



Hydrosource L.L.C.

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
	Health 1	 Goggles, Coat or Apron, Dust Mask, Gloves
	Flammability 1	
	Reactivity 0	

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Common & Trade Names: Anionic Water-Soluble Polymer; Linear Polyacrylamide; Acrylic Amide Copolymer; Super-Absorbing Polyacrylamide (SAP), Polymer, or Copolymer

Supplier: Hydrosource L.L.C.
PO Box 4108
Sedona, AZ 86340

EMERGENCY PHONE: (888) 703-0222

Commercial/Trade Names: Hydrosource® PAM – Available as Granular, Slow Release, Effervescent, Emulsion

Chemical Name: Sodium Acrylate Acrylamide Copolymer, Linear



Hydrosourc L.L.C.

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	<table><tr><td>Health</td><td>1</td></tr><tr><td>Flammability</td><td>1</td></tr><tr><td>Reactivity</td><td>0</td></tr></table>	Health	1	Flammability	1	Reactivity	0	 Goggles, Coat or Apron, Dust Mask, Gloves
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2. COMPOSITION & INFORMATION ON INGREDIENTS

Name	CAS #	TWA (mg/m ³)	% by Weight
Acrylate Acrylamide Copolymer, Linear	25987-30-8	Supplier Recommended 0.05 mg/m ³	Nominally 95%
Acrylamide	79-06-1	TLV (ACGIH 1999) 0.03 mg/m ³ TLV (OSHA) 0.03 mg/m ³ NIOSH REL (Skin, Ca) 0.03 mg/m ³ IDLH (NIOSH 1997, Ca) 60 mg/m ³	Trace < .0003%
Water	7732-18-5	NA	Varies With Storage Conditions ~ 5%

3. HAZARD IDENTIFICATION

Mechanical: Makes surfaces extremely slippery. When it has absorbed water, this material may make surfaces extremely slippery, posing a slip-and-fall hazard (among the other hazards associated with slippery surfaces).

Contact: Dust irritates eyes. Dust may slightly irritate skin.

Inhalation: Respirable dust may produce respiratory irritation. See Notes in Section # 11.

4. FIRST AID MEASURES

Eye Contact: Check for and remove contact lenses. Rinse with clean water for at least 15 minutes, lifting lids occasionally to rinse beneath. If irritation persists, consult a physician.

Skin Contact: Remove contaminated clothing. Wash exposed skin thoroughly with soap and water. Treat any irritation symptomatically. Get medical attention if irritation develops.

Inhalation: Remove victim to fresh air or a well-ventilated area. If irritation develops, consult a physician with this MSDS in hand, if possible. If breathing becomes difficult, administer oxygen.

Ingestion: Consult a physician with this MSDS in hand, if possible. Do not induce vomiting except as directed by a physician. Never give anything by mouth to an unconscious person. Loosen tight clothing such as collar, tie, belt or waist band. Get medical attention immediately.

5. FIRE & EXPLOSION DATA

Flammability:	Combustible
Flash Point (FP):	Not Applicable
Autoignition Temperature:	Not Available
Lower Explosive Limit (LEL):	Not Available
Upper Explosive Limit (UEL):	Not Available
Combustion Products:	Combustion and/or thermal decomposition may release acrylonitrile, carbon dioxide, carbon monoxide, hydrocarbons, hydrogen cyanide and nitrogen oxides (NO _x).
Extinguishing Media:	Water, Water Spray, Foam, CO ₂ , Dry Powder

Special Remarks for Firefighters:

- Flammability is enhanced by the presence of oxidizers.
- Dust explosions may occur, if material is sufficiently fine and dispersed in air.
- Makes surfaces *extremely slippery* when it has absorbed water, posing a slip-and-fall hazard.
- This material absorbs water and swells enormously, becoming much heavier in the process. Once wet, this material may pose a mechanical bursting hazard. Stacks of bags or pallets may become unsteady and topple. Supporting structures may fail under the added weight of the material, once it has absorbed water.

6. ACCIDENTAL RELEASE MEASURES

Dry Spill:	<i>Do not rinse spilled area with water until the following steps have been completed.</i> Take measures to exclude foot or vehicular traffic, to avoid tracking of material out of the spill area. Scoop up spilled dry material and place in an appropriate container for disposal or re-use. Sweep up dust and remaining material. Use a vacuum if necessary to remove powder residue. Vacuum must be equipped with a HEPA filter to avoid dispersing respirable dust into the air. Once wet, remaining powder will cause surfaces to become extremely slippery, posing a hazard similar to ice. Once all visible powder has been retrieved, area may be rinsed with water, but it is essential that all slippery material be removed from hard surfaces where it may pose a hazard.
Wet Spill:	Exclude foot and vehicular traffic as above. Take precautions to avoid slipping and falling during cleanup. Use scoop, shovel or squeegee to collect wet material into suitable containers for disposal or re-use. Dispose per Section # 13.

