

Safety Data Sheet (SDS)

Prepared in accordance with OSHA HazCom and GHS; compatible with EU REACH Annex II, as amended by (EU) 2020/878, WHMIS, and AU WHS requirements.

RODIN Castable Resin

Section 1. Product and Company Identification

Product Identifier: Photopolymer Resin

Trade Name: Rodin Castable

Recommended use: 3D printed lost cast waxing technique patterns, NOT for direct human use.

Restrictions on Use

For professional dental/laboratory use only.

Not for direct intraoral placement in uncured state.

Manufacturer/Supplier

Pac-Dent, Inc.

670 Endeavor Circle

Brea, CA 92821

Phone: +1-909-839-0888

Email: info@pac-dent.com

Emergency telephone number

CHEMTREC (US): +1-800-424-9300

International: +1-703-527-3887

Section 2. Hazard(s) Identification

GHS Hazard Classification of the Substance or Mixture:

Skin Sensitization – Category 1

Eye Irritation – Category 2

Specific Target Organ Toxicity

(Single Exposure) – Category 3

Hazardous to the Aquatic Environment, Chronic – Category 3

Signal Word: Warning



GHS08

GHS07

GHS09

Hazard Statements

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation (uncured material only).

H412 Harmful to aquatic life with long lasting effects (uncured material only).

Precautionary Statements

Prevention

P261 Avoid breathing dust/fume/gas/mist/vapours/spray (uncured material only).

P264 Wash hands [and exposed skin] thoroughly after handling.

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

P273 Avoid release to the environment.

P280 Wear protective gloves, protective clothing, eye protection and face protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Storage

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

Disposal

P501 Dispose of contents/container in accordance with local, regional, national, and international regulations.

Other Hazards

Uncured resin may cause irritation to skin, eyes, and respiratory tract.

Avoid direct contact with uncured material.

Does not meet criteria for PBT or vPvB based on available data.

Does not contain substances classified as endocrine disruptors above reportable thresholds based on available data.



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Section 3. Composition/Information on Ingredients

Chemical Name	CAS Number	% by Weight	Classification
Methacrylic Esters*	Proprietary*	25% – 55%	Skin Sensitization 1 (H317) , Eye Irritation 2 (H319)
Photoinitiators*	Proprietary*	<3%	Eye Irritation 2 (H319), Aquatic Chronic 3 (H412)

*Denotes that the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4. First-Aid Measures

Description of First Aid Measures

General Advice

If medical advice is needed, have product container, label, or Safety Data Sheet available. Ensure medical personnel are aware of the material involved and take precautions to protect themselves.

After Inhalation

Remove person to fresh air and keep comfortable for breathing. If irritation, coughing, or other symptoms develop or persist, seek medical attention.

After Skin Contact

Immediately wash affected skin thoroughly with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. If irritation, redness, or allergic skin reaction develops, seek medical advice/attention.

After Eye Contact

Immediately rinse cautiously with clean running water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.

After Swallowing

Rinse mouth thoroughly with water. Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. Seek medical attention if discomfort occurs or if significant quantity has been swallowed.

Most Important Symptoms and Effects, Both Acute and Delayed

- Inhalation: May cause respiratory irritation, coughing, or discomfort from vapors or mist.
- Skin Contact: May cause irritation, redness, or allergic skin sensitization after repeated exposure.
- Eye Contact: Causes irritation, redness, tearing, and discomfort.
- Ingestion: May cause gastrointestinal discomfort, nausea, or irritation.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically. No specific antidote is known. For sensitized individuals, manage allergic reactions according to clinical judgment.

Section 5. Fire-Fighting Measures

Extinguishing Media

Suitable Extinguishing Media

Use extinguishing media appropriate for the surrounding fire, including:

- Alcohol-resistant foam
- Carbon dioxide (CO₂)
- Dry chemical powder
- Water spray or fog (for cooling exposed containers)

Unsuitable Extinguishing Media

Do not use a direct water jet, as it may spread burning material.

