

SAFETY DATA SHEET (SDS)

Li-PAN

1. Identification

Item	Information
Product name	Li-PAN
Recommended use	Raw material and intermediate
Restrictions on use	No data available
Manufacturer / Supplier	CPS Inc.
Address	326, Changbi-ro, Bibong-myeon, Wanju-gun, Jeonbuk State, Republic of Korea (55306)
Emergency telephone	070-8870-6270
Additional manufacturer information	No data available

2. Hazard(s) Identification

Classification	Category
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

Signal word: Warning

H290: May be corrosive to metals.

H315: Causes skin irritation.

H318: Causes severe eye irritation.

P264: Wash thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352: IF ON SKIN: Wash with plenty of water.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321: Specific treatment (see applicable first-aid instructions).

P332+P313: If skin irritation occurs: Get medical advice/attention.

P337+P313 : If eye irritation persists: Get medical advice/attention.

P362+P364: Take off contaminated clothing and wash it before reuse.

Other hazards not otherwise classified: No data available.

3. Composition / Information on Ingredients

Chemical name	Synonym / Common name	CAS No.	Content (%)
Lithium hydroxide	Lithium hydroxide monohydrate	1310-66-3	2-3
Polyacrylonitrile	Polyacrylonitrile	25014-41-9	4-5
Water	Water	7732-18-5	92-94

4. First-Aid Measures

Eye contact: Immediately flush skin and eyes with running water for at least 20 minutes. Seek immediate medical attention.

Skin contact: Seek immediate medical attention. Prevent spreading of contamination after minor contact. If material is hot, immerse or rinse affected area with plenty of cold water. Flush skin and eyes with running water for at least 20 minutes. Remove contaminated clothing and shoes and isolate the contaminated area.

Inhalation: Seek immediate medical attention. Move to fresh air. If not breathing, give artificial respiration. Keep warm and at rest. If breathing is difficult, administer oxygen.

Ingestion: Seek immediate medical attention.

Advice to physician: Ensure medical personnel know the material involved and take appropriate protective measures.

5. Fire-Fighting Measures

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, or water spray. For smothering, use dry sand or dry earth.

Specific hazards: Thermal decomposition or combustion may generate irritating and highly toxic gases. Some material may burn but does not ignite readily. Containers may explode when heated. Non-flammable; heating may cause decomposition and release corrosive/toxic fumes.

Firefighter precautions: Some material may be transported at elevated temperature. Wear appropriate protective equipment and fight from a safe distance. For large tank fires, use unmanned equipment if possible; otherwise withdraw. Cool containers with large quantities of water after extinguishment. Dike fire-control water for later disposal and prevent dispersion. Withdraw if pressure-relief devices emit a rising sound or tanks discolor. Move containers only if safe. Stay away from tanks engulfed in fire. Fight tank fires from maximum distance or use unmanned monitors.

6. Accidental Release Measures

Cover with plastic sheeting to prevent spreading. Clean spills immediately and follow PPE precautions. Do not touch damaged containers or spilled material without suitable protective clothing. Stop leak if safe. Remove ignition sources and observe incompatible materials and conditions.

Prevent entry into waterways, sewers, basements, or confined spaces.

Absorb with inert material such as dry sand or earth and place in a chemical-waste container. Absorb liquid and wash contaminated area with detergent and water.

7. Handling and Storage

Wash thoroughly after handling. Empty containers may retain residue; follow all SDS/label precautions. Avoid prolonged or repeated skin contact. Observe incompatible materials and conditions. Refer to engineering controls and PPE.

Keep container tightly closed. Store in a cool, dry place. Completely drain empty drums, close properly, and return to a drum reconditioner or dispose of appropriately.

8. Exposure Controls / Personal Protection

Substance	Korean limits	ACGIH	Biological limit	Other
Lithium hydroxide	TWA/STEL: No data	TWA/STEL: No data	No data	No data
Polyacrylonitrile	TWA/STEL: No data	TWA/STEL: No data	No data	No data
Water	TWA/STEL: No data	TWA/STEL: No data	Not applicable	No data

Engineering controls: Facilities storing or using this material should be equipped with eyewash stations and safety showers.

Respiratory protection: Wear suitable KOSHA-certified respiratory protection appropriate for the physicochemical properties of the exposed material.

Eye protection: Use chemical safety goggles and face protection; provide eyewash and emergency shower facilities nearby.

Hand protection: Wear suitable chemical-resistant gloves.

Body protection: Wear suitable chemical-resistant protective clothing.

