Material Safety Data Sheet

Polyaspartic Acid Sodium Salt （40%）

1. Chemical Product Identification:

Chemical Family	Sodium salt of a carboxylic acid
Chemical Name	Polyaspartic acid, sodium salt
Synonyms	Sodium polyaspartate

2. Composition / Information on Ingredients:

Ingredient Name / CAS Number	181828-06-8

3. Hazards Identification:

Route(s) Of Entry	Inhalation; Skin Contact; Eye Contact; Ingestion

Human Effects and Symptoms of Overexposure:

Acute Effects of Exposure	Based on animal toxicity testing (see section 11), we would expect this product is expected to be non-irritating to the eyes and skin and to be slightly toxic by ingestion.
Chronic Effects of Exposure	No applicable information was found concerning any adverse chronic health effects from overexposure to this product.
Carcinogenicity	This product is not listed by NTP, IARC or regulated as a carcinogen by OSHA.
Medical Conditions Aggravated by Exposure	None known.
Exposure Limits	Not established for this product.

4. First Aid Measures:

First Aid For Eyes	In case of contact, flush eyes with plenty of water for at least 15 minutes. Call a physician if irritation occurs.
First Aid For Skin	Wash skin with soap and water for at least 15 minutes. Wash clothing before reuse. Call a physician if irritation occurs.
First Aid For Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
First Aid For Ingestion	If swallowed, call a physician.

5. Fire Fighting Measures:

Flash Point	Not Applicable.
Auto-Ignition Temperature	Not Established.
Extinguishing Media	Water; Foam; Dry Chemical; Carbon Dioxide
Special Fire Fighting Procedures	Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Avoid dusting. Dust can form explosive mixtures with air (see section 7).

6. Accidental Release Measures:

Spill or Leak Procedures	Utilize recommended protective clothing and equipment. Spills should be swept up and placed in containers. Avoid generation of dust. Spill area can be washed with water. Collect wash water for approved disposal. Keep from entering water or ground water.

7. Handling and Storage:

Handling / Storage Precautions	Avoid breathing dusts. Avoid getting in eyes or on skin. Wash thoroughly after handling. Store in a dry place away from excessive heat, in original or similar waterproof containers. Reseal containers immediately after use. Avoid contact with moisture. Store away from food and beverages. Keep containers tightly closed. Precautions should be taken against the buildup of electrostatic charges. Vent storage bins, conveyors, dust collectors, ground handling equipment, etc.

8. Personal Protection:

Eye Protection Requirements	Safety glasses or goggles are recommended.
Skin Protection Requirements	Chemically resistant gloves and clothing are recommended to minimize skin contact. Employees should wash their hands and face before eating, drinking or using tobacco products.
Ventilation Requirements	Use local exhaust or other means to minimize worker exposure.
Respirator Requirements	NIOSH approved respirators for dusts and mists are recommended.
Additional Protective Measures	Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of this product.

8. Physical and Chemical Properties:

Physical Form	Yellow and transparent liquid

pH	9--11 (1% water solution)
Boiling Point	Not Applicable.
Viscosity	Not Applicable.
Solubility in Water	Soluble
Specific Gravity	1.2.
Vapor Pressure	Not Applicable.

10. Stability and Reactivity:

Stability	Under normal conditions of use and storage, the product is stable.
Hazardous Polymerization	Will not occur.
Incompatibilities	None known.
Instability Conditions	Excessive temperatures.
Decomposition Temperature	Begins at 284 F (140 C).
Decomposition Products	Thermal decomposition is expected to produce carbon monoxide, carbon dioxide, oxides of nitrogen and other potentially toxic fumes.

11. Toxicological Information:

Acute Toxicity

Oral LD50	Greater than 2,000 mg/kg (rat)
Dermal LD50	Greater than 2,000 mg/kg (rat)
Eye Effects	Non-irritating (Rabbit)
Skin Effects	Non-irritating (Rabbit)
Sensitization	Not a skin sensitizer (Guinea pig) Magnusson-Kligman

Mutagenicity

Results were negative using the Salmonella/microsome test

12. Ecological Information:

Fish Toxicity	LC0: 3160 mg/1/96 hrs. (Brachydanio rerio); LC50: 5620 mg/1/96 hrs. (Brachydanio rerio)
Invertabrate Toxicity	EC0: 2500 mg/1/48 hrs. (Daphnia magna); EC50: Approx. 3540 mg/1/48 hrs. (Daphnia magna)

Biological Elimination	OECD Screening Test (DOC determination) - degradation of 58% was determined; thus it is classified as "easily degradable". Sturm Test (CO2 determination) - degradation of 68% was determined; thus it is classified as "easily degradable".
Inhibition Bacteria	Respiration inhibition test with activated sludge: EC50: Greater than 15,000 mg/l
Plant Toxicity	Biomass integral (72 h): EC50: 528 mg/l growth rate (Scenedesmus subpicatus) Green algae; Growth rate (72 h): EC50: 1070 mg/l (Scenedesmus subpicatus) Green algae.

13. Disposal Considerations:

Waste Disposal Method	Waste disposal should be in accordance with existing federal, state and local environmental regulations.

14. Transportation Information:

DOT (Domestic Surface)

Hazard Class or Division	Non-Regulated

IMO / IMDG (Ocean)

Hazard Class Division Number	Non-Regulated

ICAO / IATA (Air)

Hazard Class Division Number	Non-Regulated

15. Regulatory Information:

OSHA Status	This product is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
TSCA Status	On TSCA Inventory

16. Other Information:

HMIS Ratings	**(0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe)**
Health	0
Flammability	1
Reactivity	1