

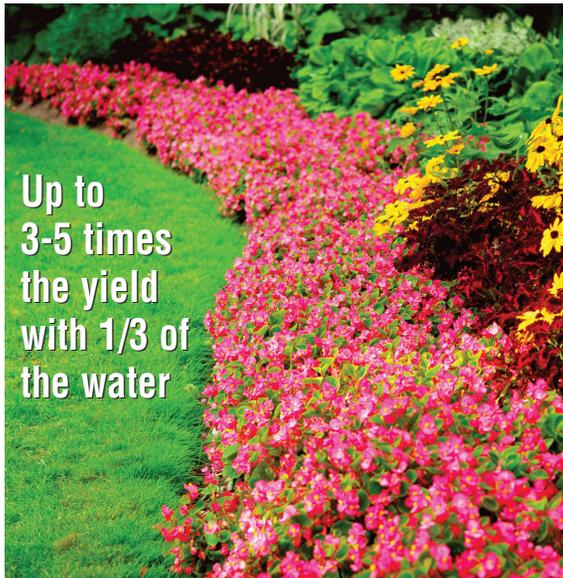


What is Hydrosource CLP?

Hydrosource CLP™ is gel-forming superabsorbent crosslinked polyacrylamide that gathers hundreds of times its weight in water and stores nutrients. Mixed with soil, it provides a reservoir of water and nutrients for your plants and lasts up to *20 years!* This means you use less water and fertilizers. Due to a constant supply of water and nutrients, Hydrosource grows bigger, healthier and faster maturing plants with more flowers and produce.

Uses

For lawns, gardens, potted plants and field crops. Additional uses include hydrogarments, hot and cold packs, floral arrangements and many more! See www.hydrosource.com or call toll-free 888-703-0222 for ideas and assistance.



**Up to
3-5 times
the yield
with 1/3 of
the water**

Captures water and nutrients so your plants thrive - even in drought conditions!

Grind Size	Applications
Bare Root Dip	Seedlings and starts
Powdered <0.5 mm	Seedlings, starts, erosion control and special projects.
Fine Grind, 0.3-1 mm	Lawns from seed, soil conditioning, crafts, everlasting air fresheners and floating candles. Bonsai.
Medium Grind, 1-2 mm	Potted and container plants, lawns, trees, shrubs and garden beds with sandy high percolation rate soils. Garments and crafts. Soil mixes. Floral arrangements.
Standard Grind, 2-4 mm	Lawns, trees, shrubs and garden beds with low percolation rate fine clay soils. Garments and crafts. Soil mixes. Floral arrangements.
Potted Plant Mix	Especially for hanging baskets, potted and container plants and raised beds-blended with special ingredients to maximize water and nutrient retention.

Dry Hydrosource or	Hydrated Gel	+ Soil	= Soil Mix
1.5 teaspoons	1 pint	1 quart	1.5 quarts
4 tablespoons = 1.5 oz.	1 gallon	2 gallons	3 gals. = 0.4 cu.ft.
5 oz. = 7/8 cup	3.5 gallons	1 cu. ft. = 7.5 gallons	11 gals = 1.5 cu. ft.
5 lbs. = 13 2/3 cups	50 gallons	1/2 cu. yd. = 101 gallons	3/4 cu. yd. = 151.5 gallons

All measurements are approximate, actual usage may vary, see enclosed directions.

Safety

Hydrosource is harmless to your family and pets. OSHA, the USDA and numerous university studies have determined Hydrosource to be non-hazardous. It benefits the environment by holding nutrients in the soil preventing them from contaminating groundwater and waterways! *Slippery when wet!*

Directions

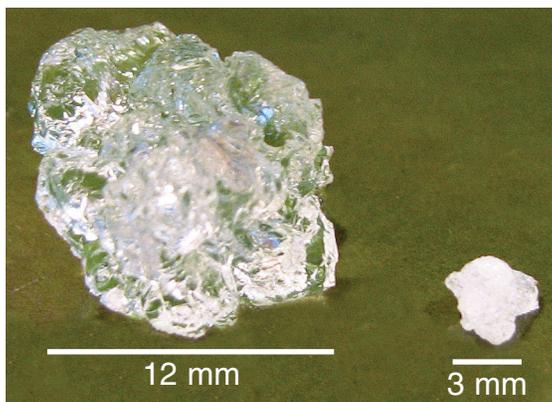
See the *Application Chart* and find your intended use. Choose the appropriate grind size. In general, salty soils reduce water holding capacity and require more Hydrosource and higher percolation rates require smaller grind sizes to insure full hydration. *Full directions inside package* and online library at www.hydrosource.com.

