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**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

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**Product Name:** FLI® Ceramic Adhesive

**Other Names:** Orthodontic Adhesive

**Product Use:** Orthodontic cement.

**Supplier:**

RMO Inc.  
650 West Colfax Avenue  
Denver, CO 80204  
USA  
Telephone: 303-592-8217

**Emergency Information Chemtrec:**

(703) 527-3887

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**SECTION 2: HAZARDS IDENTIFICATION**

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**Routes of Entry:**

Inhalation, Skin contact, Eye contact, Ingestion

**Potential Health Acute Effects:**

**Eyes:**

Irritation to the eyes including but not limited to blurred vision, watering and discomfort.

**Skin:**

Repeated contact with skin may cause irritation, including sensitization. Symptoms may become more severe with prolonged exposure.

**Inhalation:**

Irritation may occur.

**Ingestion:**

Possible irritation. Seek medical attention immediately and report the amount ingested.

**Potential Chronic Health Effects:**

NE

**Carcinogenicity:**

NE

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**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

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<u>COMPONENT:</u>	<u>CAS NO:</u>	<u>WT %:</u>
Bisphenol "A" Diglycidyl Methacrylate	1565-94-2	40.0 – 70.0
1,6 Hexanediol Dimethacrylate	6606-59-3	25.0 – 55.0
Proprietary	-----	5.0 – 35.0

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**SECTION 4: FIRST AID MEASURES**

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**Eyes:**

Flush with copious amounts of water. Seek medical attention if symptoms persist.

**Skin:**

If irritation occurs and product is on the skin, rinse thoroughly with water, followed by a thorough washing of the affected area with soap and water. If irritation, redness or swelling persists, contact a physician immediately.

**Ingestion:**

If ingested, do not induce vomiting. If product has been swallowed, drink plenty of water or milk. 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. Seek medical attention immediately.



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**Inhalation:**

Immediately seek fresh air. Open windows and/or doors to increase ventilation. Seek medical attention if symptoms persist.

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## SECTION 5: FIRE-FIGHTING MEASURES

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**Flammable/Explosive Limits:**

No Data

**Flash Point:**

No Data

**Extinguishing Media:**

Chemical Foam, CO<sub>2</sub>, Dry Chemical Powder, Water Spray. NOTE: Water may be ineffective in extinguishing the fire.

**Special Fire Fighting Measures:**

Do not enter fire area without proper protection. Fight fire from a safe location. Wear SCBAs and full protective equipment.

**Unusual Fire and Explosion Hazards:**

Material may burn if exposed to flame. Use a water spray or fog to reduce or direct vapors.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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**Process for cleaning and take-up:**

Evacuate the spill area. Maximize ventilation by opening doors and windows. Eliminate all sources of ignition. Use self-contained breathing apparatus and protective clothing, (e.g. goggles and gloves). Use non-sparking tools ONLY and dispose of the material in the proper closed container(s).

Wash all affected areas of the skin with warm water and soap. Remove clothing that has been contaminated and wash thoroughly.

**Environmental Precautions:**

Keep spills and cleaning runoffs out of sewers and open bodies of water. Spills on porous surfaces can contaminate the ground water. Dispose of in accordance with Federal, State and Local regulations, or appropriate governing standards.

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## SECTION 7: HANDLING AND STORAGE

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**Handling:**

**Handling advice:**

To be handled by qualified dental professionals.

Follow instructions for use.

After each use, wash hands or exposed skin thoroughly. Do not smoke, eat or drink while using this product.

**Fire and explosion protection:**

Store in a cool dry, at or below room temperature, place away from heat, sparks, flame, ultraviolet light and sunlight. Close container after each use.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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**Exposure Guidelines:**

<u>COMPONENT:</u>	<u>CAS NO:</u>	<u>Exposure Limits in Air:</u>	
		OSHA-PELs	ACGIH-TLVs
Bisphenol "A" Diglycidyl Methacrylate	001565-94-2	NE	NE
1,6 Hexanediol Dimethacrylate	6606-59-3	NE	NE

**Engineering Controls:**

**Ventilation:**

**Professional:** Follow precautions and directions on label.



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## Personal Protection:

### Respiratory Protection:

A respirator should be worn whenever workplace conditions warrant its' use. 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:

Chemical resistant gloves should be worn when prolonged or repeated skin contact is expected. If necessary, refer to U.S. OSHA 29 CFR § 1910.138, or other appropriate governing standard. Eye wash stations, safety showers or sink basins are recommended.

### Eye Protection:

Safety glasses or chemical splash goggles may be worn, if necessary refer to U.S. OSHA 29 § 1910.133 or other appropriate governing standard. Eye wash stations, safety showers or sink basins are recommended.

**Other:** No special body protection is required; refer to appropriate governing standards

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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### General description:

**State:** Paste **Odor:** Acrylate **Color(s):** Blue

### Chemical Properties:

<u>Designation:</u>	<u>Value:</u>
Vapor Pressure	ND
Boiling Point Freezing Point	ND
Solubility in Water	Low when polymerized
Viscosity	ND
Specific Gravity (H <sub>2</sub> O = 1)	>1.0 g/cc at 25°C/ 77°F
Percent Volatile W/W%	ND
Vapor Density (AIR = 1)	ND
Evaporation Rate (BuAc = 1)	ND

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## SECTION 10: STABILITY AND REACTIVITY

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### Stability:

This material is stable.

