



SAFETY DATA SHEET

alamanda-polymers.com

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: PLKC₅₀-b-PEG_{1K}-b-PLKC₅₀
Supplier: Alamanda Polymers, Inc.
Address: 1031 Putman Drive, Suite A
Huntsville, AL 35816 (USA)

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2. COMPOSITION / INFORMATION ON INGREDIENTS

CAS#	Chemical name	Percent	EINECS/ELINCS
Unknown	Poly(L-lysine hydrochloride)-block-poly(ethylene glycol)-block-poly(L-lysine hydrochloride)	90-100	Unlisted

No ingredients are hazardous according to OSHA criteria.

No components need to be disclosed according to applicable regulations.

3. HAZARD IDENTIFICATION

Classification of the substance or mixture: Not a hazardous substance or mixture

GHS Label elements, including precautionary statements: Not a hazardous substance or mixture

Hazards not otherwise classified (HNOC) or not covered by GHS: None

EMERGENCY OVERVIEW

Potential Health Effects

Eye: May cause pain and conjunctival irritation

Skin: May cause pain and swelling on prolonged contact

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea

Inhalation: May cause irritation to mucous membranes and upper respiratory tract system

Chronic effects: Prolonged exposure may cause eye irritation. Exposure may affect cell growth rate and morphology.

Carcinogenicity: NPT

IARC: Not listed

OSHA: Not regulated

4. FIRST AID MEASURES

Eyes: In case of eye contact, flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation develops, seek medical attention.

Skin: In case of skin contact, wash skin with plenty of soap and water. Seek medical attention if irritation develops or persists.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: If inhalation occurs, remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if cough or other symptoms appear.

Notes to physician: Treat symptomatically and supportively.

5. FIRE-FIGHTING MEASURES

General information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Extinguishing media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

Special hazards: Nature of decomposition not known

Flash point: Not determined

Autoignition temperature: Not available

Explosion limits, lower/upper: Not available

NFPA rating: (estimated) Health: 0; Flammability: 1; Instability: 0

6. ACCIDENTAL RELEASE MEASURES

General information: Avoid dust formation, breathing vapors, mist, or gas.

Large spills: Sweep up with a broom or shovel up, and then place in a chemical waste container. Clean spill area with soap and water.

Small spills: Sweep up with a broom, or collect by a vacuum cleaner. Clean spill area with soap and water.

7. HANDLING AND STORAGE

Handling: Provide for appropriate ventilation in places where dust is formed, and wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Keep product container tightly closed.

Storage: Store under argon, protect from light, and keep below -15°C.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components: Contains no substances with occupational exposure limit values

Engineering controls: General industrial hygiene

PERSONAL PROTECTION

Respiratory protection: Respiratory protection is not required. If protection from nuisance levels of dust is required, use type N95 (US) or P1 (EN 143) dust masks. If desired, use NIOSH (US)/CEN (EU) approved respirator.

Skin protection: Handle with gloves that are inspected prior to use. Use proper glove removal techniques to avoid contact with skin. Dispose of gloves in accordance with applicable laws and good laboratory practices.

Eye protection: Use glasses/goggles for eye protection tested and approved under appropriate government standards.

Additional clothing and/or equipment: Safety shower and eye bath

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and physical state: White or faint-yellow solid or powder

Odor (threshold): Slight

Specific gravity (H₂O=1): Not determined

Vapor pressure (mm Hg): Not determined

Vapor density (air=1): Not determined

Percent volatile by volume: Not determined

Evaporation rate (butyl acetate=1): Not determined

Boiling point: Not determined

Freezing point / melting point: Not determined

pH: Not determined

Solubility in water: Not determined

Relative density: Not determined

Partition coefficient (n-octanol/water): Not determined

Auto-ignition temperature: Not determined

Decomposition temperature: Not determined

Viscosity: Not determined

Explosive properties: Not determined

Oxidizing properties: Not determined

10. STABILITY AND REACTIVITY

Reactivity: Not determined

Stability: Stable under recommended storage conditions

Conditions to avoid: Strong oxidizing agents, open flames, high temperature, moisture, and light

Incompatibility: Strong oxidizing agents and strong acids

Hazardous decomposition products: Not determined

Hazardous polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Acute toxicity: Not determined

Oral effects: Not determined

Dermal effects: Not determined

Inhalation/respiratory effects: Not determined

Ocular effects: Not determined

Germ cell mutagenicity: Not determined

Carcinogenicity: (See below)

IARC -- No components of this product present at levels greater than or equal to 0.1% are identified as probable, possible, or confirmed human carcinogen by IARC.

ACGIH -- No components of this product present at levels greater than or equal to 0.1% are identified as a carcinogen or potential carcinogen by ACGIH.

NTP -- No components of this product present at levels greater than or equal to 0.1% are identified as a known or anticipated carcinogen by NTP.

OSHA -- No components of this product present at levels greater than or equal to 0.1% are identified as a carcinogen or potential carcinogen by OSHA.

Reproductive effects: Not determined

Specific target organ effects (single exposure): Not determined

Specific target organ effects (repeated exposure): Not determined

Aspiration Hazard: Not determined

12. ECOLOGICAL INFORMATION

No data are available on the toxicity, persistence and degradability, bioaccumulation potential, mobility in soil, or assessment of PBT/vPvB of this material.

13. DISPOSAL CONSIDERATIONS

Waste disposal method: Waste must be disposed of in accordance with federal, state, and local environmental control regulations. Offer surplus and non-recyclable solutions to a licensed disposal company.

14. TRANSPORT INFORMATION

DOT (US): Not a dangerous good

IMDG: Not a dangerous good

IATA: Not a dangerous good

15. REGULATORY INFORMATION

SARA 302 Components: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards: No SARA Hazards

Massachusetts Right to Know Components: No Components are subject to the Massachusetts Right to Know Act.

Pennsylvania & New Jersey Right to Know Components: Poly(L-lysine hydrochloride)-block-poly(ethylene glycol)-block-poly(L-lysine hydrochloride), CAS#Unknown

California Prop. 65 Components: This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

HMIS Rating

Health hazard: 0

Chronic health hazard: Not determined

Flammability: 0

Physical hazard: 0

NFPA Rating

Health hazard: 0

Fire hazard: 0

Reactivity hazard: 0

Disclaimer: Alamanda Polymers, Inc. makes no warranty of any kind regarding the information furnished herein. Users should independently determine the suitability and completeness of information from all sources. While this data is presented in good faith and believed to be accurate, it should be considered only as a supplement to other information gathered by the User. It is the User's responsibility to assure the proper use and disposal of these materials as well as the safety and health of all personnel who may work with or otherwise come in contact with these materials.

NON-HAZARDOUS MATERIAL; APPROVED FOR AIR TRANSPORT