



# Safety Data Sheet

Issue Date: 21-Feb-2013

Revision Date: 13-Jan-2015

Version 1

## 1. IDENTIFICATION

### Product Identifier

**Product Name** Amalgambond Adhesive Agent

### Other means of identification

**SDS #** S374

### Recommended use of the chemical and restrictions on use

**Recommended Use** Dental Adhesive System.

### Details of the supplier of the safety data sheet

#### **Supplier Address**

Parkell, Inc.  
300 Executive Drive  
Edgewood, NY 11717

### Emergency Telephone Number

**Company Phone Number** (631) 249-1134  
**Emergency Telephone (24 hr)** INFOTRAC 1-352-323-3500 (International)  
1-800-535-5053 (North America)

## 2. HAZARDS IDENTIFICATION

**Appearance** Clear, water-white liquid

**Physical State** Liquid

**Odor** Mild and pleasant

### Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1

### Hazards Not Otherwise Classified (HNOC)

May be harmful in contact with skin

### Signal Word

**Warning**

### Hazard Statements

Causes skin irritation  
Causes serious eye irritation  
May cause an allergic skin reaction



**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Contaminated work clothing should not be allowed out of the workplace

**Precautionary Statements - Response**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention  
 IF ON SKIN: Wash with plenty of soap and water  
 Take off contaminated clothing and wash it before reuse  
 If skin irritation or rash occurs: Get medical advice/attention

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
2-Hydroxyethyl methacrylate	868-77-9	Proprietary

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

### 4. FIRST-AID MEASURES

**First Aid Measures**

<b>Eye Contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>Skin Contact</b>	Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.
<b>Inhalation</b>	Remove to fresh air. Get medical attention if discomfort persists.
<b>Ingestion</b>	Do not induce vomiting without medical advice. Get immediate medical attention.

**Most important symptoms and effects**

<b>Symptoms</b>	Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. Prolonged exposure can lead to headaches, nausea, dizziness, and unconsciousness.
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**Indication of any immediate medical attention and special treatment needed**

<b>Notes to Physician</b>	Treat symptomatically.
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### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Foam. Carbon dioxide (CO<sub>2</sub>). Dry chemical.

**Unsuitable Extinguishing Media** Not determined.

**Specific Hazards Arising from the Chemical**

Vapors may travel to source of ignition and flash back. Heat can cause polymerization with rapid release of energy which may rupture the container explosively. Spontaneous polymerization may occur upon prolonged storage.

**Hazardous Combustion Products** Carbon oxides.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use water spray to cool exposed containers. Fight fire from safe distance/protected location.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

<b>Personal Precautions</b>	Use personal protection recommended in Section 8.
<b>For Emergency Responders</b>	Evacuate unprotected personnel from area. Remove all sources of ignition.
<b>Environmental Precautions</b>	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

**Methods and material for containment and cleaning up**

<b>Methods for Containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for Clean-Up</b>	Contain and collect with an inert absorbent and place into an appropriate container for disposal. Do not release into sewers or waterways.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

<b>Advice on Safe Handling</b>	Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Wash face, hands, and any exposed skin thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Ground/bond container and receiving equipment. Use explosion proof equipment.
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**Conditions for safe storage, including any incompatibilities**

<b>Storage Conditions</b>	Keep container tightly closed and store in a cool, dry and well-ventilated place. Check inhibitor levels every three months.
<b>Incompatible Materials</b>	Reducing agents. Oxidizing agents. UV light.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
4-Methoxyphenol 150-76-5	TWA: 5 mg/m <sup>3</sup>	(vacated) TWA: 5 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>

**Appropriate engineering controls**

<b>Engineering Controls</b>	Ensure adequate ventilation, especially in confined areas. Eyewash stations. Showers.
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**Individual protection measures, such as personal protective equipment**

<b>Eye/Face Protection</b>	Safety goggles or glasses.
<b>Skin and Body Protection</b>	Impervious, neoprene gloves.
<b>Respiratory Protection</b>	If necessary, use a self-contained breathing apparatus.
<b>General Hygiene Considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	Liquid	<b>Odor</b>	Mild and pleasant
<b>Appearance</b>	Clear, water-white liquid	<b>Odor Threshold</b>	Not determined
<b>Color</b>	Water-white		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	Not determined	
<b>Melting Point/Freezing Point</b>	Not determined	
<b>Boiling Point/Boiling Range</b>	Not established	
<b>Flash Point</b>	>300 °C / >572 °F	Tag Closed Cup
<b>Evaporation Rate</b>	>1	(butyl acetate = 1)
<b>Flammability (Solid, Gas)</b>	Liquid-not applicable	
<b>Upper Flammability Limits</b>	Not applicable	
<b>Lower Flammability Limit</b>	Not applicable	
<b>Vapor Pressure</b>	0.1 mm HG	
<b>Vapor Density</b>	>1	(Air=1)
<b>Specific Gravity</b>	1.074	(Water = 1)
<b>Water Solubility</b>	Not determined	
<b>Solubility in other solvents</b>	Not determined	
<b>Partition Coefficient</b>	Not determined	
<b>Auto-ignition Temperature</b>	Not determined	
<b>Decomposition Temperature</b>	Not determined	
<b>Kinematic Viscosity</b>	Not determined	
<b>Dynamic Viscosity</b>	Not determined	
<b>Explosive Properties</b>	Not determined	
<b>Oxidizing Properties</b>	Not determined	

