Ag-SAP 10

Agricultural Superabsorbent Polymer - Technical Data Sheet

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Product Overview

Chemical Nature

Ag-SAP 100 is a poly potassium acrylate based Superabsorbent Polymer with an extraordinary water absorption capacity, up to 500 times its own weight, significantly preventing water loss in agriculture. These materials can also retain water-soluble fertilizers, pesticides, and herbicides within their structure, gradually releasing them to the target plant.

Key Features & Benefits

- Reduces water consumption by up to 70%, increasing irrigation intervals.
- Ability to reduce fertilizer consumption by up to 20%.
- Prevents surface evaporation of water, especially in hot seasons.
- Creates better soil porosity and aeration.
- Increases crop growth and yield due to stable supply of water and nutrients.
- Optimizes use of fertilizers and pesticides, preventing groundwater and soil contamination.
- Lasts 3-5 years in the soil.

Primary Applications

Ag-SAP 100 is designed for various agricultural applications, including but not limited to:

- Tree and shrub planting (reduces transplant shock, enhances root growth).
- Lawns and golf courses (improves germination, root development, uniform growth).
- Hydroseeding (maintains surface moisture, aids seedling establishment).
- Cuttings and transplants (prevents root desiccation during transport).
- Potted plants (reduces watering frequency, improves root growth).
- Mixing with fertilizers (reduces nutrient leaching, improves uptake).

Typical Properties

Characteristic	Value
Appearance	White powder
Bulk Density (g/lit)	0.8 - 0.85
pH	7 - 8
Moisture Content (%)	< 8%
Total Residual Monomer (ppm)	< 400
Max. Stability in Soil (years)	3 - 5
Particle Size (micron)	200 - 800
Environmental Compatibility	Biodegradable
Absorption (Distilled Water, g/g)	400 - 500
AUL (0.3psi in 0.9% NaCl, g/g)	Min. 20
Avg. Free Absorption Time (min)	< 15
Mesh Size (20-80 mesh)	> 90%

Application & Usage Guidelines

How to Use

Ag-SAP 100 can be applied in dry or pre-swollen form.

Dry Application:

- Surface Spreading: Spread like fertilizer and till into the soil to a depth of at least 5 cm. Irrigate thoroughly until soil saturation.
- Planting Hole: Mix with soil and place in the root zone of new plants. Do not overpack. Cover the top 5 cm with untreated soil.

Pre-Swollen Application:

- Planting Hole: Mix pre-swollen Ag-SAP 100 with soil. Place this mixture in the planting hole around the roots of new plants. Cover the top 5 cm with untreated soil and perform initial irrigation.

Environmental & Safety Notes

Ag-SAP 100 is biodegradable (degrades 10-15% per year in soil) and does not accumulate in plant tissues. Due to its voluminous nature, it is not absorbed by living tissue. Its effectiveness in the field, depending on soil salinity and water used, is 3 to 5 years.

Particle Size Selection:

- Finer particles absorb faster; coarser particles have higher absorption under pressure.
- Use smaller particles for high porosity soils (sand, compost) for faster absorption.
- Coarser grades are preferred for heavy soils (high clay content) to improve soil porosity.

Handling, Storage & Packaging

Handling

Spilled polymer (dry or wet) can be very slippery. Collect material prior to flushing with water. Use appropriate PPE if dust is generated.

Compatibility:

- Solutions are generally no more corrosive than water.
- Recommended: Stainless steel, fiberglass, plastic, glass or epoxy-lined vessels for solutions.

Storage & Packaging

Storage Conditions:

- Store in original, unopened package in a dry atmosphere.
- Protect from moisture.
- Temperature no higher than 40°C.
- Shelf Life: 24 months when stored as recommended.

Packaging Details:

- Standard: 25 kg net moisture-resistant bags.
- Other sizes may be available upon request.

Technical Service & Support

Our team can assist with product selection, application guidelines, and further information. Contact us for support.