFR subchapter G (Cosmetics).

Other Canadian Requirements – This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR. The components of this product are listed on the DSL/NDSL. None of the components of this product are listed on the Priorities Substances List.

State Regulatory Information – This product may contain components that are covered under specific state criteria.

RISK STATEMENTS

- R36/37/38 – Irritating to eyes, respiratory system, and skin.

SAFETY STATEMENTS

- S3 – Keep in a cool place.
- S7 – Keep container tightly closed.
- S9 – Keep container in a well-ventilated place.
- S20 – When using do not eat or drink.
- S29 – Do not empty into drains.
- S37/39 – Wear suitable gloves and eye/face protection.

HMIS Rating:

- **Health** – 1
- **Flammability** – 1
- **Reactivity** – 0
- **Personal Protective Equipment** – Gloves and safety glasses or Chemical Goggles.

NFPA Rating:

- **Health** – 1
- **Flammability** – 1
- **Reactivity** - 0

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

* = Chronic Health Hazard