Storage

Keep dry and out of direct sunlight.

Usage

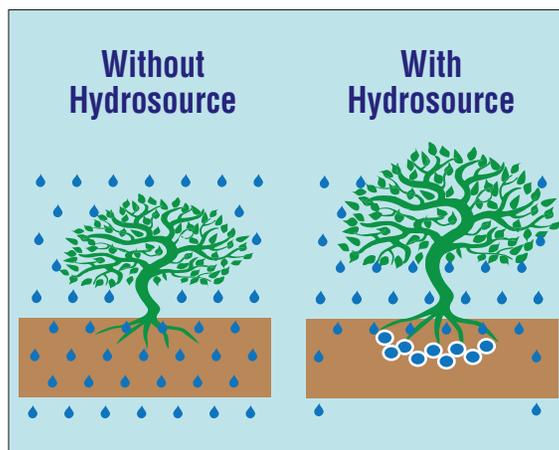
Mix Hydrosource dry or hydrated in the top 6-8 inches of soil. *Pre-hydrated* is the preferred method for containers and pots or individual plantings such as shrubs and trees. The crystals are first hydrated *which prevents the displacement of plantings or changes in grade as the crystals expand with water*. Hydrosource is used dry, mixed or tilled directly into soil for large applications such as lawns and fields. *Remember to consider expansion.*



One dry crystal (right) absorbs hundreds of times its own weight in water to produce a gel chunk (left).

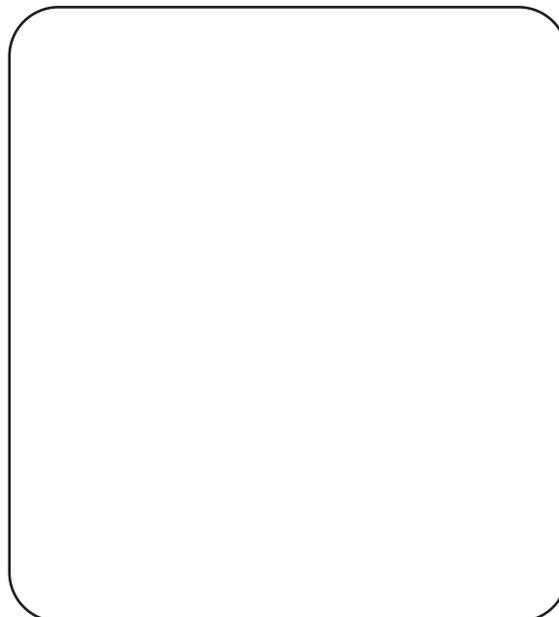
Measurements

One 5oz. bag makes about 3.5 gallons (0.45 cu. ft.) of hydrated gel. Hard water will reduce the water holding capacity. See enclosed directions or call for details.



Only a small amount of water and nutrients are absorbed by the roots while the rest washes away.

