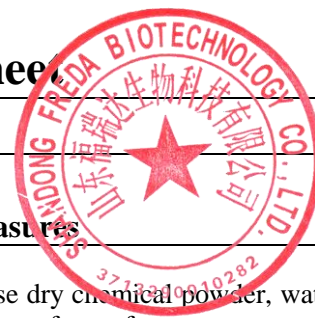




Material Safety Data Sheet

Poly Glutamic Acid (Na⁺)



1. Chemical Product & Company Identification

Product Name: gamma poly-glutamic acid (sodium salt; γ -PGA- Na^+)

Company: Shandong Freda biotechnology Co., Ltd
789# West Binhai Street, Linshu county, Linyi city, Shandong province, China 276715
Tel: +86-539-2036878
Fax: +86-539-2036881
+86-531-81213308

Emergency No.:

Email: mfreda@fredabiotech.com

Internet: www.fredabiotech.com

2. Composition/Information on Ingredients

Product Name: Poly-glutamic acid (sodium salt)

CAS No.: 28829-38-1

EINECS No.: 310-127-6

3. Hazards Identification

Hazards No adverse effects from available information.

Eyes: No adverse effects.

Skin: No dermal irritation. (Cause no irritation to rabbit skin according to the Draize classification scheme)

Inhalation: No adverse effects.

Chronic effects: No adverse effects.

4. First Aid Measures

Eye Contact: Check for and remove any contact lenses. Flush eyes with plenty of water for at least 15 minutes.

Skin Contact: Flush skin with plenty of water or with a disinfectant soap.

Inhalation: Move to fresh air.

Ingestion: Wash out mouth with water.

Note: If necessary, get medical attention.

5. Fire Fighting Measures

Extinguishing media: Use dry chemical powder, water spray, fog or foam.

Protective equipment: Wear shell-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Note: Fire, flame and sparks should be kept away from open containers.

6. Accidental Release Measures

Procedures of personal precautions: Exercise appropriate precautions to minimize direct contact with eyes.

Methods for cleaning up: Sweep up with spade and transfer to a dry, clean, lidded container for disposal. Avoid raising dust. Wash spill site after material pickup is complete.

Note: Wet material on walking surfaces will be extremely slippery.

7. Handling and storage

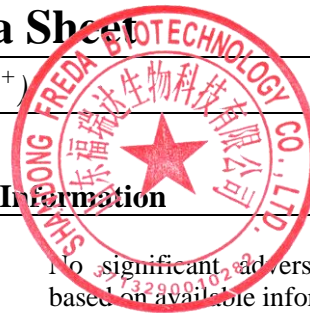
Handling precaution: Wear suitable protective clothing and chemical safety gloves. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin and eyes. Wash thoroughly after handling. Keep away from incompatibles or ignition sources, heat and flame.

Storage: Store in a cool, well-ventilated area and keep in a tightly closed container.



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8. Exposure Controls/Personal Protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

Personal Protection:

Respiratory: Wear dust mask if needed.
Eye: Wear chemical safety goggles if need.
Clothing: Wear appropriate protective clothing.
Hand: Wear compatible chemical-resistant gloves.
Other Protect: No smoking, drinking and eating at working site.

9. Physical and Chemical Properties

Appearance: White or off-white powder
Odor: Odorless
pH: 5.0~7.0 (1% sol'n/water)
Solubility: Soluble in water

10. Stability and Reactivity

Stability: Stable under normal conditions as recommended.
Conditions to avoid: Wet conditions, incompatible materials and extreme heat.
Hazardous decomposition products: Not expected.

11. Toxicological Information

Toxicity data:

LD₅₀ Oral Rat 2300 mg/kg
Sensitization Non-sensitizing

12. Ecological Information

Ecotoxicity: No significant adverse effects based on available information.

13. Disposal Considerations

Disposal: Dispose in accordance with national, state and local environmental control regulations.

14. Transport Information

IATA/ICAO: Not hazardous for transport.
IMO/IMDG Not hazardous for transport.

15. Regulatory Information

Regulatory: No special label.

16. Other Information

Warning: This product is a chemical substance and is intended to be used by persons having chemical knowledge and skill, at their own discretion and risk.
Disclaimer: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

