

SODIUM POLYACRYLATE

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1. Product Identification

Synonyms: Water Lock; Polyacrylic Acid, Sodium Salt

CAS No.: 9003-04-7

Molecular Weight: N/A

Chemical Formula: $(C_3H_4O_2)_n \cdot xNa$

Product Codes: CHEM-310 and others

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Sodium Polyacrylate	9003-04-7	100%	No

3. Hazards Identification

The components of this product are not regulated as hazardous under 29 CFR and 49 CFR. However, the manufacturer recognizes the potential for respiratory tract irritation as a result of inhalation of this material as a respirable dust. See Sections 8, 11, 14, and 15 for further regulatory information.

Emergency Overview

Sodium polyacrylate is a white, granular, odorless polymer that yields a gel-like material with the addition of water. It is insoluble in water and causes extremely slippery conditions when wet. Although not regulated as a hazardous material, the respirable dust is potential respiratory tract irritant. The manufacturer recommends an eight-hour exposure limit of 0.05 mg/m³.

Potential Health Effects: Eyes

Dust may cause burning, drying, itching, and other discomfort, resulting in reddening of the eyes.

Potential Health Effects: Skin

Exposure to the dust, such as in manufacturing, may aggravate existing skin conditions due to drying effect.

Potential Health Effects: Ingestion

Although not a likely route of entry, tests have shown that polyacrylate absorbents are non-toxic if ingested. However, as in any instance of non-food consumption, seek medical attention in the event of any adverse symptoms.

Potential Health Effects: Inhalation

Exposure to respirable dust may cause respiratory tract and lung irritation and may aggravate existing respiratory conditions.

SAF-T-DATA^(tm) Ratings

Health Rating: 1 - Slight

Flammability Rating: 0 - None

Reactivity Rating: 0 - None

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT; PROPER GLOVES

Storage Color Code: Green (General Storage)

4. First Aid Measures

First Aid: Eyes

Immediately flush with plenty of water. Remove particles remaining under the eyelids. Get medical attention if irritation persists.

First Aid: Skin

Remove polyacrylate absorbent dust from skin using soap and water.

First Aid: Ingestion

Non-toxic by ingestion. However, if adverse symptoms appear, seek medical attention.

First Aid: Inhalation

If inhaled, move to source of fresh air. Seek medical attention if symptoms persist.

5. Fire Fighting Measures

General Fire Hazards

No recognized fire hazards associated with the finished product.

Fire and Explosive Properties

Flammability Classification: None

Flash Point NA Flash Point Method

Flammable Limits - Upper NE

Lower NE

Hazardous Combustion Products

None known.

Extinguishing Media

Dry chemical, foam, carbon dioxide, and water fog. Extremely slippery conditions are created if spilled product comes in contact with water.

Fire Fighting Instructions

Firefighters should wear full protective clothing including self-contained breathing apparatus.

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic Hazard

6. Accidental Release Measures

Containment Procedures

Sweep or vacuum material when possible and shovel into a waste container.

Clean up procedures

Use caution after contact of product with water, as extremely slippery conditions will result.

Residuals maybe flushed with water into the drain for normal wastewater treatment. This is a non-hazardous waste suitable for disposal in an approved solid waste landfill.

Evacuation Procedures

None required.

Special Procedures

Avoid respirable dust inhalation during clean up. Wear appropriate respirator.

7. Handling and Storage

Handling

Handle as an eye and respiratory tract irritant.

Storage

Store in a dry, closed container.

8. Exposure Controls/Personal Protection

Exposure Guidelines

A: General Product Information

This product is not regulated as a hazardous material. However, the manufacturer recognizes the potential for respiratory tract irritation and recommends an eight-hour exposure limit of 0.05 mg/m³.

B: Component Exposure Limits

No information available.

Engineering Controls

Provide local exhaust ventilation to maintain worker exposure to less than 0.05 mg/m³ over an eight-hour period.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipments: Eyes/Face

Wear safety glasses with side shields or goggles.