Special Hazards Arising from the Substance or Mixture

The product is not classified as highly flammable; however, combustible organic components may burn under fire conditions. Exposure to heat may cause thermal decomposition of resin components, formation of irritating, toxic, or hazardous fumes, pressure build-up in closed containers, and possible polymerization with release of heat. Hazardous combustion/decomposition products may include carbon monoxide (CO), carbon dioxide (CO₂), nitrogen oxides (NO₂), and acrid organic fumes.

Advice for Firefighters

Wear self-contained breathing apparatus (SCBA) and full protective firefighting gear. Cool fire-exposed containers with water spray. Fight fire from a safe distance or protected location. Prevent contaminated firefighting runoff from entering drains, waterways, or soil.



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Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Avoid contact with skin, eyes, and clothing. Ensure adequate ventilation. Wear appropriate PPE, including safety glasses or chemical splash goggles, protective gloves (e.g., nitrile), and protective clothing/laboratory coat as needed. Avoid breathing vapors, mist, or aerosols generated during cleanup. For non-emergency personnel, isolate the area and avoid unnecessary exposure.

Environmental Precautions

Avoid release to the environment. Prevent material from entering drains, sewers, surface water, or soil. Contain spill if safe to do so. Notify relevant authorities if required by applicable local, regional, or national regulations.

Methods and Material for Containment and Cleaning Up

Small Spills: Absorb with inert material such as sand, vermiculite, or absorbent pads. Transfer collected material into a suitable waste container.

Uncured Resin Residue: Exposure to sunlight or artificial light may initiate polymerization. Resin may be cured under controlled light exposure prior to disposal where appropriate.

Large Spills: Dike or contain spill area. Collect mechanically using non-sparking tools where appropriate. Place waste into labeled disposal containers. After cleanup, wash contaminated surfaces with suitable cleaning agents while preventing environmental release.

Reference to Other Sections

Section 8 for exposure controls and personal protective equipment; Section 13 for disposal considerations; Section 7 for safe handling and storage information.

Section 7. Handling and Storage

Precautions for Safe Handling

Use only in accordance with professional instructions and validated processing procedures. Avoid contact with skin, eyes, and clothing. Avoid breathing vapors, mist, or aerosols that may be generated during handling, printing, cleaning, or finishing operations. Wear appropriate PPE as described in Section 8. Use only in well-ventilated areas. Wash hands thoroughly after handling and before eating, drinking, or smoking. Keep containers tightly closed when not in use. Avoid contamination of the product with foreign materials. Do not reuse empty containers. Residual uncured resin may remain hazardous. Protect material from unintended exposure to sunlight, UV light, or other curing light sources.

Conditions for Safe Storage, Including Any Incompatibilities

Store in the original tightly closed container in a cool, dry, and well-ventilated place.

Recommended storage temperature: 4°C to 25°C (40°F to 75°F)

Protect from direct sunlight, UV/curing light sources, excessive heat, moisture, and sources of ignition. Do not freeze. Keep away from strong oxidizing agents, strong reducing agents, peroxides, amines, and polymerization initiators. Store upright to prevent leakage.

Section 8. Exposure Controls / Personal Protection

Control Parameters

No specific occupational exposure limits have been established for this mixture as a whole. Where applicable, occupational exposure limits for individual components should be observed in accordance with local regulations. Use adequate ventilation during handling, printing, cleaning, finishing, or other operations that may generate vapors, aerosols, or dust. Local exhaust ventilation is recommended where airborne exposure may occur.

Exposure Controls

Appropriate Engineering Controls

- Use in a well-ventilated area.
- Provide local exhaust ventilation where vapors, mist, or airborne particulates may be generated.
- Use enclosed or automated processing systems where practical.
- Maintain eyewash stations and hand-washing facilities in work areas.

Individual Protection Measures (Personal Protective Equipment)

Eye / Face Protection: Wear safety glasses with side shields or chemical splash goggles where splashing or contact is possible. Face protection may be used for high-exposure operations.

Hand Protection: Wear chemical-resistant protective gloves (e.g., nitrile gloves). Replace gloves if contaminated or damaged.

Body Protection: Wear suitable protective clothing, laboratory coat, or apron to prevent repeated or prolonged skin contact.