## 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions.

### Chemical Stability

UNSTABLE.

### Possibility of Hazardous Reactions

None under normal processing.

#### **Hazardous Polymerization**

Exposure to temperatures above 40°C (104°F), oxidizing agents, reducing agents, peroxides, or amines may cause hazardous polymerization to occur.

### Conditions to Avoid

Keep separated from incompatible substances. Avoid heat, sources of ignition, aging, and contamination. Keep out of reach of children.

### Incompatible Materials

Reducing agents. Oxidizing agents. UV light.

### Hazardous Decomposition Products

Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Eye Contact</b>	Causes serious eye irritation.
<b>Skin Contact</b>	Causes skin irritation. May cause an allergic skin reaction. May be harmful in contact with skin.
<b>Inhalation</b>	Avoid breathing vapors or mists.
<b>Ingestion</b>	Do not ingest.

### Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
2-Hydroxyethyl methacrylate 868-77-9	= 5050 mg/kg ( Rat )	> 3000 mg/kg ( Rabbit )	-
4-Methoxyphenol 150-76-5	= 1600 mg/kg ( Rat )	-	-

### Information on physical, chemical and toxicological effects

**Symptoms** Please see section 4 of this SDS for symptoms.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Sensitization** May cause an allergic skin reaction.

**Carcinogenicity** Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

### Numerical measures of toxicity

Not determined

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

### Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
2-Hydroxyethyl methacrylate 868-77-9		213 - 242: 96 h Pimephales promelas mg/L LC50 flow-through 227: 96 h Pimephales promelas mg/L LC50		
4-Methoxyphenol 150-76-5		84.3: 96 h Pimephales promelas mg/L LC50 flow-through 28.5: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	EC50 = 3.66 mg/L 5 min EC50 = 4.30 mg/L 15 min EC50 = 4.61 mg/L 30 min	

### Persistence/Degradability

Not determined.

**Bioaccumulation**

Not determined.

**Mobility**

Chemical Name	Partition Coefficient
2-Hydroxyethyl methacrylate 868-77-9	0.47
4-Methoxyphenol 150-76-5	1.34

**Other Adverse Effects**

Not determined

### 13. DISPOSAL CONSIDERATIONS

**Waste Treatment Methods**

- Disposal of Wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.
- Contaminated Packaging** Disposal should be in accordance with applicable regional, national and local laws and regulations.

### 14. TRANSPORT INFORMATION

- Note** Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.
- DOT** Not regulated
- IATA** Not regulated
- IMDG** Not regulated

### 15. REGULATORY INFORMATION

**International Inventories**

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
2-Hydroxyethyl methacrylate	Present	X		Present		Present	X	Present	X	X

**Legend:**

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List*
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*
- ENCS - Japan Existing and New Chemical Substances*
- IECSC - China Inventory of Existing Chemical Substances*
- KECL - Korean Existing and Evaluated Chemical Substances*
- PICCS - Philippines Inventory of Chemicals and Chemical Substances*
- AICS - Australian Inventory of Chemical Substances*

**US Federal Regulations****CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
4-Methoxyphenol 150-76-5	X	X	X

**16. OTHER INFORMATION****NFPA****Health Hazards**

2

**Flammability**

0

**Instability**

1

**Special Hazards**

Not determined

**HMIS****Health Hazards**

Not determined

**Flammability**

Not determined

**Physical Hazards**

Not determined

**Personal Protection**

Not determined

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21-Feb-2013

Revision Date:

13-Jan-2015

Revision Note:

New format

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**



# Safety Data Sheet

Issue Date: 21-Feb-2013

Revision Date: 13-Jan-2015

Version 1

## 1. IDENTIFICATION

### Product Identifier

**Product Name** Amalgambond Base

### Other means of identification

**SDS #** S372

**UN/ID No** UN1247

### Recommended use of the chemical and restrictions on use

**Recommended Use** Dental Adhesive System.

### Details of the supplier of the safety data sheet

#### **Supplier Address**

Parkell, Inc.  
300 Executive Drive  
Edgewood, NY 11717

### Emergency Telephone Number

**Company Phone Number** (631) 249-1134  
**Emergency Telephone (24 hr)** INFOTRAC 1-352-323-3500 (International)  
1-800-535-5053 (North America)

