

# Safety Data Sheet (SDS)

Release Date: 07/07/2023

OSHA Hazard Communication Standard 29 CFR 1910.1200. Prepared to GHS Rev.04

## RODIN Titan Resin

### Section 1. Product and Company Identification

**Product Identifier:** Photopolymer Resin

**Trade Name and/or synonyms:** 3D DLP/LCD Printer Resin

**CAS#:** 109-16-0

**Recommended use:** 3D printed provisional and permanent dental restorations.

**Manufacturer/Supplier:** Pac-Dent, Inc.  
670 Endeavor Circle  
Brea, CA 92821  
Phone: 909-839-0888

**Emergency telephone number:** 800-854-7256

### Section 2. Hazard(s) Identification

**GHS Hazard Classification of the Substance or Mixture:**



**Signal Word:** Warning

**Signal Word:** Danger

**Hazard Statement(s):**

H317 May cause an allergic skin reaction  
H320 Causes eye irritation  
H303 May be harmful if swallowed (uncured material only)  
H335 May cause respiratory irritation (uncured material only)  
H402 Hazardous to aquatic life (uncured material only)

**Precautionary Statement(s):**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P261 Avoid breathing dust or fume. (uncured material only)  
P264 Wash 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.  
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 attention.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P333+P313 If skin irritation or rash occurs: Get medical attention.  
P362 Take off contaminated clothing and wash before reuse.  
P363 Wash contaminated clothing before reuse.  
P308+P313 IF exposed or concerned: Get medical attention.  
P405 Store locked up.  
P501 Dispose of contents and container in accordance with local and national regulations.

**Description of any hazards not otherwise classified:** N/A

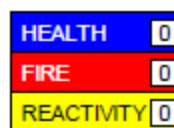
**For a mixture, the percentage of total ingredient(s) of ingredient(s) with unknown acute toxicity:** 2%

**NFPA Ratings (0-4)**



Health = 0  
Fire = 0  
Reactivity = 0

**HMIS Ratings (0-4)**



Health = 0  
Reactivity = 0  
Fire = 0

## Section 3. Composition/Information on Ingredients

Chemical Name, Common Name and Synonyms:	CAS # and other unique identifiers	% by Weight
Methacrylic Esters*	109-16-0	Proprietary
Photoinitiators*	Proprietary	Proprietary

\*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

**After inhalation:** Remove from source of exposure into fresh air. Seek medical attention if any irritation develops.

**After skin contact:** Wash skin with soap and water. Remove any contaminated clothing and shoes and clean before reuse. Seek medical attention if irritation develops.

**After eye contact:** Hold eye open and rise continuously with a gentle stream of clean running water for at least 15 minutes. Seek medical attention if any irritation develops.

**After swallowing:** First aid is unlikely to be required but if necessary, rinse mouth repeatedly with water, ensuring that the water is not swallowed. Seek medical attention.

**Information for Doctors:** Treat symptoms conventionally after thorough decontamination.

## Section 5. Fire-Fighting Measures

**Suitable extinguishing agents:** Chemical foam, carbon dioxide or dry chemical extinguishers.

**Special hazards arising from the substance or mixture:** Formation of toxic, irritating gases is possible from the decomposition of the methacrylate resins. Heat can cause polymerization with rapid release of energy.

**Advice for firefighters:** Wear full protective equipment (bunker gear) and a self-contained breathing apparatus. (SCBA). Water may not be effective in extinguishing a fire involving this product.

**Protective equipment:** Wear full protective equipment (bunker gear) and a self-contained breathing apparatus. SCBA). Water may not be effective in extinguishing a fire involving this product.

## Section 6. Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** Safety glasses with side shields, gloves and laboratory coat recommended.

**Environmental precautions:** Avoid releases to the environment. Report releases as required by local and national authorities.

**Methods and material for containment and cleaning up:** Exposure to sunlight or artificial light will cause the resin to polymerize. Spread the paste to maximize the surface area. Once the material is hard, pick up and place into a container for disposal.

**Reference to other sections:** Refer to Section 8 for Personal Protective Equipment and Section 13 for Disposal information.

## Section 7. Handling and Storage

**Precautions for safe handling:** Avoid contact with the eyes, skin and clothing. Avoid breathing dust or fumes. Wear protective clothing and equipment as described in Section 8. Use with adequate ventilation. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Do not reuse containers. Empty containers retain product residues and can be hazardous. Follow all SDS precautions when handling empty containers.

**Conditions for safe storage, including and incompatibilities:** Store in a tightly closed container in a cool (29-90°F/-1.7-32.2°C), well-ventilated location away from incompatible materials. Do not store near high temperatures, light or ignition sources. Do not store in an oxygen-free environment. Avoid freezing the material.

**Specific end use(s):** For professional use only.

## Section 8. Exposure Controls / Personal Protection

**Control parameters:** Use in an enclosed process area is recommended.

**Personal protective equipment:** Depending on the conditions of use, protective gloves, apron, boots, head and face protection should be worn. Eye protection such as chemical splash goggles and/or face shield must be worn when the possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapor.

**General protective and hygienic measure:** Wash hands after handling material and before eating. See section 7 for full protective measures.

**Breathing Equipment:** None should be needed from normal use. If this material is handled at elevated temperature or under mist forming conditions, approved respiratory protection equipment should be used. Selection and use of respiratory equipment must be in accordance with applicable regulations and good industrial hygiene practice.

**Protection of hands:** Gloves are recommended. Depending on the conditions of use, lab coat and/or arm shields may be used.

