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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 Denture Base 2.0 Resin

Section 1. Identification

Product Identifier: Photopolymer Resin

Trade Name: RODIN Denture Base 2.0

Recommended Use: Light-curable resin material intended for fabrication of maxillary and mandibular denture bases using validated CAD/CAM additive manufacturing systems.

Restrictions on Use: For professional dental/laboratory use only. Not for direct intraoral placement in uncured state.

Manufacturer/Supplier: Pac-Dent, Inc.

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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 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 (respiratory irritation, uncured material only)

Hazardous to the Aquatic Environment, Chronic - Category 3 (uncured material only)



GHS08



GHS07



GHS09

Signal Word: Warning

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. Exposure to light, particularly UV light or direct sunlight, or excessive heat may initiate exothermic polymerization.



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Section 3. Composition/Information on Ingredients

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

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. Seek medical attention if discomfort occurs or if a 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.

Immediate Medical Attention / Special Treatment

Treat symptomatically. No specific antidote is known.

Section 5. Fire-Fighting Measures

Suitable Extinguishing Media

Use alcohol-resistant foam, carbon dioxide (CO₂), dry chemical powder, or water spray/fog for cooling exposed containers.

Unsuitable Extinguishing Media

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

Special Hazards

Combustible organic components may burn under fire conditions. Heat may cause thermal decomposition, irritating or hazardous fumes, pressure build-up, and possible polymerization with release of heat. Combustion/decomposition products may include carbon monoxide, carbon dioxide, nitrogen oxides, 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.

Prevent contaminated firefighting runoff from entering drains, waterways, or soil.

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Avoid contact with skin, eyes, and clothing. Ensure adequate ventilation. Wear appropriate personal protective equipment, 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.

Environmental Precautions

Avoid release to the environment. Prevent material from entering drains, sewers, surface water, or soil. Contain spill if safe to do so.

Methods and Material for Containment and Cleaning Up

Absorb small spills with inert material and transfer to a suitable waste container. Exposure to sunlight or artificial light may initiate polymerization. Resin may be cured under controlled light exposure prior to disposal where appropriate. For large spills, dike or contain the area, collect mechanically, and place waste into labeled disposal containers.

Reference to Other Sections



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

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 personal protective equipment 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 light / curing light sources
- Excessive heat
- Moisture
- Sources of ignition

Do not freeze.

Keep away from incompatible materials such as:

- Strong oxidizing agents
- Strong reducing agents
- Peroxides
- Amines
- Polymerization initiators

Store upright to prevent leakage.

Specific End Use(s)

Light-curable dental resin intended for fabrication of permanent single-unit restorations (crowns, veneers, inlays, onlays) and temporary multi-unit prosthetics including bridges, full-arch provisionals, hybrid dentures, and denture teeth using validated CAD/CAM additive manufacturing systems. For professional dental laboratory or clinical use only.

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.

Skin Protection

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

Property	Value
Appearance	Pigmented liquid resin
Color	Various shades / intentionally pigmented
Odor	Mild fruity / ester-like odor
Odor Threshold	Not determined
Physical State	Liquid
pH	Not applicable (non-aqueous mixture)
Melting Point / Freezing Point	Not determined
Initial Boiling Point / Boiling Range	Not determined
Flash Point	> 93°C (> 200°F)
Evaporation Rate	Not determined
Flammability	Not classified as flammable
Upper / Lower Explosive Limits	Not determined
Vapor Pressure	Not determined
Vapor Density	Not determined
Relative Density	Approximately 1.10 – 1.13
Density	Approximately 1.10 – 1.18 g/cm ³ at 25°C
Solubility in Water	Practically insoluble / nearly insoluble
Partition Coefficient (n-octanol/water)	Not determined
Auto-Ignition Temperature	Not determined
Decomposition Temperature	Not determined
Viscosity	220 – 250 cP at 25°C (Brookfield)
Explosive Properties	Not explosive
Oxidizing Properties	Not oxidizing

Other Information

Property	Value
Specific Gravity	1.10 – 1.13 at 25°C
VOC Content	Not determined
Polymerization Behavior	Polymerizes upon exposure to curing light

Section 10. Stability and Reactivity

Reactivity

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.

Possibility of Hazardous Reactions

Hazardous polymerization may occur under certain conditions, including exposure to sunlight/UV/curing light, elevated temperatures, contamination with peroxides, amines, reducing agents, or other reactive materials, inhibitor depletion, or bulk heating in closed containers.

Conditions to Avoid

Heat, direct sunlight, UV/curing light exposure, sources of ignition, contamination, and extended storage outside the recommended temperature range.

Incompatible Materials

Strong oxidizing agents, strong reducing agents, organic peroxides, amines, polymerization initiators, and strong acids or bases where reactive incompatibility may occur.

Hazardous Decomposition Products

Thermal decomposition or combustion may generate carbon monoxide, carbon dioxide, nitrogen oxides, irritating organic fumes, and acrid smoke.