## 2. HAZARDS IDENTIFICATION

**Appearance** Colorless, transparent liquid

**Physical State** Liquid

### Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Flammable Liquids	Category 2

### Hazards Not Otherwise Classified (HNOC)

May be harmful if inhaled

### Signal Word

**Danger**

### Hazard Statements

Causes skin irritation  
Causes serious eye irritation  
May cause an allergic skin reaction  
May cause respiratory irritation  
Highly flammable liquid and vapor



#### **Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Contaminated work clothing should not be allowed out of the workplace  
 Use only outdoors or in a well-ventilated area  
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use explosion-proof equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge

#### **Precautionary Statements - Response**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 Get medical attention  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 Wash contaminated clothing before reuse  
 If skin irritation or rash occurs: Get medical advice/attention  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Get medical advice / attention  
 IN CASE OF FIRE: Use CO<sub>2</sub>, dry chemical, or foam for extinction

#### **Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep cool

#### **Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

#### **Other Hazards**

Harmful to aquatic life with long lasting effects

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Chemical Name</b>	<b>CAS No</b>	<b>Weight-%</b>
Methyl methacrylate	80-62-6	Proprietary

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

## 4. FIRST-AID MEASURES

### First Aid Measures

<b>Eye Contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.
<b>Skin Contact</b>	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.
<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Ingestion</b>	Do not induce vomiting without medical advice. Immediately call a poison center or doctor/physician.

### Most important symptoms and effects

<b>Symptoms</b>	Causes serious eye irritation and skin irritation. May cause an allergic skin reaction. Ingestion may cause headache, dizziness, nausea, tinnitus, dyspnea, etc. Inhalation can cause irritation of the upper respiratory tract and mucous membranes; at high concentrations, can cause symptoms similar to those which may be experienced upon ingestion.
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### Indication of any immediate medical attention and special treatment needed

<b>Notes to Physician</b>	Treat symptomatically.
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## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Foam. Dry chemical. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable Extinguishing Media** Not determined.

### Specific Hazards Arising from the Chemical

Highly flammable liquid and vapor. When exposed to flame, product emits toxic fumes and gases.

**Hazardous Combustion Products** Carbon monoxide.

**Sensitivity to Static Discharge** Take precautionary measures against static discharge.

### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

<b>Personal Precautions</b>	Use personal protection recommended in Section 8.
<b>For Emergency Responders</b>	Remove all sources of ignition. Ventilate the area.
<b>Environmental Precautions</b>	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

**Methods and material for containment and cleaning up**

<b>Methods for Containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for Clean-Up</b>	Absorb small quantities on paper towels. Evaporate in safe place such as a fume hood. Allow sufficient time for evaporating vapors to completely clear the hood duct work. Burn the paper in a suitable location away from combustible materials. Large quantities can be collected and burned in a suitable combustion chamber.

**7. HANDLING AND STORAGE****Precautions for safe handling**

<b>Advice on Safe Handling</b>	Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Wash face, hands, and any exposed skin thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion proof equipment. Use only non-sparking tools. Take precautionary measures against static discharges.
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**Conditions for safe storage, including any incompatibilities**

<b>Storage Conditions</b>	Keep container tightly closed and store in a cool, dry and well-ventilated place. Do not store under pure nitrogen or sparge with nitrogen or oxygen-free gas. Store locked up.
<b>Incompatible Materials</b>	Polymerization catalysts such as peroxides, persulfates, light, heat, nitric acid and other strong oxidizers, ammonia and amines, and halogens and halogen compounds.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Methyl methacrylate 80-62-6	STEL: 100 ppm TWA: 50 ppm	TWA: 100 ppm TWA: 410 mg/m <sup>3</sup> (vacated) TWA: 100 ppm (vacated) TWA: 410 mg/m <sup>3</sup>	IDLH: 1000 ppm TWA: 100 ppm TWA: 410 mg/m <sup>3</sup>
Polymerizable Methacrylates	TWA: 5 mg/m <sup>3</sup>	(vacated) TWA: 5 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>

**Appropriate engineering controls**

<b>Engineering Controls</b>	Ensure adequate ventilation, especially in confined areas. Eyewash stations. Showers.
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**Individual protection measures, such as personal protective equipment**

