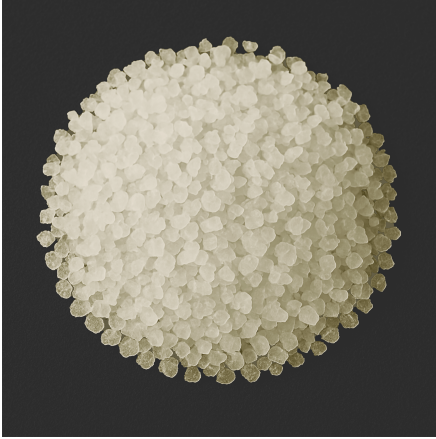


Nanotern: Smart Subsoil Water Reserve



Smart Water Management for Agriculture:
Enhancing Plant Resilience and Maximizing
Yield in Challenging Conditions



Technical Data

Nanotern: Smart Subsoil Water Reserve

Nanotern is an advanced super absorbent polymer (SAP) designed to function as a water reservoir for plants. Its hydrophilic, crosslinked three-dimensional polymer network enhances water retention, ensuring a stable moisture supply in the soil. Upon contact with irrigation or rainwater, Nanotern absorbs and stores water, gradually releasing it as the soil dries out. This controlled hydration minimizes water stress, supporting plant growth even under drought conditions.

Beyond water retention, Nanotern improves soil structure, acting as a buffer against temperature fluctuations and reducing plant stress caused by sudden environmental changes. By forming a water reservoir around the root zone, it limits evaporation and ensures water availability even in extreme heat.

Delivery Options:

1 kg and 5 kg bags for small-scale applications

15 kg and 25 kg bags for large-scale farming

Features

- reduces water consumption by up to 50%
- enhances plant efficiency by up to 25%
- expands up to 1800 times its weight in water
- retains water up to 7 times longer than competitors
- minimizes evaporation losses
- protects plants from heat stress
- free from heavy metals and safe for plants
- does not cause toxicity or nutrient deficiencies

Features tested at

Sabancı
Universitesi

Chemical and Physical Properties

Description	Value
General Appearance	White Granules
Particle Size	1-4 mm
Moisture Content	2
Max Water Absorbency Capacity	1800x [1]
Water Slow-Release Duration	50 days [1]
Service Temperature	(-60) °C – (+70) °C
Melting Point	200 °C
Degradation Temperature	255 °C
Storage Modulus	1.2 GPa
Density	1.4 g/cc
pH	N/A [2]
Molecular Weight	1200 kDa [3]

[1] Highest values possible. The water's pH level, water lime, mineral level, and hardness affect swelling and water retention performance.

[2] pH cannot be measured as product swells in water.

[3] Mw of non-cross linked polymer measured with GPC method.



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