7. HANDLING & STORAGE

Precautions:	Keep from children. Keep away from food. Wear goggles or other eye protection to keep the dust out of your eyes. Since this material may irritate your skin, wear suitable equipment to avoid prolonged or repeated skin contact. Do not allow the dust to get under your clothing. Do not ingest: wash up thoroughly at breaks, before eating meals and when you are done handling this material. Never drink water which has been used to soak this product, or which has been in contact with it. The Food and Drug Administration has regulated the use of acrylamide and polyacrylamide in foods; acrylamide should not exceed .2%, and up to 10 mg polyacrylamide per liter of water can be used to wash or peel fruits and vegetables. Always wear a dust mask or respirator, where the possibility of inhalation exists. Avoid creating dust clouds. Keep material (especially the dust) away from sparks and other sources of ignition. Avoid conditions where you might slip on the wet material.
Storage:	Store in a cool, dry place away from oxidizers like chlorine dioxide and bromine. Shelf life of properly stored polymer should exceed 5 years.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:	Adequate local exhaust should be provided when handling finely-divided material and if granular product contains fines (dust). Exhaust air may require filtration. Avoid deposition of dust on surfaces which are likely to become moist, due to the extreme slippery nature of the hydrated dust.
Personal Protective Equipment:	
Respiratory Protection:	Use appropriate MESA/NIOSH approved dust masks or respirators equipped with appropriate approved HEPA cartridges when particulate levels exceed, or may exceed, 0.05 mg/m ³ .
Skin Protection:	Gloves are recommended. No special type of protective clothing is required, but prolonged or repeated skin exposure should be prevented, as should the entry of dust between the clothing and the body. A lab coat, or conventional long sleeved garments and long pants should suffice.

[EXPOSURE CONTROLS / PERSONAL PROTECTION -- Section Continues Next Page]

[EXPOSURE CONTROLS / PERSONAL PROTECTION -- Section Continued From Previous Page]

Eye Protection: Safety glasses with side shields or goggles should be worn to keep dust from the eyes. Avoid wearing contact lenses in the presence of dust.

Hygiene Measures: To avoid accidentally ingesting (eating) this product, Wash up at breaks and before eating meals. After working with this material, remove contaminated shoes & clothing, wash thoroughly with soap & water.

9. PHYSICAL & CHEMICAL PROPERTIES

Physical State & Appearance:	White granular solid	Odor:	None
Melting point:	Approx. 390 deg. F. (Decomposes)	Boiling Point:	Not Applicable
pH:	4-9 @ 5 g/l	Flash Point:	Not Applicable
Vapor Pressure:	Negligible below decomposition temperature	Vapor Density:	Not Applicable
UL Viscosity:	5.3-6.3 cps (Varies with grade & lot of material)	Solubility in Water:	Complete
Bulk Density:	Varies with grind size and moisture content. Roughly: 0.50 to 0.58 g/ml as shipped.		

10. STABILITY & REACTIVITY DATA

Stability:	Stable	Conditions To Avoid:	Excess heat, incompatible materials, moisture
Incompatibility:	Strong oxidizers	Hazardous Polymerization:	Will not occur
Hazardous Decomposition Products:	Thermal decomposition may release acrylonitrile, carbon dioxide, carbon monoxide, hydrocarbons, hydrogen cyanide and nitrogen oxides (NO _x).		

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: LD₅₀ (Oral, Rat), >5000 mg/kg; LD₅₀ (Dermal, Rabbit), >2000 mg/kg.

Potential Health Effects:

Skin:	Non- or slightly-irritating. May be absorbed through skin. Rabbit test results non-toxic at high exposure rates.
Eyes:	A moderate mechanical irritant when in palpable powder or granular forms. Dust may cause eyes to sting.
Inhalation:	May cause respiratory tract irritation.
Ingestion:	Ingestion of small amounts during normal industrial handling is not likely to cause harmful effects.

Chronic Toxicity: Two-year feeding studies on rats and dogs yielded no adverse health affects.

Sensitization: Non-sensitizing guinea pig test results.

