



1 Identification

Product Identifier	Bioink Photoinitiator: LAP
Supplier	VoxCell BiInnovation Inc. 301-637 Bay Street Victoria, British Columbia V8T 5L2 Canada Tel: +1 778-587-9955 (9am-5pm PT)
Recommended use and restriction on use	For Research and Development use only as a Photoinitiator for Bioink. Not intended for use by consumers or children.
Emergency telephone number and any restrictions on the use of that number, if applicable	IMMEDIATELY contact the local POISON CONTROL center for your area (24 hours): Alberta 1-800-332-1414 British Columbia 1-800-567-8911 Manitoba 1-855-776-4766 New Brunswick 911 Newfoundland and Labrador 1-866-727-1110 Northwest Territories 1-800-332-1414 Nova Scotia and Prince Edward Island 1-800-565-8161, 1-800-332-1414 or 911 Nunavut 1-800-268-9017 Ontario 1-800-268-9017 Quebec 1-800-463-5060 Saskatchewan 1-866-454-1212 Yukon Territory 867-393-8700 United State call 1-800-222-1222
Substance or mixture	Substance

2 Hazard Identification

Signal Word	None
Pictographs	No symbols
Hazard Classifications and categories	Does not meet any hazard classification criteria.
Hazard Statements	Read the label and this safety data sheet before handling, using or storing this product.
Precautionary Statements	
PREVENTION	Avoid skin and eye contact. Do not eat this product. Avoid breathing dusts, vapors, mists or fume generated when using this product.
RESPONSE	Wash skin thoroughly. If in eyes rinse with water for 15 minutes and obtain medical assistance if irritation occurs or persists.



STORAGE	Store between 2 and 8 °C (35 and 46 °F) away from light and heat.
DISPOSAL	Dispose of unused product and containers in accordance with local regulations.
Other Hazards	May cause skin and eye irritation. Ingestion may cause gastrointestinal irritation. May cause respiratory irritation.
% of ingredients of unknown toxicity	Not applicable – this product does not meet any health hazard classification criteria.

3 Composition / Information on ingredients

Chemical Name and Synonyms	CAS #	Concentration % by weight
Lithium phenyl-2,4,6- trimethylbenzoylphosphinate Lithium PTMB phosphinate LAP	85073-19-4	>95

4 First Aid Measures

Description of necessary first aid measures

INHALATION	Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Consult a doctor if you feel unwell or if any respiratory irritation should occur.
INGESTION	Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse out the mouth with water. Get medical attention immediately.
SKIN CONTACT	Immediately remove contaminated clothing and shoes. Wash the affected area with plenty of soap and water until no evidence of the chemical remains (at least 15-20 minutes). Launder clothing before reuse. Seek medical attention if symptoms occur.
EYE CONTACT	Immediately flush eyes with plenty of clean water for an extended time, not less than fifteen (15) minutes. Flush longer if there is any indication of residual chemical in the eye. Ensure adequate flushing of the eyes by separating the eyelids with fingers and roll eyes in a circular motion. Seek medical attention if irritation develops or persists.
The most important symptoms and effects (acute or delayed)	May cause skin and eye irritation. Ingestion may cause gastrointestinal irritation. May cause respiratory irritation.
Immediate and special treatment	Treat symptomatically. A copy of this Safety Data Sheet must accompany a worker seeking treatment for potential exposure to this product.



5 Fire-Fighting Measures

Suitable and unsuitable extinguishing media
Special hazards

Use water spray, foam, dry chemical or carbon dioxide suitable for surrounding fire.

Closed container may rupture (due to build up in pressure) when exposed to extreme heat.

Special protective equipment and precautions for firefighters

Irritating or toxic substances may be emitted upon burning, combustion or decomposition including oxides of carbon, phosphorous and lithium. Wear self-contained breathing apparatus (SCBA) equipped with a full-face piece and operated in a pressure-demand mode (or other positive pressure mode) and approved protective clothing suitable for surrounding fire. Personnel without suitable respiratory protection must leave the area to prevent significant exposure to hazardous gases from combustion, burning or decomposition. In an enclosed or poorly ventilated area, wear SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations. See section 9 for additional information.

6 Accidental Release Measures

Personal precautions
Protective equipment
Emergency procedures

Do not touch spilled material without personal protective equipment.

Wear impervious gloves and eye protection.

If spilled in an enclosed area, ventilate. Eliminate ignition sources. Personal protective equipment must be worn.

Method and materials for containment and clean up

Do not flush product into public sewer, water systems or surface waters. Stop leak if without risk. Move containers from spill area. Wear proper personal protective clothing and equipment. Avoid generating dust – shovel or sweep and place into labeled, closed container; store in safe location to await disposal. Change contaminated clothing and launder before reuse.

7 Handling and Storage

Precautions for safe handling

As with any chemical product, use good laboratory/workplace procedures. Do not cut, puncture, or weld on or near the container. Use under well-ventilated conditions. Wash thoroughly after handling this product. Always wash up before eating, smoking or using the facilities. Avoid eye and skin contact. Avoid inhalation of aerosol, mist, spray, fume, vapor or dust generated by this product. Avoid drinking, tasting, swallowing or ingesting this product. Wash contaminated clothing before reuse.


Conditions for safe storage including incompatibilities

Keep away from heat, sparks and open flames. Store between 2 and 8 °C (35 and 46 °F) away from light and heat. Store under well-ventilated conditions. Store this material away from incompatible substances such as strong oxidizing substances. Do not store in open, unlabeled or mislabeled containers. Keep container closed when not in use. Empty container contains residual product which may exhibit hazards of product. Do not reuse empty container without commercial cleaning or reconditioning.