Respiratory Protection: Respiratory protection is not normally required under normal conditions of use with adequate ventilation. If ventilation is insufficient, or if vapors, aerosols, dust, or mist are generated, use approved respiratory protection in accordance with applicable regulations.

General Hygiene Measures

Wash hands thoroughly after handling and before breaks, eating, drinking, or smoking. Remove contaminated clothing and wash before reuse. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke while handling the product.

Environmental Exposure Controls

Avoid release to drains, soil, and waterways. Handle waste and residues in accordance with Section 13.



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Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

General Information

Appearance

Form: Liquid
Color: Pigmented (varies by product variant)
Odor: Fruity, ester-like odor.
Odor Threshold: Not available
pH value at 20°C (68°F): Not applicable (non-aqueous)
Melting point/Melting range: Not available
Boiling point/Boiling range: Not available
Flash point: 93 °C (>200 °F) (PMCC)
Evaporation rate: Not available
Flammability (solid, gaseous): Not available
Auto-Ignition Temperature: Not available
Decomposition temperature: Not available

Explosion limits

Lower: Not available
Upper: Not available
Vapor Pressure: Not available
Density: Not available
Relative density: Not available
Solubility: Nearly insoluble in water
Vapor Density: Not available
Evaporation rate: Not available
Partition coefficient (n-octanol/water): Not available
Viscosity: 220–250 cP at 25 °C (77 °F) (Brookfield)
Solvent content: Not available
Organic solvents: Not available
Water: Not available
Solids content: Not available
Other information: 1.10–1.125 at 25 °C (77 °F)

Section 10. Stability and Reactivity

Reactivity

The product is stable under recommended conditions of storage and use. Uncured resin may undergo polymerization when exposed to heat, UV light, visible curing light, or contamination with reactive substances.

Chemical Stability

Stable when stored in the original sealed container under recommended storage conditions. Product contains polymerizable components that may gradually react if improperly stored or exposed to light, heat, or contamination.

Possibility of Hazardous Reactions

Hazardous polymerization may occur under certain conditions. Conditions that may initiate uncontrolled polymerization include exposure to sunlight, UV light, or curing light sources; elevated temperatures; contamination with peroxides, amines, reducing agents, or other reactive materials; inhibitor depletion over time; and bulk heating in closed containers.

Conditions to Avoid

Direct sunlight; UV or curing light; excessive heat; temperatures outside recommended storage range; contamination; prolonged storage after opening; freezing.

Incompatible Materials

Strong oxidizing agents; strong reducing agents; peroxides; amines; polymerization initiators; strong acids or bases where incompatibility may occur.

Hazardous Decomposition Products

Thermal decomposition or combustion may generate carbon monoxide (CO), carbon dioxide (CO₂), nitrogen oxides (NO₂), and irritating organic fumes.

Section 11. Toxicological Information

Likely Routes of Exposure

Skin contact, eye contact, inhalation of vapors/mist, and accidental ingestion.

Acute Toxicity

Based on available data, the mixture is not classified for acute systemic toxicity.

Skin Corrosion / Irritation

May cause skin irritation. Prolonged or repeated contact with uncured resin should be avoided.

Serious Eye Damage / Eye Irritation

Causes serious eye irritation.

Respiratory or Skin Sensitization

May cause an allergic skin reaction.

STOT – Single Exposure

May cause respiratory irritation from uncured material vapors, mist, or aerosols.

STOT – Repeated Exposure

Not classified based on available data.

Germ Cell Mutagenicity / Carcinogenicity / Reproductive Toxicity

Not classified based on available data.

Aspiration Hazard

Not classified based on available data.

Symptoms Related to Exposure

Skin: redness, irritation, allergic reaction. Eyes: redness, tearing, discomfort. Inhalation: respiratory irritation, coughing, discomfort. Ingestion: gastrointestinal irritation or discomfort.

Delayed and Immediate Effects

Repeated skin exposure may result in sensitization in susceptible individuals.

Additional Information

Toxicological information applies primarily to the uncured resin. Properly processed and fully cured material has substantially reduced exposure to reactive monomers.



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Section 12: Ecological Information

Ecotoxicity

Uncured resin is harmful to aquatic life with long lasting effects. Avoid environmental release.