9. Physical and Chemical Properties

Property	Product
Physical state	Liquid
Color	Light yellow
Odor	No data available
Odor threshold	No data available
pH	No data available
Melting/freezing point	No data available
Initial boiling point/range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability	No data available
Explosive limits	No data available
Vapor pressure	No data available
Solubility	No data available
Vapor density	No data available
Specific gravity	No data available
Partition coefficient	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Molecular weight	No data available
Component	Selected properties
Lithium hydroxide	Solid; colorless to white; odorless; pH 14 (1 N solution); melting point 450–471°C; boiling point 920°C; non-flammable; solubility 19.1 g/100 mL (20°C); vapor density 1.4; specific gravity 1.51; decomposition temperature 924°C; molecular weight 41.96.
Polyacrylonitrile	Solid; white; melting point 317°C; specific gravity 1.14 (1.14–1.17); molecular weight 53.06. Other listed properties: no data available.
Water	Liquid; colorless (clear); odorless; pH 7; melting point 0°C; boiling point 100°C; vapor pressure 23.8 mmHg (25°C); solubility 100 g/100 mL; specific gravity 1; log Kow -1.38; molecular weight 18.02.

10. Stability and Reactivity

May generate irritating, corrosive and toxic gases in a fire. Containers may explode when heated. Some material may burn but does not ignite readily. Non-flammable; heating may release corrosive/toxic fumes.

Conditions to avoid: Heat, sparks, flames and other ignition sources.

Incompatible materials: Combustible materials; reducing agents.

Hazardous decomposition products: Irritating and highly toxic gases from thermal decomposition or combustion; corrosive/toxic fumes; irritating, corrosive and toxic gases.

11. Toxicological Information

Endpoint	Information
Likely routes	Product: No data. Lithium hydroxide: may be absorbed by aerosol inhalation and ingestion. Polyacrylonitrile/Water: No data.
Acute oral toxicity	Product: No data. Lithium hydroxide: LD50 210 mg/kg (Rat). Polyacrylonitrile: LD50 >3000 mg/kg (Rat). Water: LD50 90000 mg/kg (Rat); LD50 >90 mL/kg (Rat).
Acute dermal / inhalation toxicity	No data available for product and listed components.
Skin corrosion/irritation	Product: No data. Lithium hydroxide: corrosive to skin and eyes. Polyacrylonitrile: No data. Water: Not applicable.
Serious eye damage/irritation	Product: No data. Lithium hydroxide: corrosive to skin and eyes. Polyacrylonitrile: No data. Water: Not applicable.
Respiratory / skin sensitization	Product/Lithium hydroxide/Polyacrylonitrile: No data. Water: Not applicable.
Carcinogenicity	No data available under IARC, NTP, OSHA, ACGIH, Korean OSH Act, MOEL notice, or EU CLP for the listed product/components.
Germ cell mutagenicity / reproductive toxicity	Product/Lithium hydroxide/Polyacrylonitrile: No data. Water: Not applicable.

STOT - Single exposure	Polyacrylonitrile: may irritate respiratory tract when inhaled. Others: No data / not applicable.
STOT - Repeated exposure	Polyacrylonitrile: Rat/oral (45000 mg/kg/26W): liver fatty degeneration; kidney, ureter and bladder tubular changes; endocrine thyroid hypofunction. Others: No data / not applicable.
Aspiration hazard	Product/Lithium hydroxide/Polyacrylonitrile: No data. Water: Not applicable.

12. Ecological Information

Ecotoxicity (fish, crustaceans, algae): No data available for product and listed components.

Persistence: Product, lithium hydroxide and polyacrylonitrile: No data. Water: log Kow -1.38.

Degradability, bioaccumulation, biodegradability, soil mobility and other adverse effects: No data available.

13. Disposal Considerations

Dispose of contents and container in accordance with the Waste Control Act where applicable.

Dispose of contaminated containers and packaging in accordance with applicable Waste Control Act requirements.

14. Transport Information

Item	Information
UN number	No data available
UN proper shipping name	Non-Hazardous
Transport hazard class(es)	No data available
Packing group	No data available
Marine pollutant	Selection / not specified in source
Special precautions - Fire	N/A
Special precautions - Spill	N/A

15. Regulatory Information

Regulation	Status in source
Occupational Safety and Health Act	N/A
Chemical Substances Control Act	N/A
Act on Registration and Evaluation of Chemical Substances	N/A
Dangerous Substances Safety Management Act	N/A
Waste Control Act	General industrial waste
Other Korean regulations	N/A
Foreign regulations	No information stated

16. Other Information

Item	Information
References / source of data	No data available
Initial preparation date	2026-08-27
Revision number	5
Latest revision date	2026-09-03
Other information	No data available