### Reactivity:

#### **Hazardous decomposition products:**

Oxides of carbon when burned.

#### **Incompatibility:**

High temperatures, visible light sources, moisture when unpolymerized, strong oxidizing agents. Keep away from sunlight and open flames.

#### **Hazardous polymerization:**

Heat can cause polymerization with a rapid release of energy.

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## SECTION 11: TOXICOLOGICAL INFORMATION

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### Toxicity Data:

<b>Bisphenol "A" Dimethacrylate:</b>		
Oral (Rat)	LD <sub>50</sub> :	3300 mg/kg
Oral (mouse)	LD <sub>50</sub> :	2500 mg/kg
Oral (Rabbit)	LD <sub>50</sub> :	2230 mg/kg
Intraperitoneal (Rabbit)	LD <sub>50</sub> :	150 mg/kg
Dermal (Rabbit) 24-hour application	LD <sub>50</sub> :	3600 mg/kg



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**SECTION 12: ECOLOGICAL INFORMATION**

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**General ecological information:**

Aquatic toxicity is possible, including physical damage or death to aquatic life; do not discharge into drains or the environment.

<b>Bisphenol "A" Dimethacrylate:</b>		
Menidia menidia	LC <sub>50</sub> :	9.4 mg/L/96h
Selenastrum capicornutum (algae)	LC <sub>50</sub> :	2.7 mg/L/96h
Pimephales promelas (Flathead minnow)	LC <sub>50</sub> :	4.6 mg/L/96h
Skeletonema costatum (Diatom)	EC <sub>50</sub> :	1.0 mg/L/96h
Mysiddopsis bahi (Mysid)	LC <sub>50</sub> :	1.1 mg/L/96h
Daphnia magna (Water flea)	EC <sub>50</sub> :	10200 µg/L/96h
Americamysis bahia (Opossum shrimp)	LC <sub>50</sub> :	1100µg/L/96h
Mysidopsis bahia (Mysid shrimp, 6d old)	LC <sub>50</sub> :	1.1 mg/L/96h
Oryzias latipes (Medaka, high-eyes-ad.female)	LC <sub>50</sub> :	8300 µg/L/72h
Oryzias latipes (Medaka, high-eyes, eggs) Inhibition of hatching	IC <sub>50</sub> :	9.0 mg/L/96h
Hydra vulgaris	LC <sub>50</sub> :	6.9 mg/L/96h
Acartia tonsa (copepod 10-12 d. old)	LC <sub>50</sub> :	3.4 – 5.0 mg/L/48h
Xiphophorus helleri (Swordfish Tail)	LC <sub>50</sub> :	17.93 mg/L/96h
Oncorhynchus mykiss (Rainbow Trout)	LC <sub>50</sub> :	3 – 5 mg/L/96h
Brachydanio rerio	LC <sub>50</sub> :	9.9 mg/L/96h
Cyprinodon variegates (Sheepshead minnow)	LC <sub>50</sub> :	7.5 mg/L/96h
Acartia tonsa (copepod) Affected larval development rate	EC <sub>50</sub> :	0.88 mg/L/5 days

No other components of this product were found to cause ecotoxicity.

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**SECTION 13: DISPOSAL CONSIDERATIONS**

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**Waste disposal of product:**

Collect spilled material. Place in closed container. Dispose of waste at an appropriate waste disposal facility according to current applicable laws and regulations.

Contaminated substrates may be RCRA/OSHA hazardous waste due to the potential for heat generation. Reference codes 40 CFR §261 and 29 CFR § 1910, or the appropriate governing agencies rules and regulations.

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**SECTION 14: TRANSPORT INFORMATION**

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**Department of Transportation Ground (49 CFR):**

No additional information required.

The transport information provided represents the regulatory transport classification of the product without consideration to packaging, quantity, or modal restrictions and exceptions. It is the user's responsibility to determine the appropriate packaging and modal requirements and/or limitations for the product quantity being shipped.

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**SECTION 15: REGULATORY INFORMATION**

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**Symbols of Danger:**

N/A

**R-Phrase:**

R21- Harmful when in contact with skin.

**S-Phrase:**

S24/25- Avoid contact with skin and eyes.

S29- Do not empty into drains.

S37/39- Wear suitable gloves and eye/face protection.



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**SECTION 16: OTHER INFORMATION**

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*All information, recommendations, and suggestions appearing herein concerning our product are based upon tests and data believed to be reliable. However, it is the user's responsibility to determine the safety, toxicity, and suitability for his own use of the product described herein. Since the actual use by others is beyond our control, no guarantee, express or implied, is being made as to the effects of such use, the results obtained, or the safety and toxicity of the product nor is there any assumed liability arising out of use, by others, of the product referred to herein. The information herein is not to be construed as absolutely complete since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.*

September 12, 2014 – Corrected formatting by Terri Salankey