8 Exposure Controls / Personal Protection

Appropriate engineering controls

Always provide effective general and, when necessary, local exhaust ventilation to draw spray, aerosol, fume, mist and vapor away from workers to prevent routine inhalation. Ventilation must be adequate to maintain air concentrations below occupational exposure standards. When necessary, use mechanical handling to reduce human contact with materials.

Individual protection measures/personal protective equipment

Eyewash fountains and safety showers are recommended in the work area.

**Eye/Face
Skin**

Safety glasses or goggles to prevent contact with eyes.
Use good laboratory/ workplace procedures including personal protective clothing: lab coat and impervious gloves.

Respiratory

A respirator should not be required when using or handling this product. Where protection from nuisance levels of dusts is desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Ingredient	Exposure limit value
No hazardous ingredients – follow local requirements for particles not otherwise listed or specified, such as nuisance dusts.	Recommended: 10 mg/m ³ (inhalable fraction) 3 mg/m ³ (respirable fraction)

9 Physical and Chemical Properties

Physical State

Solid

Appearance

Powder

Color

White

Odor

Not available

Odour Threshold

Not available

pH

Not available



Melting / Freezing Point °C	Not available
Initial Boiling Point / Boiling Range °C	Not available
Evaporation Rate	Not available
Flammability in the case of solids and gases	Not applicable
Flash Point °C	Not available
Upper and Lower Flammability or Explosive Limits	Not available
Auto-Ignition Temperature °C	Not available
Vapor Pressure	Not available
Vapor Density	Not available
Relative Density	Not available
Solubility	Not available
Partition Coefficient (n-Octanol/Water)	Not available
Decomposition Temperature °C	Not available
Viscosity	Not applicable

10 Stability and Reactivity

Reactivity	This product is stable.
Chemical stability	This product is stable under recommended storage conditions.
Possibility of hazardous reactions	Hazardous polymerization will not occur.
Conditions to avoid	Excessive heat and sources of ignition.
Incompatible materials	Avoid strong oxidizing agents. Avoid high temperatures.
Hazardous decomposition products	Thermal decomposition may produce smoke, carbon monoxide, carbon dioxide, oxides of phosphorous, lithium oxides and other products of incomplete combustion.

11 Toxicological Information

Likely route of exposure	Eye, skin, inhalation and ingestion
Symptoms	
Eyes	May cause irritation.
Skin	May cause irritation.
Inhalation	May cause irritation.
Ingestion	May cause irritation.
Delayed effects from short- and long-term exposure	Not available
Carcinogenicity	No component of this product present at concentrations greater than or equal to 0.1% has been identified as a probable, possible or recognized human carcinogen by IARC.



Mutagenicity	Not available
Reproductive toxicity	Not available
Other effects	To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.

Numerical measures of toxicity including ATEs	LD₅₀ Oral	LD₅₀ Dermal	LC₅₀ (Gas, Vapor, Mist, Fume)
No hazardous ingredients	Not available	Not available	Not available

12 Ecological Information

Ecotoxicity, if available	Not available
Persistence and biodegradability	Not available
Bioaccumulative potential	Not available
Mobility in soil	Not available
Other adverse effects	Not available

13 Disposal Considerations

Disposal instructions	Dispose of unused contents (incineration) in accordance with national and local regulations.
Disposal methods	Dispose of container in accordance with national and local regulations. Ensure the use of properly authorized waste management companies, where appropriate. See section 8 for recommendations on the use of personal protective equipment.

14 Transportation Information

UN Number	NOT REGULATED
Proper Shipping Name	Not applicable
Hazard Class(es)	Not applicable
Packing Group	Not applicable
Environmental Hazards	Not applicable
Special precautions	Not applicable
Label	None
Classification Statement	This product has been classified in accordance the Transportation of Dangerous Goods Regulations and 49CFR DOT regulations.



15 Regulatory Information

Canada's Domestic Substances List (DSL)	Does not appear on Canada's Domestic Substances List or Non-Domestic Substances List and may be subject to notification depending on volumes (100 kg/yr) – contact us for more information.
Significant New Activity notice (SNAc)	None
National Pollutant Release Inventory (NPRI)	None
Environmental Emergency Regulations (E2)	None
US TSCA Inventory Status	Exempted (Research and Development or Low Volume) – contact us for more information.
Significant New Use Rule OSHA SARA III	None
Emergency Planning (301-303)	None
Emergency Release (304)	None
Storage reporting (311-312)	None
CERCLA reportable quantity	None
Hazardous Air Pollutants (HAPS)	None
California Proposition 65	None
HMIS	1-0-0

16 Other Information

Date of the latest revision	October 12, 2022
Revision number	1
Revision details	New
Abbreviations	CERCA – Comprehensive Environmental Response, Compensation and Liability Act EINECS – European Inventory of Existing Commercial Substances EPCRA – Emergency Planning and Community Right to Know Act HMIS – Hazardous Materials Identification System – American Coatings Association OSHA – Occupational Safety and Health Administration SARA – Superfunds Amendments and Reauthorization Act TSCA – Toxic Substances Control Act



SUPPLIERS DISCLAIMER: The information and the recommendations provided in this Safety Data Sheet (SDS) are believed to be accurate and are given in good faith. However, no warranty, expressed or implied, is given. Since the actual use of the product described herein is beyond our control, VoxCell BiInnovation Inc. assumes no responsibility or liability arising out of the use of the product by others. Users should make their own investigations to determine the suitability of the information for their particular purposes. It is the responsibility of the purchaser or user to ensure that his/her activities comply with all federal, state, provincial or local laws.