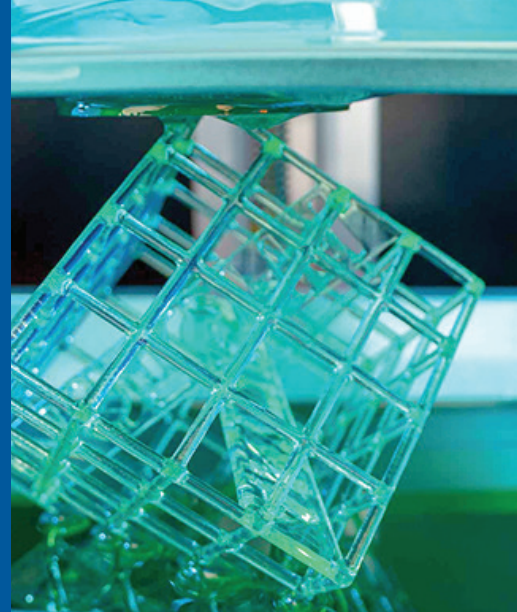


Stereolithography (SLA) 3D Printing Safety Tips



SLA printing uses liquid photopolymer resin cured with UV light to print one layer at a time. Prints are washed with solvents to remove excess resin, and post-cured with UV light to finish.



Key hazards

- **Chemicals:** Resin and isopropyl alcohol (IPA) are toxic.
- **UV exposure:** Curing lights emit UV radiation.
- **Skin/eye contact:** Risk of irritation or burns.
- **Pinch/crush injury:** The print bed can cause crush injuries.



General safety tips

- Never eat, drink, or store food near work areas.
- Secure loose clothing, jewellery and long hair to avoid tangle injuries.
- Review manufacturers' guides for printer-specific hazards.



UV safety

- Do not look directly at curing lamps or print beds.
- Keep UV lamps enclosed or shielded to prevent exposure.



PPE and safe handling

- **Nitrile gloves** to protect hands from resin and solvent contact.
- **Safety glasses** to shield eyes from splashes and debris.
- **Face shield** during chemical transfer to prevent splashing injuries.
- **Cut-resistant gloves** to prevent cuts when handling sharp parts.
- **Respirator that is P95 or better with organic vapour filter.** See the Respiratory Protection and Fit-Testing web page at torontomu.ca/respiratory-protection.



Ventilation and air quality

- Always operate printers in well-ventilated areas.
- Cure resin in a well-ventilated area to limit exposure to volatile organic compounds (VOCs).



Electrical safety

- Use grounded outlets to reduce risk of electrical shock.
- Do not overload power strips to avoid electrical fires.
- Follow lock out/tag out procedures to ensure safe maintenance.



Chemical and storage safety

- **Uncured resins are toxic.** Avoid contact with skin and eyes.
- Store resin in sealed, clearly labelled containers (see Chemical Safety website at torontomu.ca/chemical-safety) away from sunlight and heat to prevent spills and degradation.
- Ensure objects are fully cleaned and cured before handling without gloves.



Waste disposal

- Dispose of resins and solvents as per hazardous waste guidelines on the Chemical Safety website at torontomu.ca/chemical-safety.

Emergency situations, exposure and spills

In the case of an emergency, dial 911.

Contact TMU Toronto Campus Security at 416-979-5040 (ext. 555040 from an internal phone); or TMU Brampton Campus Security at 416-598-5950 (ext. 555950 from an internal phone).

Report injuries, near misses and hazards to the TMU Emergencies and Reporting website at torontomu.ca/emergencies-reporting.

Skin contact: Wash with soap and cool water for 15 minutes.

Eye contact: Rinse using an eyewash station for 15 minutes; remove contact lenses immediately.

Spills: Follow emergency response procedures in TMU's Chemical Safety Manual available online at torontomu.ca/chemical-safety.