<b>Eye/Face Protection</b>	Safety glasses or full face shield.
<b>Skin and Body Protection</b>	Rubber or PVC gloves.
<b>Respiratory Protection</b>	NIOSH-approved respiratory protection for organic gases if needed.
<b>General Hygiene Considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	Liquid	<b>Odor</b>	Not determined
<b>Appearance</b>	Colorless, transparent liquid	<b>Odor Threshold</b>	Not determined
<b>Color</b>	Colorless, transparent		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	Not determined	
<b>Melting Point/Freezing Point</b>	Not determined	
<b>Boiling Point/Boiling Range</b>	101 °C / 214 °F	
<b>Flash Point</b>	10 °C / 50 °F	Tag Closed Cup
<b>Evaporation Rate</b>	Not applicable	
<b>Flammability (Solid, Gas)</b>	Liquid-not applicable	
<b>Upper Flammability Limits</b>	8.2%	
<b>Lower Flammability Limit</b>	1.7%	
<b>Vapor Pressure</b>	40 mm HG	
<b>Vapor Density</b>	3.45	(Air=1)
<b>Specific Gravity</b>	0.944	(Water = 1)
<b>Water Solubility</b>	Not determined	
<b>Solubility in other solvents</b>	Not determined	
<b>Partition Coefficient</b>	Not determined	
<b>Auto-ignition Temperature</b>	Not determined	
<b>Decomposition Temperature</b>	Not determined	
<b>Kinematic Viscosity</b>	Not determined	
<b>Dynamic Viscosity</b>	Not determined	
<b>Explosive Properties</b>	Not determined	
<b>Oxidizing Properties</b>	Not determined	

## 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions.

### Chemical Stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

**Hazardous Polymerization**      Hazardous polymerization may occur, especially when heated or catalyzed.

### Conditions to Avoid

Keep separated from incompatible substances. Avoid heat and light. Keep out of reach of children.

### Incompatible Materials

Polymerization catalysts such as peroxides, persulfates, light, heat, nitric acid and other strong oxidizers, ammonia and amines, and halogens and halogen compounds.

### Hazardous Decomposition Products

Thermal-oxidative degradation can produce toxic and corrosive materials, including carbon monoxide.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Eye Contact</b>	Causes serious eye irritation.
<b>Skin Contact</b>	Causes skin irritation. May cause an allergic skin reaction.
<b>Inhalation</b>	May cause respiratory irritation. May be harmful if inhaled.
<b>Ingestion</b>	Do not ingest.

### Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Methyl methacrylate 80-62-6	= 7872 mg/kg ( Rat )	> 5 g/kg ( Rabbit )	= 4632 ppm ( Rat ) 4 h = 400 ppm ( Rat ) 1 h
Polymerizable Methacrylates	= 1600 mg/kg ( Rat )	-	-

### Information on physical, chemical and toxicological effects

**Symptoms** Please see section 4 of this SDS for symptoms.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Sensitization** May cause an allergic skin reaction.

**Carcinogenicity** Group 3 IARC components are "not classifiable as human carcinogens".

Chemical Name	ACGIH	IARC	NTP	OSHA
Methyl methacrylate 80-62-6		Group 3		

#### Legend

*IARC (International Agency for Research on Cancer)  
Group 3 IARC components are "not classifiable as human carcinogens"*

**STOT - single exposure** May cause respiratory irritation.

### Numerical measures of toxicity

Not determined

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Harmful to aquatic life with long lasting effects.

**Component Information**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Methyl methacrylate 80-62-6	170: 96 h Pseudokirchneriella subcapitata mg/L EC50	243 - 275: 96 h Pimephales promelas mg/L LC50 flow-through 125.5 - 190.7: 96 h Pimephales promelas mg/L LC50 static 170 - 206: 96 h Lepomis macrochirus mg/L LC50 flow-through 153.9 - 341.8: 96 h Lepomis macrochirus mg/L LC50 static 79: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 79: 96 h Oncorhynchus mykiss mg/L LC50 static 326.4 - 426.9: 96 h Poecilia reticulata mg/L LC50 static		69: 48 h Daphnia magna mg/L EC50
Polymerizable Methacrylates		84.3: 96 h Pimephales promelas mg/L LC50 flow-through 28.5: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	EC50 = 3.66 mg/L 5 min EC50 = 4.30 mg/L 15 min EC50 = 4.61 mg/L 30 min	

**Persistence/Degradability**

Not determined.

**Bioaccumulation**

Not determined.