Persistence and Degradability

No specific mixture data available.

Bioaccumulative Potential

No specific mixture data available.

Mobility in Soil

No specific mixture data available. Uncured liquid resin may contaminate soil or water if released.

Results of PBT and vPvB Assessment

Does not meet criteria for PBT or vPvB based on available data.

Endocrine Disrupting Properties

Does not contain substances classified as endocrine disruptors above reportable thresholds based on available data.

Other Adverse Effects

No additional adverse environmental effects are known. Prevent uncured material from entering drains or waterways.

Section 13. Disposal Considerations

Waste Treatment Methods

Dispose of uncured resin, contaminated absorbents, and cleaning residues in accordance with applicable local, regional, national, and international regulations. Do not discharge uncured resin into drains, sewers, surface water, or soil.

Uncured Resin

Where permitted, cure resin under controlled light exposure prior to disposal. Cured resin should be disposed of in accordance with local waste requirements.

Contaminated Packaging

Empty containers may retain uncured resin residue. Do not reuse containers. Dispose of contaminated packaging in accordance with applicable regulations.

Cleaning Waste

Cleaning solvents or resin-contaminated liquids should be collected separately and disposed of as chemical waste in accordance with local requirements.

Section 14. Transport Information

U.S. DOT: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods.

IATA: Not regulated as dangerous goods.

ADR/RID: Not regulated as dangerous goods.

UN Number: Not applicable

UN Proper Shipping Name: Not applicable

Transport Hazard Class(es): Not applicable

Packing Group: Not applicable

Environmental Hazards: Not classified as a marine pollutant for transport purposes based on available information.

Special Precautions for User: Keep container tightly closed and protected from heat and light during transport.

Transport in Bulk According to IMO Instruments: Not applicable.

Section 15. Regulatory Information

United States

This Safety Data Sheet is prepared to support hazard communication under the OSHA Hazard Communication Standard (29 CFR 1910.1200). Chemical inventory and reporting obligations, where applicable, should be evaluated based on the specific ingredients and quantities present.

Canada

Prepared for compatibility with WHMIS / Hazardous Products Regulations requirements. Workplace classification and labeling obligations should be applied as required by Canadian regulations.

European Union / EEA

SDS content is structured for compatibility with REACH Annex II, as amended by Commission Regulation (EU) 2020/878. Applicable REACH obligations, including substance restrictions, authorization, and SVHC communication requirements, should be evaluated based on current supplier and substance information.

Australia

Prepared for compatibility with Australian WHS hazard communication requirements. Applicable workplace and chemical inventory obligations should be evaluated under current national and state/territory requirements.

GHS Label Elements

See Section 2 for hazard classification, hazard statements, and precautionary statements.



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Section 16. Other Information

Abbreviations and Acronyms

- GHS - Globally Harmonized System of Classification and Labelling of Chemicals
- REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals
- PBT - Persistent, Bioaccumulative and Toxic
- vPvB - Very Persistent and Very Bioaccumulative
- STOT - Specific Target Organ Toxicity
- SCBA - Self-Contained Breathing Apparatus

Key Literature References and Sources for Data

- Supplier Safety Data Sheets for raw materials
- European Chemicals Agency (ECHA) database
- OSHA Hazard Communication Standard (29 CFR 1910.1200)
- Regulation (EC) No 1907/2006 (REACH)

Classification Procedure

The classification of this mixture is based on:

- Available data on individual components
- Application of GHS classification criteria
- Bridging principles and expert judgment

Relevant Hazard Statements (Full Text)

- See Section 2

Training Advice

Users should be trained in:

- Safe handling of light-curable resin materials
- Use of appropriate personal protective equipment
- Prevention of skin contact and inhalation exposure
- Proper waste handling and disposal practices

Use only as directed for professional dental laboratory applications. NOT for direct human use.

Disclaimer

The information provided in this Safety Data Sheet is based on current knowledge and is intended to describe the product for the purposes of health, safety, and

environmental requirements only.

It should not be construed as guaranteeing any specific property of the product.

The user is responsible for ensuring compliance with all applicable laws and regulations.