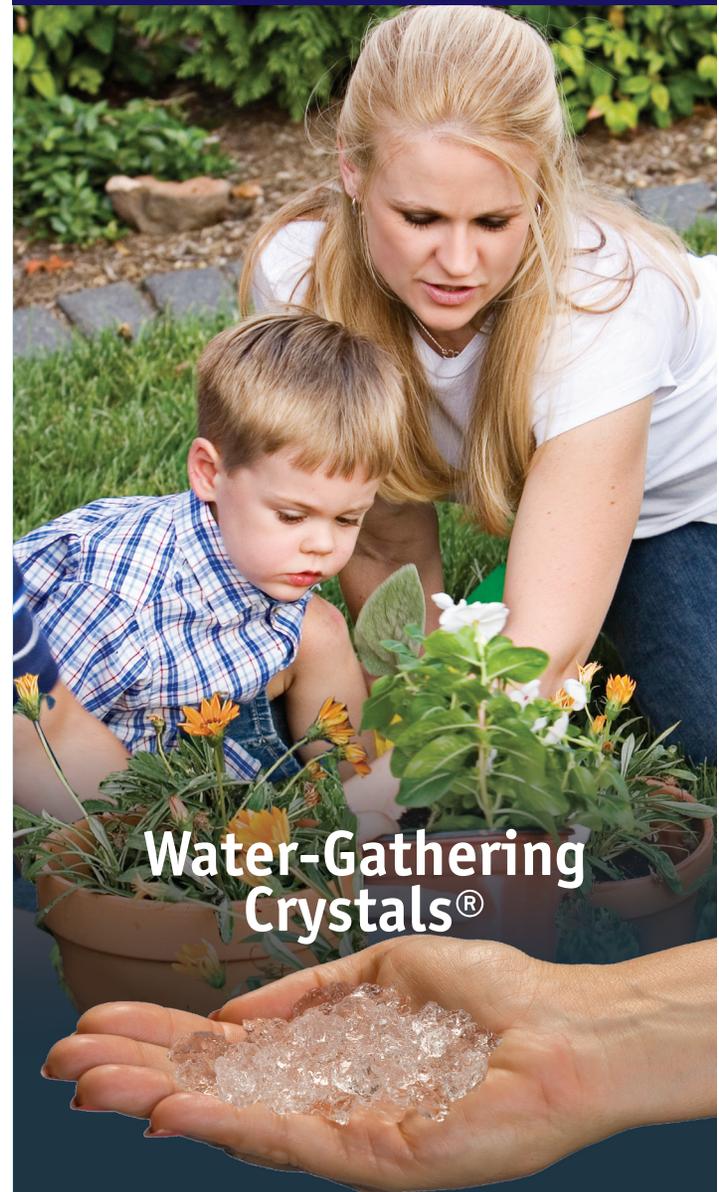
Water and nutrients are absorbed by the roots and by the hydrosource crystals which stores them and releases them gradually to provide continuous nourishment.



www.hydrosource.com



The Moisture Miracle



HYDROSOURCE® CLP

WATER-GATHERING CRYSTALS®

Hydrosorce brand cross-linked polyacrylamide (**CLP**) is a dry granular superabsorbent that looks like rock salt, and when hydrated makes gel chunks that can gather hundreds of times their weight in water and nutrients. Hydrosorce® CLP is available as six products: Standard Grind (2–4 mm), Medium Grind (1–2 mm), Fine Grind (0.3–1 mm), Powdered (<0.5 mm), Bare Root Dip, and Potted Plant Formula. Mixed with soil, CLP provides a reservoir of water and nutrients for your plants, and lasts up to 20 years! This means you can use less water and fertilizer. Because the gel chunks provide a constant supply of water and nutrients, plants grown with CLP are healthier and grow faster with less stress. Benefits include increased pest and disease resistance, higher yields of superior quality produce and flowers, and larger, faster maturing plants, all with less of your time and labor!

WHAT DOES CLP DO?

When you mix Hydrosorce® CLP into the top 6–8 inches of soil in a flowerbed, garden, lawn, or field; or mix CLP into the soil used to fill in around the root ball of potted and container plants, and in planting holes for landscape plants, shrubs, and trees:

- § CLP captures and stores rainfall, snowmelt, irrigation water, and dissolved nutrients. Plants grow their roots into the gel chunks to access the water and nutrients.
- § CLP improves the texture and condition of the soil by radically changing size as it absorbs and gives up water. This soil aeration process creates a better environment for plant roots, air, water, and soil microorganisms. Studies show soil mixed with CLP can double and sometimes triple microbiological activity in the soil, important to plant health and fertility.
- § CLP cools the soil by keeping more moisture near the surface.

IS CLP SAFE?

Hydrosorce® CLP is harmless to your family and pets. The USDA, many other government agencies, and numerous university studies have determined CLP to be nonhazardous. It benefits the environment by holding fertilizers in the soil preventing them from contaminating groundwater and waterways.

HOW TO GET THE BEST RESULTS

Before applying Hydrosorce® CLP, it is important to study this section, and then find your application in the following section.