**Mobility**

Chemical Name	Partition Coefficient
Methyl methacrylate 80-62-6	0.7
Polymerizable Methacrylates	1.34

**Other Adverse Effects**

Not determined

**13. DISPOSAL CONSIDERATIONS****Waste Treatment Methods****Disposal of Wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated Packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**US EPA Waste Number**

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Methyl methacrylate 80-62-6	U162	Included in waste stream: F039		U162

**California Hazardous Waste Status**

Chemical Name	California Hazardous Waste Status
Methyl methacrylate 80-62-6	Toxic Ignitable

## 14. TRANSPORT INFORMATION

**Note** Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

### DOT

UN/ID No UN1247  
 Proper Shipping Name Methyl methacrylate monomer, stabilized  
 Hazard Class 3  
 Packing Group II

### IATA

UN/ID No UN1247  
 Proper Shipping Name Methyl methacrylate monomer, stabilized  
 Hazard Class 3  
 Packing Group II

### IMDG

UN/ID No UN1247  
 Proper Shipping Name Methyl methacrylate monomer, stabilized  
 Hazard Class 3  
 Packing Group II  
 Marine Pollutant This material may meet the definition of a marine pollutant

## 15. REGULATORY INFORMATION

### International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Methyl methacrylate	Present	X		Present		Present	X	Present	X	X

#### Legend:

*TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*

*DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List*

*EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

*ENCS - Japan Existing and New Chemical Substances*

*IECSC - China Inventory of Existing Chemical Substances*

*KECL - Korean Existing and Evaluated Chemical Substances*

*PICCS - Philippines Inventory of Chemicals and Chemical Substances*

*AICS - Australian Inventory of Chemical Substances*

### US Federal Regulations

#### CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Methyl methacrylate 80-62-6	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

#### SARA 313

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Methyl methacrylate - 80-62-6	80-62-6	Proprietary	1.0

#### CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Methyl methacrylate	1000 lb			X



# Safety Data Sheet

Issue Date: 21-Feb-2013

Revision Date: 13-Jan-2015

Version 1

## 1. IDENTIFICATION

### Product Identifier

**Product Name** Amalgambond Dentin Activator

### Other means of identification

**SDS #** S394

**UN/ID No** UN2582

### Recommended use of the chemical and restrictions on use

**Recommended Use** Dental Adhesive System.

### Details of the supplier of the safety data sheet

#### **Supplier Address**

Parkell, Inc.  
300 Executive Drive  
Edgewood, NY 11717

### Emergency Telephone Number

**Company Phone Number** (631) 249-1134

**Emergency Telephone (24 hr)** INFOTRAC 1-352-323-3500 (International)  
1-800-535-5053 (North America)

## 2. HAZARDS IDENTIFICATION

**Appearance** Green-yellow, thick liquid

**Physical State** Liquid

### Classification

Skin corrosion/irritation	Category 1 Sub-category C
Serious eye damage/eye irritation	Category 1
Flammable Liquids	Category 3

### Hazards Not Otherwise Classified (HNOC)

May be harmful if swallowed

### Signal Word

**Danger**

### Hazard Statements

Causes severe skin burns and eye damage  
Flammable liquid and vapor



**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapors/spray  
 Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use explosion-proof equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge

**Precautionary Statements - Response**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 Immediately call a poison center or doctor/physician  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 Wash contaminated clothing before reuse  
 If skin irritation persists: Get medical advice/attention  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Immediately call a poison center or doctor/physician  
 IF SWALLOWED: Call a poison center or doctor/physician  
 Rinse mouth  
 Do not induce vomiting  
 IN CASE OF FIRE: Use CO2, dry chemical, or foam for extinction

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep cool

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Citric Acid	77-92-9	Proprietary
Iron(III) Chloride, Ferric Chloride	7705-08-0	Proprietary

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

### 4. FIRST-AID MEASURES

**First Aid Measures**

<b>Eye Contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
<b>Skin Contact</b>	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If irritation persists, seek medical attention.
<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Immediately call a poison center or doctor/physician.
<b>Ingestion</b>	Do not induce vomiting. If substantial quantities are ingested, give person 2 or 3 glasses of milk or water to drink. Get medical attention.

**Most important symptoms and effects**

<b>Symptoms</b>	Causes severe skin burns and eye damage. Inhalation is not a hazard unless misted or heated at high temperature. Mist inhalation may cause coughing or sneezing. May be irritating to the mouth, throat and stomach.
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**Indication of any immediate medical attention and special treatment needed**

<b>Notes to Physician</b>	Treat symptomatically.
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**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Alcohol resistant foam. Carbon dioxide (CO<sub>2</sub>). Dry chemical.

**Unsuitable Extinguishing Media** Not determined.

**Specific Hazards Arising from the Chemical**

Flammable liquid and vapor. When exposed to flame, product emits toxic fumes and gases.

**Sensitivity to Static Discharge** Take precautionary measures against static discharge.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

<b>Personal Precautions</b>	Use personal protection recommended in Section 8.
<b>Environmental Precautions</b>	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

**Methods and material for containment and cleaning up**

<b>Methods for Containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for Clean-Up</b>	For small spills and residues, absorb with paper towels. Pick up and place in polyolefin bottle for disposal. Flush spill area with water.