Note: This product contains trace amounts of acrylamide. Acrylamide is considered to be a neurotoxin and may affect behavior and/or the nervous system if ingested or absorbed by the skin. Prolonged or repeated exposure to acrylamide may cause cancer, adverse reproductive effects, birth defects, and may be mutagenic according to animal studies.

Carcinogenicity:

Linear Polyacrylamide: None known. IARC monographs: None.

Acrylamide: IARC Group 2B: "Possible Human Carcinogen" Animal Sufficient Evidence. OSHA "Select Carcinogen" per Laboratory Standard. See Prop. 65 notice in Section # 15

Special Note: Unpublished preliminary research indicates that inhaled dust becomes hydrated in the lung and may act to absorb certain airborne contaminants: in particular, radon gas. This route of entry should be given special consideration in developing a program of workplace practices, engineering controls and personal protective equipment suitable to the actual conditions of use.

12. ECOLOGICAL INFORMATION

Ecotoxicity, Persistence & Degradability:

Linear Polyacrylamide is not known to exhibit direct ecotoxic effects. May act as a flocculant, resulting in increased sedimentation rates and deposition of suspended materials (as well as any chemical compounds adsorbed thereon) onto lake or riverbeds.

Acrylamide monomer, a known impurity in linear polyacrylamide and one of its foreseeable degradation products, is expected to leach readily into the ground and biodegrade within a few weeks, based upon experimental data. Acrylamide monomer does not adsorb onto solid surfaces, other than activated carbon, to a significant degree. It is known to pass virtually unchanged through water treatment facilities (where the linear polymer is commonly used as a clarifying agent) and to undergo aquatic biodegradation by a wide variety of aerobic and anaerobic photosynthetic and non-photosynthetic microheteromorphs over the course of 8 to 12 days. The rate of biodegradation exhibits seasonal variability which, while linked to temperature change, is not a simple chemical kinetic function of temperature, instead depending on behavioral and compositional characteristics of the microheteromorph community. It is known that acrylamide monomer does not bio-accumulate in fish. Acrylamide monomer is known to cause species selective mortality in aquatic insects at levels of 5 – 40 µg/l.

[ECOLOGICAL INFORMATION -- Section Continues Next Page]

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Biological Oxygen Demand (BOD): Not Available

Chemical Oxygen Demand (COD): Not Available

In the atmosphere, acrylamide monomer is expected to react with photochemically produced hydroxyl radicals (half-life of 6.6 hr).

Fish: LC50 / Fathead Minnows / 96h > 1000 mg/l

Algae: EC50 / *Selenastrum Capricornutum* / 96h > 500 mg/l

13. DISPOSAL CONSIDERATIONS

Dispose of this material in accordance with all applicable Federal, State and Local regulations. Contaminated packaging can be landfilled or incinerated, when in compliance with applicable Federal, State and Local regulations.

14. TRANSPORT INFORMATION

Non-Hazardous: Not regulated under U.S. Department of Transportation Hazardous Materials Regulations (49 CFR 172 et seq.).

15. OTHER REGULATORY INFORMATION

Linear Polyacrylamide:

RCRA Status: Not a hazardous waste

Reportable Quantity (RQ): Not Applicable per 40 CFR Part 302

Threshold Planning Quantity (TPQ): Not Applicable per 40 CFR Part 335

TSCA Status: All components of this product are on the TSCA inventory.

DSL Status: All components of this product are on the DSL.

US FDA: Use of Acrylamide & Polyacrylamides in foods & food-contact applications is regulated by the US Food and Drug Administration

Prop 65 Status: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986 and product distributed into or used in California should be labeled as follows. See the Act for specific label size, placement and typographical requirements.

WARNING: This product contains Acrylamide, a chemical known to the State of California to cause cancer.

16. OTHER INFORMATION

References:

Merck 11 - Prudent Practices in the Laboratory, National Academy Press, Washington, D.C.

USEPA Office of Ground Water & Drinking Water: <http://www.epa.gov/safewater/dwh/c-voc/acrylami.html>

National Toxicology Program 9th Report on Carcinogens: <http://ehp.niehs.nih.gov/roc/ninth/rahc/acrylamide.pdf>

CastleWest Technologies *Survey of Superabsorbing Polymer Industry Safety Data and Handling Recommendations* (Unpublished literature review)

CastleWest Technologies *Survey of Superabsorbing Polymer Users* (Unpublished review of industry handling practices and anecdotal product hazard & irritation data)

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Notice to Reader:

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Castle International Resources Company assumes no responsibility for the completeness or accuracy of the information contained herein.