Personal Protective Equipments: Skin

Use impervious gloves when handling the product in the manufacturing environment.

Personal Protective Equipments: Respiratory

Wear respirator with a high efficiency filter if particulate concentration in the work area exceeds 0.05 mg/m³ over an eight hour time period.

Personal Protective Equipments: General

Obey reasonable safety precautions and practice good housekeeping. Wash thoroughly after handling.

9. Physical and Chemical Properties

Appearance:

White to off-white granules, beads or powder

Odor:

Odorless.

Solubility:

Insoluble in water.

Specific Gravity (Bulk Density):

0.4 to 0.7 g/mL

pH:

5.5 to 6.5

Boiling Point:

No information found

Melting Point:

>390°F

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

<10 mm Hg

Evaporation Rate (BuAc=1):

<1.0%

10. Stability and Reactivity

Chemical Stability

This material is chemically stable under normal and anticipated storage and handling conditions.

Chemical Stability: Conditions to Avoid

None

Incompatibility

None

Hazardous Decomposition Products

Decomposition above 200°C

Hazardous Polymerization

Will not occur.

11. Toxicological Information

Acute and Chronic Toxicity

A: General Product Information:

Acute oral toxicity: LD50 rat

Dose: >5000 mg/kg

Method: Limit Test

Acute dermal toxicity: LD50 rat

Dose: >2000 mg/kg

Method: Limit Test

Skin irritation: Rabbit

Method: OECD Nr. 404

Very slight irritant

Eye irritation: Rabbit

Method: OECD Nr. 405

Very slight irritant

Sensitization: Guinea pig

Method: OECD Nr. 406

Result: 0/20

No sensitization

B: Acute Toxicity – LD50/LC50

Sodium polyacrylate (9003-04-7)

LD50: Oral LD50 Rat: > 40g/kg

Carcinogenicity:

Component Carcinogenicity

No information is available.

Chronic Toxicity

Chronic inhalation exposure to rates for a lifetime (two years) using sodium polyacrylate that had been micronized to a respirable particle size (less than 10 microns) produced non-specific inflammation and chronic lung injury at 0.2 mg/m³ and 0.8 mg/m³. Also, at 0.8 mg/m³, tumors were seen in some test animals. In the absence of chronic inflammation, tumors are not expected. There were no adverse effects detected at 0.05 mg/m³.

Mutagenicity

Sodium polyacrylate had no effect in mutagenicity tests.

12. Ecological Information

Ecotoxicity

A: General Product Information

Composted polyacrylate absorbents are non-toxic to aquatic or terrestrial organisms at predicted exposure levels.

B: Component Analysis – Ecotoxicity – Aquatic Toxicity

No information available.

Environmental Fate

Polyacrylate absorbents are relatively inert in aerobic and anaerobic conditions. They are immobile in landfills and soil systems (> 90% retention), with the mobile fraction showing biodegradability. They are also compatible with incineration of municipal solid waste. Incidental down-the-drain disposal of small quantities of polyacrylic absorbents will not affect the performance of wastewater treatment systems.

13. Disposal Considerations

US EPA Waste Number & Descriptions

A: General Product Information

This product is a non-hazardous waste material suitable for approved solid waste landfills.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

Dispose of in accordance with Local, State, and Federal Regulations.

14. Transport Information

Not regulated.

15. Regulatory Information

US Federal Regulations

A: General Product Information

This product is not federally regulated as a hazardous material.

B: Clean Air Act

No information is available.

C: Component Analysis

No information available.

D: Food and Drug Administration

No information available.

State Regulations

A: General Product Information

This product is not regulated by any state as a hazardous material.

B. Component Analysis – State

None of this product's components are listed on the state lists from CA, FL, MA, NJ, or PA.

16. Other Information

NFPA Ratings: Health: 0 Flammability: 0 Reactivity: 1

Product Use:

Laboratory Reagent and Consumer Hobby

Revision Information:

No Changes.

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