- 1) Determine how much to use based on what you want the CLP to do. For most people, this is to extend the time between watering. In general, our application rates will reduce watering by as much as 75% and extend watering intervals as much as 400%. However, the condition of your soil, the water quality, the type of plants, and how much wind and heat your plants are exposed to will affect the performance of CLP. You may need to adjust the application rates to compensate.
For best results, it is important to understand the chemistry of your soil and water, and their effect on CLP. Before CLP installation, we recommend you adjust the soil pH, reduce fertilizer quantities, use well-composted organic fertilizers, add microorganisms, and use a filter to remove chlorine from the water. Salty soils, concentrated fertilizers, and hard or heavily chlorinated water can significantly damage and reduce the water holding capacity of the CLP by 50% or more. Call us toll-free at **888-703-0222**. We can provide a test to determine the amount of CLP for your project.
- 2) It is best to match the percolation rate of your soil to the CLP grind size, so the CLP is able to catch the water before it drains down into the soil. Percolation rates are easy to test. Dig a hole where you want to plant, pour in a few inches of water, and time how long it takes to absorb into the soil. Smaller CLP crystals absorb water faster because there is more surface area. They also lose water more rapidly for the same reason. **Medium Grind (1–2 mm)** works well with sandy or lighter soils that have a high percolation rate of 8–15 inches per hour. **Standard Grind (2–4 mm)** works best with clay soils where the percolation rate is from 4–8 inches per hour. These larger CLP crystals absorb and release water more slowly.
- 3) Partial prehydration of Hydrosorce® CLP is the preferred method for confined spaces such as pots, nursery containers, and planting holes for landscape plants, shrubs, and trees. Confined spaces do **not** leave room for a dry CLP and soil mix to expand with water without significant displacement of the fill around the root ball. A good way to partially prehydrate CLP is to place a heaping cup in a 5-gallon bucket and fill the bucket with water. Warm water will hydrate the CLP faster. Hydration time is 10–15 minutes for medium grind size and 1–1.5 hours for standard grind size depending on the temperature.
- 4) Water the plants as you would without CLP until they grow their roots into the hydrated CLP gel chunks (normally 1–3 weeks). Some cacti and other plants that do not like to have their roots wet may not do as well in the wetter soils created by Hydrosorce® CLP. Read our **Watering Issues FAQ** at www.hydrosorce.com for information on how to adjust the watering amount and frequency.

APPLICATIONS

First, see the **HOW TO GET THE BEST RESULTS** section. The following directions depend on that information. Reminder: Make all necessary soil amendments (pH, nutrient, compost, and microorganism modifications) and choose the appropriate grind size for the soil percolation rate.

- 1) **Potted Plants & Containers:** We recommend Hydrosorce® Potted Plant Formula (**PPF**).
 - § **New Plantings:** Premix one part partially prehydrated **PPF** to two parts soil and use to fill in around the root ball, which equals 5.25 lbs/cubic yd. To prevent the plant from sinking in the pot, use only plain soil or gravel directly under the root ball.
 - § **Existing Plants:** Use our home polymer injector with hydrated Hydrosorce® CLP medium grind or take a pencil or similar pointed utensil and poke holes every few inches around the plant to the depth of the pot. Put 1 teaspoon of dry

Hydrosorce® is a registered trademark of Castle International Resources Company

**For more detailed information visit our website FAQ section at <http://www.hydrosorce.com>
To Order or to Speak With Us About Hydrosorce® CLP – Call Castle Toll-Free at 888-703-0222**

Copyright © 2000-2009 Castle International Resources Company – All Rights Reserved

PPF per gallon of pot size divided evenly into the holes, push to the bottom with the pencil, and thoroughly water a couple of times in the first few hours. **Note:** at this application rate, you will not be putting the same amount of **PPF** in the soil as you would with a new planting. For better results, re-pot the plant in a larger container using the partial prehydration method described above in **New Plantings**.

2) Landscape Plants, Shrubs, and Trees: Standard Grind or Medium Grind

§ **New plantings:** Make a planting hole 2–3 times the diameter of the root ball. Premix one part partially prehydrated CLP to two parts soil and use to fill in around the root ball, which equals 5.25 pounds/cubic yard. To prevent the plant from sinking in the hole, use only plain soil directly under the root ball. Visit www.hydrosorce.com to see our **Hydrosorce® CLP Quantity by Standard Nursery Pot Size Chart** to determine the amount of CLP to order.

§ **Dry Land Plantings:** When partial prehydration is not possible, accurately premix dry CLP with soil at the rate of 2.25–3.5 oz/cubic foot (2–3 teaspoons/gallon), and use to fill in around the root ball. Use only plain soil directly under the root ball. Leave room for the dry CLP to expand with water, and do not compact the soil. Where water is available, water the plant slowly to hydrate the CLP applied. Each ounce of CLP requires approximately one gallon of water.

§ **Existing Plantings:** Make holes around the drip line of the plant with a 5/8 inch dowel sharpened on one end. Put partially prehydrated CLP in a grout bag, and use it to fill the holes. Application rates and spacing depend on plant size. Visit our website at www.hydrosorce.com or call us toll-free at **888-703-0222** for more details.

