



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

Eye Contact	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.
Skin Contact	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.
Inhalation	Remove to fresh air. Get medical attention if discomfort persists.
Ingestion	Do not induce vomiting without medical advice. Get immediate medical attention.

Most important symptoms and effects

Symptoms	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

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Foam. Carbon dioxide (CO₂). 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

Personal Precautions	Use personal protection recommended in Section 8.
For Emergency Responders	Evacuate unprotected personnel from area. Remove all sources of ignition.
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	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

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. 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

Storage Conditions	Keep container tightly closed and store in a cool, dry and well-ventilated place. Check inhibitor levels every three months.
Incompatible Materials	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 ³	(vacated) TWA: 5 mg/m ³	TWA: 5 mg/m ³

Appropriate engineering controls

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

Eye/Face Protection	Safety goggles or glasses.
Skin and Body Protection	Impervious, neoprene gloves.
Respiratory Protection	If necessary, use a self-contained breathing apparatus.
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

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

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

Eye Contact	Causes serious eye irritation.
Skin Contact	Causes skin irritation. May cause an allergic skin reaction. May be harmful in contact with skin.
Inhalation	Avoid breathing vapors or mists.
Ingestion	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

Issue Date: 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 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

Other Hazards

Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
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

Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.
Skin Contact	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.
Inhalation	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.
Ingestion	Do not induce vomiting without medical advice. Immediately call a poison center or doctor/physician.

Most important symptoms and effects

Symptoms	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

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Foam. Dry chemical. Carbon dioxide (CO₂).

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

Personal Precautions	Use personal protection recommended in Section 8.
For Emergency Responders	Remove all sources of ignition. Ventilate the area.
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	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**

Advice on Safe Handling	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

Storage Conditions	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.
Incompatible Materials	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 ³ (vacated) TWA: 100 ppm (vacated) TWA: 410 mg/m ³	IDLH: 1000 ppm TWA: 100 ppm TWA: 410 mg/m ³
Polymerizable Methacrylates	TWA: 5 mg/m ³	(vacated) TWA: 5 mg/m ³	TWA: 5 mg/m ³

Appropriate engineering controls

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

Eye/Face Protection	Safety glasses or full face shield.
Skin and Body Protection	Rubber or PVC gloves.
Respiratory Protection	NIOSH-approved respiratory protection for organic gases if needed.
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

Physical State	Liquid	Odor	Not determined
Appearance	Colorless, transparent liquid	Odor Threshold	Not determined
Color	Colorless, transparent		

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

Eye Contact	Causes serious eye irritation.
Skin Contact	Causes skin irritation. May cause an allergic skin reaction.
Inhalation	May cause respiratory irritation. May be harmful if inhaled.
Ingestion	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

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



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

Eye Contact	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.
Skin Contact	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If irritation persists, seek medical attention.
Inhalation	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.
Ingestion	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

Symptoms	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

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Alcohol resistant foam. Carbon dioxide (CO₂). 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**

Personal Precautions	Use personal protection recommended in Section 8.
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Environmental Precautions	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.
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Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so.
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Methods for Clean-Up	For small spills and residues, absorb with paper towels. Pick up and place in polyolefin bottle for disposal. Flush spill area with water.
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7. HANDLING AND STORAGE**Precautions for safe handling**

Advice on Safe Handling	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

Storage Conditions	Keep container tightly closed and store in a cool, dry and well-ventilated place. Store away from direct sunlight. Store locked up.
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Incompatible Materials	Bases. Strong alkalis.
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

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

Physical State	Liquid	Odor	Not determined
Appearance	Green-yellow, thick liquid	Odor Threshold	Not determined
Color	Green-yellow		

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

Eye Contact	Causes severe eye damage.
Skin Contact	Causes severe skin burns.
Inhalation	Avoid breathing vapors or mists.
Ingestion	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

<u>NFPA</u>	Health Hazards 1	Flammability 2	Instability 0	Special Hazards Not determined
<u>HMIS</u>	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

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 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 (CO₂).

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Combustion products may be toxic.

Hazardous Combustion Products Carbon monoxide. Carbon dioxide (CO₂).

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 ³ Zr TWA: 5 mg/m ³ Zr	TWA: 5 mg/m ³ Zr (vacated) TWA: 5 mg/m ³ Zr (vacated) STEL: 10 mg/m ³ Zr	IDLH: 25 mg/m ³ Zr TWA: 5 mg/m ³ except Zirconium tetrachloride Zr STEL: 10 mg/m ³ 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

Physical State	Solid	Odor	Not determined
Appearance	Tan powder	Odor Threshold	Not determined
Color	Tan		

Property

Values

Remarks • Method

pH	Not determined	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	Not applicable	
Flash Point	None	
Evaporation Rate	Not applicable	
Flammability (Solid, Gas)	Not determined	
Upper Flammability Limits	Not applicable	
Lower Flammability Limit	Not applicable	
Vapor Pressure	Not applicable	
Vapor Density	Not applicable	
Specific Gravity	1.96	(Water = 1)
Water Solubility	Nil	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	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 (CO₂).

