

## **SAFETY DATA SHEETS**

**This SDS packet was issued with item:**

076024202

**The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).**

076024152

# MATERIAL SAFETY DATA SHEET

October 10, 2011

## SECTION 1 - PRODUCT IDENTIFICATION

**PRODUCT NAME:** Repair Liquid **CHEMICAL NAME:** Methyl Methacrylate Monomer Stabilized  
**MANUFACTURER:** Reliance Dental Mfg., Co., 5805 W. 117<sup>th</sup> Place, P.O. Box 38, Worth, IL 60482  
**TELEPHONE:** For Product Information: 708-597-6694 **For Medical Information:** 800-535-5053

## SECTION II - HAZARDOUS INGREDIENTS

**Components Material:** Methyl Methacrylate **CAS NUMBER:** 80-62-6 **%:** 100  
**PEL (OSHA):** 100 ppm, 410 mg/m<sup>3</sup>, 8 Hr. TWA **TLV (ACGIH):** 100 ppm 410 mg/m<sup>3</sup>, 8 Hr. TWA  
**INEOS recommended:** 50 ppm, 205 mg/m<sup>3</sup>, 8 Hr. TWA; 100 ppm, 410 mg/m<sup>3</sup> 15 min.

## SECTION III - PHYSICAL DATA

**Form:** Mobile liquid **Color:** Clear, colorless **Odor:** Characteristic strong and acrid odor **Odor Threshold:** 0.5 - 1 ppm  
**Boiling Point:** 100.5 deg. C at 760 mm/Hg **Melting Point:** -48 deg. C **Vapor Pressure:** 28 mm/Hg at 20 deg. C **Density:** 0.949 g/ml at 15.5 deg. C  
**Solubility in Water:** 1.6 WT% (20 deg. C) **Solubility (Other):** Miscible with most organic solvents **Partition Coefficient:** 1.38 **Vapor Density (Air 1):** 3.5

## SECTION IV - FIRE AND EXPLOSION DATA

**Flash Point:** 11.5 deg. C **Flammable Limits in air, % by Volume:** Lower Limit - 2.1 Upper Limit - 12.5  
**Autoignition Temperature:** 421 deg. C, Fine mists are explosive below the flash point. Flammable Liquid. Vapor forms explosive mixture with air. **Extinguishing Media:** Foam, Dry Chemical, CO<sub>2</sub>. Water spray (by trained personnel). **Special Fire Fighting Procedures:** Keep personnel removed and upwind of fire. Full protective equipment, including self-contained breathing apparatus, is recommended. Cool containers of material with cold water spray. Fight fires from a safe distance or protected areas.  
**Transportation information (DOT):** **LD. #:** UN1247; **Hazard Class 3;** **Packing Group II;** **HMIS:** H = 2, F = 3, R = 2

## SECTION V - HEALTH HAZARD DATA

**Eye:** Liquid and vapors can cause moderate irritation (tears, blurred vision and redness). **Ingestion:** Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain. **Inhalation:** High concentration is irritant to the respiratory tract and may cause dizziness, head ache and anesthetic effects. **Chronic (cancer) Information:** Prolonged and/or repeated exposure may lead to kidney, lung, liver, and heart damage. Unlikely to present a cancer hazard to man. **Teratology (Birth Defect) Information:** Developmental toxicity observed in animal tests but only at levels toxic to the mother. **Reproductive Information:** No information available but no adverse reproductive effects are anticipated.  
**FIRST AID:** **Inhalation** - If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. **Skin Contact** - In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse. **Eye Contact** - In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician. **Ingestion** - If swallowed, do not induce vomiting. Immediately give 2 glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

## SECTION VI - REACTIVITY DATA

**Stability** - Unstable with heat. **Incompatibility with Other Materials** - Incompatible with oxidizing and reducing agents. Materials is a strong solvent and can soften paints and rubber. **Decomposition** - Decomposes with heat. Hazardous gases/vapors produced are carbon monoxide, carbon dioxide and smoke. **Other Hazardous** - Polymerization can occur. Conditions leading to polymerization are excessive heat, storage in absence of inhibitor, and inadvertent addition of catalyst. Contamination of product may also cause hazardous polymerization.

## SECTION VII - SPILL OR LEAK PROCEDURES

**Safeguards:** Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. **Initial Containment:** Remove source of heat, sparks, flame, impact, friction or electricity. Dike spill. Prevent material from entering sewers, waterways, or low areas. **Spill Clean Up:** Soak up with sand, oil dry or other absorbent, non-combustible material. Cleaned-up materials is a RCRA Hazardous Waste. **Waste Disposal Method:** Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system. Incinerate material in accordance with Federal, State /Provincial and Local requirements. Do not incinerate in closed containers. Do not allow materials to contaminate ground water systems.

## SECTION VIII: SPECIAL PROTECTION INFORMATION

**Eye/Face Protection:** Wear safety glasses. Wear coverall chemical splash goggles and face shield when possibility exists for eye and face contact due to splashing or spraying materials. **Respirators:** A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain limited circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. **Protective Clothing:** Wear impervious clothing to prevent any contact with this product, such as gloves, apron, boots, or whole body suit. Nitrile rubber is better than PVC.

## SECTION IX - SPECIAL PRECAUTIONS

**Precautions to be taken in handling and storing:** Observe label precautions. Keep away from heat, sparks, flame, direct sunlight, and elevated temperatures. Close containers after each use. Wash thoroughly after handling and before eating or smoking.

## Safety Data Sheet

### Section 1 - Chemical Product and Company Identification

**Product Name:** Repair Liquid

**Company Identification:**

Reliance Dental Mfg., LLC.

