TECHNICAL DATA SHEET (TDS)

TDS NO: 2049

SODIUM POLYACRYLATE– SUPERABSORBENT POLYMER (SAP)

CAS NO: 9003-04-7

PRODUCT DESCRIPTION

Sodium Polyacrylate is the sodium salt polymer of acrylic acid, known for its exceptional water absorption and retention capacity. In powder, granule, or liquid form, it can absorb hundreds of times its own weight in water, forming a gel-like structure. It is classified as a superabsorbent polymer (SAP) and is used extensively in hygiene products, agriculture, cable manufacturing, fire gels, and cleaning industries.

INTENDED USE

- Rapid absorption and retention of aqueous fluids
- Thickening and volumizing in water-based systems
- Soil moisture retention and slow water release for plants
- Water-blocking agent in telecommunication and power cables
- Water absorption enhancer in cleaning compounds and gels

APPLICATION AREAS

- Baby diapers, feminine hygiene pads, adult incontinence products
- Agricultural water retention and soil conditioning
- Fire-fighting gels and forest fire suppression
- Waterproofing in optical fiber and copper cables
- Detergents, cleaning wipes, gel-based cleaners
- Medical waste solidification

ADVANTAGES

- Absorbs 300 to 1000 times its own weight in distilled water, Excellent liquid retention with minimal re-wet
- Chemically inert, safe, and biodegradable
- Prevents leakage in hygiene and industrial applications
- Easy to dose and mix into formulations
- Reduces irrigation frequency and water loss in soil

DIRECTIONS FOR USE

• Hygiene products: 1–5% depending on formulation •Agriculture: 20–100 kg/ha, mixed with soil • Cable blocking: 5–10 g/m per cable core • Industrial: varies depending on system •Select appropriate particle size and dispersion method for uniform performance

COMPOSITION

Sodium Polyacrylate $(C_3H_3NaO_2)n$

For more information regarding safety, handling, and transportation, please refer to the Material Safety Data Sheet (MSDS).

Authorized by: S. Nehir / Chemical Engineer
Quality Assurance Officer – 20/05/2024

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PACKING INFORMATION

25 kg kraft bag (powder/granule)

STORAGE CONDITIONS

Store in a cool, dry, and well-ventilated area away from direct sunlight. Avoid exposure to humidity. Keep containers tightly closed to prevent moisture absorption. Due to its hygroscopic nature, performance can degrade if exposed to air for prolonged periods. Use pallets and store above ground level.

PHYSICAL AND CHEMICAL PROPERTIES

Property	Value
Appearance	White powder/granule or clear liquid
Color	Colorless to white
Odor	Odorless
pH (0.5% aqueous solution)	6.0 – 8.0
Bulk Density (powder)	0.4 – 0.8 g/cm³
Absorption Capacity	200 – 1000 times its weight (in DI water)
Solubility	Insoluble in water; swells into hydrogel
Active Content	≥ 90% Sodium Polyacrylate (dry basis)

SAFETY INSTRUCTIONS

Avoid direct contact with skin and eyes. In case of contact, rinse thoroughly with water and seek medical attention if irritation persists. Do not inhale powder form; wear a suitable mask in dusty conditions and ensure proper ventilation. When handling liquid form, wear gloves, goggles, and protective clothing. Spills may cause slippery surfaces; clean immediately with caution. Keep containers closed and store out of reach of children. Use by trained personnel only. Dispose of waste and packaging according to local environmental regulations. Refer to the Safety Data Sheet (SDS) for more detailed information.

GENERAL INFORMATION

This Technical Data Sheet is based on laboratory tests and production data. It reflects the product's current formulation and performance specifications. Users are responsible for determining suitability for their specific application. Star Kimya shall not be held liable for damage resulting from misuse or improper storage.

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