Section 11. Toxicological Information

Acute Toxicity

Based on available data, the mixture is not classified for acute toxicity. Uncured material may cause irritation of the mouth, throat, or gastrointestinal tract if swallowed.

Skin Corrosion / Irritation

Not classified as corrosive. Prolonged or repeated skin contact may cause irritation, redness, or dryness.

Serious Eye Damage / Eye Irritation

Classified as Eye Irritation Category 2. Direct contact with uncured material may cause redness, tearing, pain, and discomfort.

Respiratory Sensitization

Not classified based on available data.



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Skin Sensitization

Classified as Skin Sensitization Category 1. Repeated or prolonged exposure may cause allergic skin reaction in susceptible individuals.

Germ Cell Mutagenicity

Not classified based on available data.

Carcinogenicity

Not classified based on available data. No components are identified in the source SDS as listed by IARC or NTP.

Reproductive Toxicity

Not classified based on available data.

Specific Target Organ Toxicity - Single Exposure

May cause respiratory irritation if vapors, mist, or aerosols are generated during handling or processing.

Specific Target Organ Toxicity - Repeated Exposure

Not classified based on available data.

Aspiration Hazard

Not classified.

Section 12. Ecological Information

Toxicity

Harmful to aquatic life with long lasting effects. Uncured resin components may present toxicity to aquatic organisms. Avoid release to the environment.

Persistence and Degradability

No specific data are available for the mixture. Cured material is expected to be relatively inert.

Bioaccumulative Potential

No specific data are available for the mixture.

Mobility in Soil

No specific data are available.

PBT and vPvB Assessment

This mixture has not been assessed for PBT or vPvB properties in accordance with REACH Annex XIII.

Endocrine Disrupting Properties

No determination is provided in the source SDS.

Other Adverse Effects

Prevent uncontrolled release of uncured product to drains, waterways, and soil.

Section 13. Disposal Considerations

Waste Treatment Methods**Product Disposal**

Where practical, **cure uncured resin prior to disposal** to reduce hazard.

Dispose of contents in accordance with applicable **local, regional, national, and international regulations**.

Do not discharge uncured material into drains, surface water, or soil.

Waste classification should be determined by the waste holder based on composition, contamination, and applicable regulations.

Contaminated Packaging

Containers and packaging may retain hazardous residues of uncured resin.

Do not reuse empty containers.

Dispose of contaminated packaging in accordance with applicable regulations.

Where appropriate, containers may be drained and allowed to cure before disposal.

Cleaning Materials

Cleaning agents (e.g., alcohol used for rinsing) and contaminated absorbents should be collected and disposed of in accordance with applicable regulations.

Do not discharge cleaning solutions into drains or the environment.

Section 14. Transport Information

UN Number or ID Number: Not regulated

UN Proper Shipping Name: Not regulated

Transport Hazard Class(es): Not regulated

Packing Group: Not applicable

Environmental Hazards: Not regulated as an environmentally hazardous substance for transport.

Special Precautions for User

Transport in tightly closed original containers. Prevent leakage and avoid exposure to excessive heat or direct sunlight.

Transport Regulations by Mode

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

ADR/RID: Not regulated as dangerous goods.

IMDG: Not regulated as dangerous goods; Marine Pollutant: No.

ICAO/IATA: Not regulated as dangerous goods.



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Section 15. Regulatory Information

Safety, Health and Environmental Regulations / Legislation Specific for the Substance or Mixture

This Safety Data Sheet is prepared to support hazard communication under applicable requirements, including:

OSHA Hazard Communication Standard (29 CFR 1910.1200)
Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
Regulation (EC) No 1907/2006 (REACH), as amended
Commission Regulation (EU) 2020/878 (SDS requirements)
Canada WHMIS / Hazardous Products Regulations
Australia Work Health and Safety (WHS) requirements

REACH / SVHC Status

Any applicable REACH registration, authorization, restriction, and SVHC communication obligations should be evaluated using current supplier and substance information. This SDS does not independently establish substance registration status.

PBT and vPvB Assessment

No final PBT/vPvB determination is established by the source SDS.

Endocrine Disrupting Properties

No determination is provided in the source SDS.

Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out for this mixture.

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
WHMIS - Workplace Hazardous Materials Information System
WHS - Work Health and Safety
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 and formulation information
OSHA Hazard Communication Standard (29 CFR 1910.1200)
Regulation (EC) No 1907/2006 (REACH)
Commission Regulation (EU) 2020/878
Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Classification Procedure

The classification of this mixture is based on available component information, applicable GHS classification criteria, and the hazard information contained in the source SDS.

Relevant Hazard Statements

H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H335 May cause respiratory irritation
H412 Harmful to aquatic life with long lasting effects

Training Advice

Users should be trained in safe handling of light-curable resin materials, appropriate personal protective equipment, prevention of skin and inhalation exposure, and proper waste handling and disposal.

Disclaimer

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