**7. HANDLING AND STORAGE****Precautions for safe handling**

<b>Advice on Safe Handling</b>	Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Wash face, hands, and any exposed skin thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion proof equipment. Use only non-sparking tools. Take precautionary measures against static discharges.
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**Conditions for safe storage, including any incompatibilities**

<b>Storage Conditions</b>	Keep container tightly closed and store in a cool, dry and well-ventilated place. Store away from direct sunlight. Store locked up.
<b>Incompatible Materials</b>	Bases. Strong alkalis.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Citric Acid 77-92-9	-	15 mg / m <sup>3</sup> (Total)	-
Iron(III) Chloride, Ferric Chloride 7705-08-0	TWA: 1 mg/m <sup>3</sup> Fe	(vacated) TWA: 1 mg/m <sup>3</sup> Fe	TWA: 1 mg/m <sup>3</sup> Fe

### Appropriate engineering controls

**Engineering Controls**                      Ensure adequate ventilation, especially in confined areas. Eyewash stations. Showers.

### Individual protection measures, such as personal protective equipment

**Eye/Face Protection**                      Wear chemical safety goggles or glasses. Do not wear contact lenses.

**Skin and Body Protection**                      Wear protective gloves and protective clothing.

**Respiratory Protection**                      No protection is ordinarily required under normal conditions of use and with adequate ventilation.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	Liquid	<b>Odor</b>	Not determined
<b>Appearance</b>	Green-yellow, thick liquid	<b>Odor Threshold</b>	Not determined
<b>Color</b>	Green-yellow		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	Not determined	
<b>Melting Point/Freezing Point</b>	Not determined	
<b>Boiling Point/Boiling Range</b>	100 °C / 212 °F	
<b>Flash Point</b>	>38 °C / >100 °F	Tag Closed Cup
<b>Evaporation Rate</b>	Not established	
<b>Flammability (Solid, Gas)</b>	Liquid-Not applicable	
<b>Upper Flammability Limits</b>	Not established	
<b>Lower Flammability Limit</b>	Not established	
<b>Vapor Pressure</b>	Not established	
<b>Vapor Density</b>	Not established	
<b>Specific Gravity</b>	Not established	
<b>Water Solubility</b>	Not determined	
<b>Solubility in other solvents</b>	Not determined	
<b>Partition Coefficient</b>	Not determined	
<b>Auto-ignition Temperature</b>	Not determined	
<b>Decomposition Temperature</b>	Not determined	
<b>Kinematic Viscosity</b>	Not determined	
<b>Dynamic Viscosity</b>	Not determined	
<b>Explosive Properties</b>	Not determined	
<b>Oxidizing Properties</b>	Not determined	

## 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions.

### Chemical Stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

**Hazardous Polymerization**      Hazardous polymerization does not occur.

### Conditions to Avoid

Keep separated from incompatible substances. Keep out of reach of children.

### Incompatible Materials

Bases. Strong alkalis.

### Hazardous Decomposition Products

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Eye Contact</b>	Causes severe eye damage.
<b>Skin Contact</b>	Causes severe skin burns.
<b>Inhalation</b>	Avoid breathing vapors or mists.
<b>Ingestion</b>	May be harmful if swallowed.

### Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Polyvinyl alcohol 9002-89-5	> 20 g/kg ( Rat )	-	-
Citric Acid 77-92-9	= 3000 mg/kg ( Rat )	-	-
Iron(III) Chloride, Ferric Chloride 7705-08-0	= 316 mg/kg ( Rat )	-	-

### Information on physical, chemical and toxicological effects

**Symptoms**      Please see section 4 of this SDS for symptoms.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Carcinogenicity**      Group 3 IARC components are "not classifiable as human carcinogens".

Chemical Name	ACGIH	IARC	NTP	OSHA
Polyvinyl alcohol 9002-89-5		Group 3		

#### Legend

*IARC (International Agency for Research on Cancer)  
Group 3 IARC components are "not classifiable as human carcinogens"*

### Numerical measures of toxicity

Not determined

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

### Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Citric Acid 77-92-9		1516: 96 h Lepomis macrochirus mg/L LC50 static		120: 72 h Daphnia magna mg/L EC50
Iron(III) Chloride, Ferric Chloride 7705-08-0		75.6: 96 h Gambusia affinis mg/L LC50 static 20.26: 96 h Lepomis macrochirus mg/L LC50 semi-static 20.95 - 22.56: 96 h Pimephales promelas mg/L LC50 semi-static		27.9: 48 h Daphnia magna mg/L EC50 9.6: 48 h Daphnia magna mg/L EC50 Static

### Persistence/Degradability

Not determined.

### Bioaccumulation

Not determined.