**Material of gloves, Penetration time of glove material:** N/D

**Eye protection:** Use of safety goggles with side shields is recommended.

### Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties.

General Information.

Appearance

**Form:** Liquid

**Color:** Having an intentionally added pigmented color.

**Odor:** Fruity, ester-like odor.

**Odor Threshold:** N/D

**pH value at 20°C (68°F):**

**Change in condition**

**Melting point/Melting range:** N/D

**Boiling point/Boiling range:** N/D

**Flash point:**(PMCC) GT 93C/200F

**Flammability (solid, gaseous):** N/D

**Ignition Temperature:** N/D

**Decomposition temperature:** N/D

**Auto igniting:** N/D

**Danger of explosion:** N/D

**Explosion limits:** N/D

**Lower:** N/D

**Upper:** N/D

**Vapor Pressure at 20°C (68°F):** N/D

**Density at 20°C (68°F):** N/D

**Relative density:** N/D

**Vapor Density:** N/D

**Evaporation rate:** N/D

**Miscibility with Water:** Nearly insoluble in water.

**Partition coefficient (n-octanol/water):** N/D

**Viscosity Units, Temp. (Brookfield)**

220-250 cps at 25C/77F

**Solvent content:** N/D

**Organic solvents:** N/D

**Water:** N/D

**Solids content:** N/D

**Other information:** Specific Gravity: 1.10-1.125 at 25C/77F

### Section 10. Stability and Reactivity

**Reactivity:** None known.

**Chemical Stability:** Stable if handled and stored as directed.

**Thermal decomposition / Conditions to avoid:** Avoid heat, light and sources of contamination.

**Possibility of hazardous reactions: Conditions to avoid:** Heat, light, sources of contamination or inhibitor depletion may cause spontaneous polymerization generating heat and pressure. Closed containers may rupture or explode during runaway polymerization.

**Incompatible materials:** Reducing and oxidizing agents, peroxides and amines.

**Hazardous decomposition products:** Thermal decomposition may release acrid smoke or fumes, carbon and nitrogen oxides.

### Section 11. Toxicological Information

**Acute toxicity:** Possible irritant. See section 2.

**Primary irritant effect:** See Section 2 for possible skin and eye irritation and sensitization.

**LD/LC50 values that are relevant for classification:** N/D

**Additional toxicological information:** N/D

**IARC (International Agency for Research on Cancer)** None of the components are listed.

**NTP (National Toxicology Program)** None of the components are listed.

### Section 12: Ecological Information

**Aquatic Toxicity:** None of the components are listed.

**Persistence and degradability:** No data is currently available.

**Behavior in environmental systems:** No data is currently available.

**Bioaccumulative potential:** No data is currently available.

**Mobility in Soil:** No data is currently available.

**Additional ecological information:** No additional data is available.

**General Notes:** Release into the environment should be avoided. Refer to section 13 for disposal information.

**Results of PBT and vPvB assessment:** N/D

Other adverse effects: None known.

### Section 13. Disposal Considerations

#### Waste Treatment Methods

**Recommendation:** Cure material before disposal. Dispose in accordance with all federal, state and local regulations. Consult state and local hazardous waste regulations to ensure complete and accurate classification of waste. US EPA guidelines for the classification of hazardous waste are found in 40 CFR part 261.3.

#### Uncleaned packaging:

**Recommendation:** Rinse with alcohol. Contain and dispose of rinse material according to all federal, state and local regulations.

**Recommended cleansing agent:** alcohol

### Section 14. Transport Information

**Department of transportation classification:** Not hazardous by D.O.T. regulations

**D.O.T. proper shipping name:** Not regulated

**UN proper shipping name:** The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).

**Transport Hazard Class(es):** Not regulated

**International Maritime Dangerous Goods Code (IMDG):** Not regulated

**International Air Transportation Association (IATA):** Not regulated

**ADR:** Not regulated

**Danger code (Kemler):** N/A

**EMS Number:** N/A

**Transport in bulk according to Annex 1 of MARPOL73/78 and the IBC Code:** N/A

**Australian HazChem Code:** N/A

### Section 15. Regulatory Information

Safety, health and environmental regulations / legislation specific for the substance or mixture.

**Sara: Immediate Hazard:** Yes **Delayed Hazard:** Yes **Fire Hazard:** No **Pressure Hazard:** No **Reactivity Hazard:** No

**Section 355 (extremely hazardous substances):** None.

**Section 313 (Specific toxic chemical listings):** None.

**TSCA (Toxic Substances Control Act):** None of the components are listed.

**Proposition 65: Chemicals known to the state of California to cause cancer and/or reproductive toxicity:** None.

**Chemicals known to cause developmental toxicity:** None known.

**EPA (Environmental Protection Agency)** None of the components are listed.

**TLV (Threshold Limit Value established by ACGIH):** None of the components are listed.

**NIOSH-Ca (National Institute for Occupational Safety and Health):** None of the components are listed.

**OSHA-Ca (Occupational Safety & Health Administration):** None of the components are listed.

**GHS Label elements:** This product is classified and labeled according to the Globally Harmonized System (GHS)

**Hazard pictograms:**



**Signal Word:** Warning

**Hazard-determining components of labeling:** See Section 2.

**Hazard statements:** See Section 2.

**Precautionary statements:** See Section 2.

**Chemical Safety Assessment:** A Chemical Safety Assessment has not been carried out.

### Section 16. Other Information

**Abbreviations and Acronyms:** None.

**Other information not contained elsewhere:** None.