5805 W. 117<sup>th</sup> Place

Alsip, IL 60803

**For Product Information, call:** 708-597-6694 **For Medical Information, call:** 800-535-5053

### Section 2 - Hazards Identification

**Classification of the substance or mixture**

**Hazard Class – Physical, Health, environmental**

Flammable Liquid

Skin Corrosion/Irritation

Skin sensitizer

Specific Target Organ Toxicity - Single Exposure

**Category**

2

2

1

3

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



**Signal Word:** Danger

**Hazard Statements**

H225 Highly flammable liquid and vapor

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H335 May cause respiratory irritation

**Precautionary Statements – Prevention, Response, Disposal**

P210 Keep away from heat/sparks/open flames/hot surfaces  
-No Smoking

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/vapors/spray

P264 Wash hands and exposed skin thoroughly after handling

P271 Use only outdoors or in a well-ventilated area

P272 Contaminated work clothing should not be allowed out of the workplace

P280 Wear protective gloves/protective clothing/eye protection/face protection

P312 Call a POISON CENTER or doctor/physician if you feel unwell

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 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

+ P353 contaminated clothing. Rinse skin with water/shower  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

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

P405 Store locked up

P403+P233 Store in a well ventilated place. Keep container tightly closed

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

Hazardous Components	Case No.	Percent	GHS Ratings	
Methyl Methacrylate	80-62-6	90-100	Skin Corrosion/Irritation(H315)	2
			Skin Sensitizer(H317)	1
			Specific Target Organ Toxicity-Single Exposure(H335)	3
			Aquatic Toxicity(H402)	A3

\*Component names may have been omitted to protect confidential business information (CBI) in compliance with OSHA GHS HCS§ 1910.1200 Appendix E.

## 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 materials 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:** Acid 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 SCBA 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 a 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

<b>Personal Precautions:</b>	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.
<b>Environmental Precautions:</b>	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) 434-8802.

### Methods and Material for Containment and Cleaning UP

<b>Methods for Containment:</b>	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.
<b>Methods for Cleaning Up:</b>	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. Clean up materials maybe a RCRA hazardous waste, a hazardous waste determination should be done by qualified personnel.

## Section 7 - Handling and Storage

### Precautions for safe Handling

<b>Advice on Safe Handling:</b>	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. 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

<b>Storage Conditions:</b>	Store container 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. 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	ACGIH	NIOSH	OSHA - Final PELs
METHYL METHACRYLATE	50 ppm TWA; 100 ppm STEL	100 ppm TWA; 410 mg/m <sup>3</sup> TWA 1000 ppm IDLH	100 ppm TWA; 410 mg/m <sup>3</sup> TWA

**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 respirator's 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 materials. 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**

glove

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 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:**

Material: Nitrile rubber  
Minimum layer thickness: 0.4 mm  
Break through time: 480 min

**Splash Contact:**

Material: Nitrile rubber  
Minimum layer thickness: 0.11 mm  
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**

<b>Appearance:</b> <b>Odor:</b> <b>Flammable limit (air Volume% : Lower/Upper)</b> <b>Evaporation Rate:</b> <b>Specific Gravity:</b>	Clear Characteristic N/A No data available 0.94	<b>Physical State:</b> <b>Flash Point:</b> <b>Autoignition Temperature:</b> <b>Boiling Range (low-high):</b>	Liquid 54°F, 12°C 421°C 101°C
--	---	---	--

## Section 10 - Stability and Reactivity

Note: Materials listed as stable may become unstable upon depletion of inhibitors (such as mequinol or hydroquinone), contact the manufacturer for exact levels and instruction 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

**Possibility of Hazardous Reactions:** Hazardous polymerization may occur.

## Section 11 - Toxicological Information

### Mixture Toxicity

Inhalation Toxicity: 4,632 mg/L

### Component Toxicity

Routes of Exposure: No data available

**Target Organs:** Eyes, Skin and Respiratory System

### Effects of Overexposure

### Product Components Listed as Carcinogenic

<u>CAS Number</u>	<u>Description</u>	<u>% Weight</u>	<u>Carcinogen Rating</u>
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

When discarded it is a hazardous waste by the EPA under RCRA. The reportable quantity (RQ) for Ethyl Methacrylate is 1000 pounds (40 CFR Part 302). After addition of excess inhibitor, dispose waste material in accordance with Federal, State, and Local regulations. It is the responsibility of the generator to determine at the time of disposal whether the product meets the criteria of a hazardous waste. 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

<u>Agency</u>	<u>Proper Shipping Name</u>	<u>UN Number</u>	<u>Packing Group</u>	<u>Hazard Class</u>
DOT	METHYL METHACRYLATE MONOMER, STABILIZED RQ: 1000lbs	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

<u>Country</u>	<u>Regulation</u>	<u>All Components Listed</u>
	EINECS	Yes
	SARA Hazard categories	Yes
	TSCA Inventory	Yes

#### Section 16 - Additional Information

<b>Hazardous Material Information System (HMIS) Rating</b>		<b>National Fire Protection Association (NFPA) HMIS &amp; NFPA Hazard Rating</b>	
HEALTH	2	HEALTH	2
FLAMMABILITY	3	FLAMMABILITY	3
PHYSICAL HAZARD	2	INSTABILITY	2
PERSONAL PROTECTION	B		

### HMIS & NFPA Hazard Rating

\* = Chronic Health Hazard

0 = INSIGNIFICANT

1 = SLIGHT

2 = MODERATE

3 = HIGH

B = Gloves and Safety Glasses or Chemical Goggles.

*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 Reliance Dental Mfg. Co. 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 user has been advised of the possibility of such damages.*

Revised October 2, 2017