

DIRECTIONS FOR USE

LAP Photoinitiator | SKU FB5926

Document	Revision	Effective Date	Status
DFU-FB5926	01	10-08-2026	APPROVED

Introduction / Background

Lithium phenyl(2,4,6-trimethylbenzoyl)phosphinate (LAP) is a water-soluble photoinitiator for research hydrogels and bioinks containing photocurable acrylate or methacrylate groups, including PEGDA, GelMA, and compatible modified ECM materials. LAP enables light-initiated free-radical crosslinking, commonly using 365 nm or approximately 405 nm illumination.

Key Notes / Considerations

- Product information: White to off-white powder or crystals; supplied non-sterile. CAS 85073-19-4; molecular weight 294.21 g/mol. Store sealed, dry, protected from light at $\leq -20^{\circ}\text{C}$.
- Typical LAP stock solutions range from 0.5–2% (w/v), while final LAP concentrations in bioink or hydrogel precursor formulations typically range from 0.05–0.5% (w/v), depending on the application and photocrosslinking conditions.
- Sterility: Sterile-filter a dissolved aqueous LAP stock through a 0.22 μm low-binding PES or PVDF membrane when required.

Directions for Use

1. Prepare stock solution — Allow the vial to reach room temperature before opening. Dissolve LAP in deionized water or a compatible aqueous buffer. Example: dissolve 10 mg LAP and adjust to a FINAL volume of 1.0 mL to prepare 1% (w/v), equivalent to 10 mg/mL. Protect from light.
2. Sterile filtration (if required) — Under aseptic conditions, filter the dissolved stock through a sterile 0.22 μm low-binding PES or PVDF membrane. Confirm compatibility and recovery for the selected formulation.
3. Formulate bioink / hydrogel — Add the LAP stock to the selected photocurable precursor and mix thoroughly. Calculate FINAL LAP concentration using the total final formulation volume, including the added stock.
4. Photocrosslink — Dispense into the intended geometry and expose to a compatible light source (often ~405 nm). Optimize light intensity, exposure time, distance, and thickness for the formulation. Protect mixtures from ambient light before use.
5. Storage — Prepare LAP stock solutions fresh when practical. Protect solutions from light.

Research Use Only

For Research Use Only. Not for human or veterinary diagnostic, therapeutic, or clinical use. Users are responsible for verifying formulation suitability, sterility, cytocompatibility, and light-exposure conditions. Consult the current SDS before handling.