### Mobility

Chemical Name	Partition Coefficient
Citric Acid 77-92-9	-1.72
Iron(III) Chloride, Ferric Chloride 7705-08-0	-4

### Other Adverse Effects

Not determined

## 13. DISPOSAL CONSIDERATIONS

### Waste Treatment Methods

#### **Disposal of Wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

#### **Contaminated Packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

### California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Iron(III) Chloride, Ferric Chloride 7705-08-0	Toxic Corrosive

## 14. TRANSPORT INFORMATION

**Note** Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

### DOT

UN/ID No UN2582  
 Proper Shipping Name Ferric chloride solution  
 Hazard Class 8  
 Packing Group III

### IATA

UN/ID No UN2582  
 Proper Shipping Name Ferric chloride solution  
 Hazard Class 8  
 Packing Group III

### IMDG

UN/ID No UN2582  
 Proper Shipping Name Ferric chloride solution  
 Hazard Class 8  
 Packing Group III

## 15. REGULATORY INFORMATION

### International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Citric Acid	Present	X		Present		Present	X	Present	X	X
Iron(III) Chloride, Ferric Chloride	Present	X		Present		Present	X	Present	X	X

### Legend:

*TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*

*DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List*

*EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

*ENCS - Japan Existing and New Chemical Substances*

*IECSC - China Inventory of Existing Chemical Substances*

*KECL - Korean Existing and Evaluated Chemical Substances*

*PICCS - Philippines Inventory of Chemicals and Chemical Substances*

*AICS - Australian Inventory of Chemical Substances*

### US Federal Regulations

#### CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Iron(III) Chloride, Ferric Chloride 7705-08-0	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

#### CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Iron(III) Chloride, Ferric Chloride	1000 lb			X

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Iron(III) Chloride, Ferric Chloride 7705-08-0	X	X	X

**16. OTHER INFORMATION****NFPA****Health Hazards**

1

**Flammability**

2

**Instability**

0

**Special Hazards**

Not determined

**HMIS****Health Hazards**

Not determined

**Flammability**

Not determined

**Physical Hazards**

Not determined

**Personal Protection**

Not determined

**Issue Date:** 21-Feb-2013

**Revision Date:** 13-Jan-2015

**Revision Note:** New format

**Disclaimer**

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**End of Safety Data Sheet**



# Safety Data Sheet

Issue Date: 21-Feb-2013

Revision Date: 13-Jan-2015

Version 1

## 1. IDENTIFICATION

### Product Identifier

**Product Name** Amalgambond HPA Powder

### Other means of identification

**SDS #** S376

### Recommended use of the chemical and restrictions on use

**Recommended Use** Dental Adhesive System.

### Details of the supplier of the safety data sheet

#### **Supplier Address**

Parkell, Inc.  
300 Executive Drive  
Edgewood, NY 11717

### Emergency Telephone Number

**Company Phone Number** (631) 249-1134  
**Emergency Telephone (24 hr)** INFOTRAC 1-352-323-3500 (International)  
1-800-535-5053 (North America)

## 2. HAZARDS IDENTIFICATION

**Appearance** Tan powder

**Physical State** Solid

### Classification

This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Polymethylmethacrylate (PMMA)	Proprietary	Proprietary

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

## 4. FIRST-AID MEASURES

### First Aid Measures

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation occurs.

**Skin Contact** Wash off immediately with plenty of water.

**Inhalation** Remove to fresh air. Get medical attention for any breathing difficulty.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects**

**Symptoms** Direct contact with eyes may cause temporary irritation.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable Extinguishing Media** Not determined.

**Specific Hazards Arising from the Chemical**

Combustion products may be toxic.

**Hazardous Combustion Products** Carbon monoxide. Carbon dioxide (CO<sub>2</sub>).

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Use personal protection recommended in Section 8.

**Environmental Precautions** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

**Methods and material for containment and cleaning up**

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Clean-Up** Sweep up and shovel into suitable containers for disposal.

**7. HANDLING AND STORAGE****Precautions for safe handling**

**Advice on Safe Handling** Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep container tightly closed and store in a cool, dry and well-ventilated place. Store away from other materials which may cause cross-contamination.

**Incompatible Materials** None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Zirconium Oxide 1314-23-4	STEL: 10 mg/m <sup>3</sup> Zr TWA: 5 mg/m <sup>3</sup> Zr	TWA: 5 mg/m <sup>3</sup> Zr (vacated) TWA: 5 mg/m <sup>3</sup> Zr (vacated) STEL: 10 mg/m <sup>3</sup> Zr	IDLH: 25 mg/m <sup>3</sup> Zr TWA: 5 mg/m <sup>3</sup> except Zirconium tetrachloride Zr STEL: 10 mg/m <sup>3</sup> Zr

### Appropriate engineering controls

**Engineering Controls**                      Ensure adequate ventilation, especially in confined areas. Eyewash stations. Showers.