3) Flower Beds and Gardens: Standard Grind or Medium Grind

§ Apply dry Hydrosorce® CLP with a broadcast seed spreader at a rate of 7–15 pounds per 100 square feet, and then mix to a depth of 6–8 inches. Do not overlap the spreader passes. Too much hydrated CLP in the overlaps will cause ridges.

4) Lawns: Standard Grind, Medium Grind, or Fine Grind

§ **New Lawns:** Before applying sod or seeding, for lawns with normal to high foot traffic, apply dry Hydrosorce® CLP with a broadcast seed spreader at a rate of 16–25 pounds per 1000 square feet, and then mix to a depth of 6–8 inches. For lawns with occasional foot traffic, you can increase the application rate up to as much as 50 pounds per 1000 square feet (the more CLP, the softer the lawn). Do not overlap the spreader passes. Too much hydrated CLP in the overlaps will cause ridges. Water the area well several times and make any necessary adjustments to the grade. **Please Note:** In our experience, starting a lawn from seed is much more problematic with less reliable results. For detailed information on the related issues and instructions for dealing with them, visit our website at www.hydrosorce.com and read **Turfgrass New Installation & Retrofit Consolidated FAQs**.

§ **Existing Lawns:** Retrofitting an existing lawn is possible, but it requires care to obtain a good result. Visit our website at www.hydrosorce.com and read **Turfgrass New Installation & Retrofit Consolidated FAQs**.

5) Bare Root Plantings: For best results, dip the roots of seedlings into a smooth mixture of Hydrosorce® Bare Root Dip. The U.S. Forest Service reports this method improves the survivability of seedlings in their reforestation projects by 40% or more. To make large quantities of bare root dip, use a paint mixer paddle mounted on a drill motor. In addition to the bare root dip, for faster time to maturity, optimum growth, and even higher survival rates, plant the seedlings in two parts amended soil mixed with one part partially prehydrated CLP. Visit our website at www.hydrosorce.com or call us toll-free at **888-703-0222** for help with your project.

6) Soil Improvement: Hydrosorce® CLP has improved yields and plant health at agricultural application rates as low as 10–25 pounds per acre. Our research suggests that the benefits observed at these rates are a result of the effect of CLP on the condition of the soil. Even small amounts of CLP control erosion, hold nutrients close to plant roots, and change the structure of soils. This reduces nutrient loss, improves movement of water in the soil, and improves aeration. The result is a better environment for the many types of beneficial soil microorganisms, whose numbers directly correlate with improved plant health and fertility. However, at these application rates, CLP will not hold enough water to significantly reduce watering amounts or extend watering intervals.

7) Dust Abatement for Arenas, Fairgrounds, Roads, and Airfields: Hydrosorce® CLP is used extensively on equestrian arenas, racetracks for animals and motorized vehicles, roads, helicopter landing pads, and airfields.

8) Revegetation Projects: When reseeding in arid areas or areas with erratic rainfall, Hydrosorce® CLP medium grind applied at rates of as little as 3 pounds per 1000 square feet or 125 pounds per acre supports the germination and reestablishment of native plant species.

SOME ADDITIONAL USES

CLP is found in cooling garments and accessories. From bandanas and dog beds to vests for football players, manufacturers incorporate CLP into a wide range of products that hold and release water gradually to provide sustained evaporative cooling for people and animals. CLP is used in hot and cold therapy packs, room fresheners, musical instrument humidity control systems, floral arrangements, classroom science experiments, bonsai, rodent bait, ice and snow substitutes in photography, and to hydrate insects raised for pet food or bait. Oil and mining industries use it extensively, and government research has produced diverse applications ranging from instant military bunkers and “sandbags” to remediating chemical and radioactive spills.

SAFETY NOTES

Wet Hydrosorce® CLP is very slippery and poses a significant slip-and-fall hazard. Treat wet spills with sand or salt and scoop up. Do NOT dispose of by washing down the drain; it may clog plumbing. Do not eat. Keep out of reach of children and pets. Avoid CLP dust, and wash hands after use. Remove contacts before handling. The MSDS is available on our website. CLP has been determined to be nonhazardous by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Hydrosorce® is a registered trademark of Castle International Resources Company

**For more detailed information visit our website FAQ section at <http://www.hydrosorce.com>
To Order or to Speak With Us About Hydrosorce® CLP – Call Castle Toll-Free at 888-703-0222**

Copyright © 2000-2009 Castle International Resources Company – All Rights Reserved