



## ... the super absorbent solution

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Both because of persistent drought as well as various conservation and other regulatory initiatives, growers, landscapers and designers are increasingly eager to find solutions to water management and reduce the demand for water as well as fertilizers and other amendments. Hydrogels or Super Absorbent Polymers are an important tool in reducing water and irrigation requirements as well as enhancing soil profiles.

HYDROLOC hydrogels reduce cost and increase water and nutrient retention by stabilizing soil and are environmentally safe. Research has confirmed the efficacy of HYDROLOC in agriculture, nurseries and landscaping. HYDROLOC influences soil permeability, density, and texture and enhances evaporation and infiltration rates of water in soil. HYDROLOC applied with other soil conditioners and amendments results in enhanced productivity by reducing irrigation frequency, water run-off and compaction as well as increasing soil aeration and microbial activity.

HYDROLOC is a controlled release system in the uptake of water and nutrients, holding and suspending them for a delayed dissolution. Plants access the suspended nutrients, resulting in improved growth rates and a corresponding reduction in plant mortality. HYDROLOC has the ability to absorb hundreds of times its weight in water to become gel, releasing water over time.

Technically, HYDROLOC is polyacrylamide polymer chemically cross linked with potassium acrylate creating a molecular chain. When water and other amendments come into contact with the polymer, they are drawn into the molecular chain by osmosis. Water and other amendments rapidly migrate into the chain where they are suspended and stored. As soil dries, the polymer chain releases into the soil up to 95% of the absorbed water along with other amendments.



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### **Advantages**

HYDROLOC reduces water requirements by as much as 50%

HYDROLOC retains nutrients and fertilizers in soil

HYDROLOC aerates and stabilizes soil and enhances profile

HYDROLOC is compatible with soil nutrients and other amendments

HYDROLOC reduces run-off and leachate

HYDROLOC reduces plant shock

HYDROLOC reduces cost of installation, maintenance and irrigation

HYDROLOC is safe and biodegradable

### **Application Highlights**

HYDROLOC is available in various sized granules as well as an emulsion, based on application requirements. Different particle sizes result in varying absorption and release capacities, depending on soil conditions and environment. Generally, smaller particles absorb a higher percentage of water by weight, although larger particles tend to have a longer useful life.

HYDROLOC is available in several different versions; coarse, medium, fine, Seasonal and an emulsion. HYDROLOC FloBond is also available in tablets for spray applications. HYDROLOC coarse and medium grain is generally intended to be mixed with soil for larger plant installations. HYDROLOC fine grain is typically applied with small plant and turf installations and can be used as slurry for dipping as well as hydroseeding. HYDROLOC Seasonal is to be applied suspended in water and also can be used as slurry for dipping or injection. There is a



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particularly strong synergy created when HYDROLOC Seasonal is applied in combination with other amendments and nutrients.

HYDROLOC FloBond is designed for both water retention and soil stabilization. While not a cross linked polymer, it has similar features but because of its soil stabilization characteristics, it is particularly useful in hydroseeding and nursery applications. HYDROLOC FloBond is available both as a tablet and emulsion and upon application with water essentially encapsulates the soil surface thereby capturing subsurface hydration and stabilizing soil. FloBond not only maintains hydration but prevents erosion.

### **Product Selection Considerations**

Site and soil are important factors in product selection. Since HYDROLOC is available in a variety of grain sizes and forms (emulsion, tablets and powder), consideration must be given to soil profile. Generally, larger particles are recommended for heavy soil profiles. The larger particles improve the porosity of the soil because of increased expansion capacity. In contrast, more porous soil profiles such as sand and compost are better suited for finer particles because of their more rapid water absorption.

Highly refined particles greatly accelerate water absorption and are frequently hydrated before application and used as a seasonal top dressing, hydroseeding or as a plant dip or injection. Higher water temperatures will accelerate the absorption of water by HYDROLOC. Moreover, agitation will result in faster and more complete absorption during hydration.



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### **Health and Safety Considerations**

As a general matter, HYDROLOC degrades naturally in soils within several years, although exposure to ultraviolet rays and other variables tends to accelerate biodegradation. HYDROLOC polymers are too voluminous to be absorbed into plant cells and HYDROLOC will eventually biodegrade into inert compounds. The period of effectiveness of HYDROLOC in the field ranges from one to five years, depending on particle size, soil profile, ultraviolet exposure and general climate conditions. Review of literature and Environmental Protection Agency (USEPA) guidelines and regulations reflect that HYDROLOC and its constituent chemical compounds are biodegradable, inert and are not hazardous to the environment when used and applied consistent with product specifications and application recommendations.

As with all products, a review of HYDROLOC health and safety literature is important before use and application of the product. HYDROLOC products demonstrate no systemic toxicity but because of its powder like consistency potentially can irritate skin and membranes. HYDROLOC is intended to be used by professional growers and landscapers and safe handling practices are expected, including use of appropriate protective equipment and disposal practices. Review of Technical Data Sheets and Material Safety Data Sheets (MSDS) is critical before use or application of HYDROLOC products.

***HYDROLOC products are intended for use and application by professional growers and landscapers.***