### Individual protection measures, such as personal protective equipment

**Eye/Face Protection**                      Use safety glasses.

**Skin and Body Protection**                      Use rubber or PVC gloves.

**Respiratory Protection**                      No protection is ordinarily required under normal conditions of use and with adequate ventilation.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	Solid	<b>Odor</b>	Not determined
<b>Appearance</b>	Tan powder	<b>Odor Threshold</b>	Not determined
<b>Color</b>	Tan		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	Not determined	
<b>Melting Point/Freezing Point</b>	Not determined	
<b>Boiling Point/Boiling Range</b>	Not applicable	
<b>Flash Point</b>	None	
<b>Evaporation Rate</b>	Not applicable	
<b>Flammability (Solid, Gas)</b>	Not determined	
<b>Upper Flammability Limits</b>	Not applicable	
<b>Lower Flammability Limit</b>	Not applicable	
<b>Vapor Pressure</b>	Not applicable	
<b>Vapor Density</b>	Not applicable	
<b>Specific Gravity</b>	1.96	(Water = 1)
<b>Water Solubility</b>	Nil	
<b>Solubility in other solvents</b>	Not determined	
<b>Partition Coefficient</b>	Not determined	
<b>Auto-ignition Temperature</b>	Not determined	
<b>Decomposition Temperature</b>	Not determined	
<b>Kinematic Viscosity</b>	Not determined	
<b>Dynamic Viscosity</b>	Not determined	
<b>Explosive Properties</b>	Not determined	
<b>Oxidizing Properties</b>	Not determined	

## 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions.

### Chemical Stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

**Hazardous Polymerization**      Hazardous polymerization does not occur.

### Conditions to Avoid

Keep out of reach of children.

### Incompatible Materials

None known based on information supplied.

### Hazardous Decomposition Products

Carbon monoxide. Carbon dioxide (CO<sub>2</sub>).

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

**Eye Contact**      Avoid contact with eyes.

**Skin Contact**      Avoid contact with skin.

**Inhalation**      Avoid inhalation of dust.

**Ingestion**      Do not ingest.

### Component Information

Not available

### Information on physical, chemical and toxicological effects

**Symptoms**      Please see section 4 of this SDS for symptoms.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Carcinogenicity**      Group 3 IARC components are "not classifiable as human carcinogens".

Chemical Name	ACGIH	IARC	NTP	OSHA
Polymethylmethacrylate (PMMA)		Group 3		

#### Legend

*IARC (International Agency for Research on Cancer)*

*Group 3 IARC components are "not classifiable as human carcinogens"*

### Numerical measures of toxicity

Not determined

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

### Component Information

Not available

### Persistence/Degradability

Not determined.

### Bioaccumulation

Not determined.

### Mobility

Not determined

### Other Adverse Effects

Not determined

## 13. DISPOSAL CONSIDERATIONS

### Waste Treatment Methods

#### **Disposal of Wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

#### **Contaminated Packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

## 14. TRANSPORT INFORMATION

### Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

### DOT

Not regulated

### IATA

Not regulated

### IMDG

Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Polymethylmethacrylate (PMMA)	Present	X				Present	X	Present	X	X

#### **Legend:**

*TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*

*DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List*

*EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

*ENCS - Japan Existing and New Chemical Substances*

*IECSC - China Inventory of Existing Chemical Substances*

*KECL - Korean Existing and Evaluated Chemical Substances*

*PICCS - Philippines Inventory of Chemicals and Chemical Substances*

*AICS - Australian Inventory of Chemical Substances*

**US Federal Regulations****CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Zirconium Oxide 1314-23-4		X	

**16. OTHER INFORMATION****NFPA****Health Hazards****Flammability****Instability****Special Hazards**

0

0

0

Not determined

**HMIS****Health Hazards****Flammability****Physical Hazards****Personal Protection**

Not determined

Not determined

Not determined

Not determined

**Issue Date:**

21-Feb-2013

**Revision Date:**

13-Jan-2015

**Revision Note:**

New format

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**End of Safety Data Sheet**

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Methyl methacrylate 80-62-6	X	X	X
Polymerizable Methacrylates	X	X	X

**16. OTHER INFORMATION****NFPA****Health Hazards**

2

**Flammability**

3

**Instability**

2

**Special Hazards**

Not determined

**HMIS****Health Hazards**

Not determined

**Flammability**

Not determined

**Physical Hazards**

Not determined

**Personal Protection**

Not determined

**Issue Date:** 21-Feb-2013

**Revision Date:** 13-Jan-2015

**Revision Note:** New format

**Disclaimer**

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**End of Safety Data Sheet**