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

Disclaimer

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End of Safety Data Sheet

Issue Date: 23-Apr-2013

Revision Date: 13-Jan-2015

Version 1

1. IDENTIFICATION

Product Identifier

Product Name 4-Meta Universal Catalyst-V

Other means of identification

SDS # S371

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

Odor Like n-butanol

Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Pyrophoric Liquids	Category 1
Substances or mixtures which, in contact with water, emit flammable gases	Category 2

Signal Word

Danger

Hazard Statements

Harmful if swallowed
Harmful in contact with skin
Causes severe skin burns and eye damage
Catches fire spontaneously if exposed to air
In contact with water releases flammable gases



Precautionary Statements - Prevention

Wear protective gloves/protective clothing/eye protection/face protection
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Do not breathe dust/fume/gas/mist/vapors/spray
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Do not allow contact with air
 Do not allow contact with water
 Handle under inert gas

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
 Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages
 Wash contaminated clothing before reuse
 If irritation develops or persists seek medical 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 dry place. Store in a closed container
 Store contents under inert gas

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
tri-n-butylborane (TBB)	122-56-5	Proprietary
Tributyl Borate	688-74-4	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 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.
Skin Contact	Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. Wash contaminated clothing before reuse. Get medical attention if irritation develops or persists.
Inhalation	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.
Ingestion	Rinse mouth. Do not induce vomiting. Promptly drink several glasses of water or milk to dilute. Get medical attention.

Most important symptoms and effects

Symptoms	Causes severe skin burns and eye damage. May be irritating to the mouth, throat and stomach. Can cause respiratory tract irritation; may cause dizziness, dullness, headache. Higher concentrations can produce central nervous system depression and narcosis.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Foam. Dry chemical. Carbon dioxide (CO₂). Dry sand. Water spray (fog).

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Highly flammable liquid, reactive with water and air to generate heat and flammable gases.

Hazardous Combustion Products Flammable gas and toxic gas may be released by reaction with water or air.

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.
For Emergency Responders	Remove all sources of ignition. Ventilate the area.
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	Contain and collect with an inert absorbent and place into an appropriate container for disposal.
Prevention of Secondary Hazards	Contents may develop pressure by decomposition.

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. Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Do not allow contact with water or air. Handle under inert gas. Protect from moisture. Protect container from physical damage.
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Conditions for safe storage, including any incompatibilities

Storage Conditions	Store in a tightly closed container in a dry, dark, and well-ventilated area at a cool (5-30° C/41-86°F) and stable temperature. Store away from ignition sources and flammable solids with large surface areas such as guaze and cotton. Store locked up.
Incompatible Materials	Strong oxidizers. Halogenated hydrocarbons. Flammable solids with large surface areas such as gauze or cotton.

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

No exposure limits noted for ingredient(s). The following information is given as general guidance.

Appropriate engineering controls

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

Eye/Face Protection	Use safety glasses or chemical splash goggles.
Skin and Body Protection	Use impervious protective gloves to prevent skin contact.
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**

Physical State	Liquid	Odor	Like n-butanol
Appearance	Colorless, transparent liquid	Odor Threshold	Not determined
Color	Colorless, transparent		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not determined	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	56 °C / 133 °F	(acetone)
Flash Point	Unknown	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid-not applicable	
Upper Flammability Limits	13% (acetone)	
Lower Flammability Limit	2% (acetone)	
Vapor Pressure	Not known	
Vapor Density	Not known	
Specific Gravity	approx. 0.8	(Water = 1)
Water Solubility	Decomposes, partly soluble	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Reacts with water or air.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid

Keep separated from incompatible substances. Avoid temperatures beyond 30°C (86°F), refrigeration, fluctuating temperature, direct sunlight, and ignition sources. Keep out of reach of children.

Incompatible Materials

Strong oxidizers. Halogenated hydrocarbons. Flammable solids with large surface areas such as gauze or cotton.

Hazardous Decomposition Products

Carbon monoxide, butanol, boron oxide, and borane.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Causes severe eye damage.

Skin Contact Causes severe skin burns. Harmful in contact with skin.

Inhalation Avoid breathing vapors or mists.

Ingestion Harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
tri-n-butylborane (TBB) 122-56-5	= 1125 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 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

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

Please contact manufacturer for most current information

IATA

Please contact manufacturer for most current information

IMDG

Please contact manufacturer for most current information

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
tri-n-butylborane (TBB)	Present		X	Present			X			
Tributyl Borate	Present		X	Present		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
Tributyl Borate 688-74-4		X	X

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

Not determined

Flammability

Not determined

Instability

Not determined

Special Hazards

Not determined

HMIS**Health Hazards**

Not determined

Flammability

Not determined

Physical Hazards

Not determined

Personal Protection

Not determined

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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