



# POLYMERS

## Commercial Applications

*SOIL MOIST*<sup>™</sup> Polymer Products are manufactured in several product types. *SOIL MOIST PLUS*<sup>™</sup> is an acrylic copolymer grown from its components around a fertilizer core. The product contains a balanced 5-5-5 fertilizer made from ammonium phosphate, sulfate and muriate of potash. *SOIL MOIST PLUS* is primarily designed for consumer use. However, there are some commercial applications where water management and nutrient requirements are fulfilled by using *SOIL MOIST PLUS*. Please refer to our technical brochure on *SOIL MOIST PLUS* for complete information. *SOIL MOIST PLUS* House Plant Spikes<sup>™</sup> are acrylic copolymers made in the shape of small spikes with or without a balanced 3-4 month timed release 5-5-5 fertilizer. The spikes with fertilizer are manufactured primarily for the retail trade, the spikes without fertilizer fulfill a need in the commercial nursery and interiorscape industry. They are ideal for pre-potted plants and hanging baskets. Refer to our technical brochure, Form 200, on *SOIL MOIST* House Plant Spikes.

Three polymer products which are manufactured for the commercial industry are *SOIL MOIST FINES*<sup>™</sup>, *SOIL MOIST* and *SOIL MOIST HYDRO*<sup>™</sup>. These polymers do not contain fertilizer. They are manufactured primarily as an effective water management aid.

*SOIL MOIST* - has been developed to assist commercial growers, nurserymen and interior/exterior landscapers in growing and maintaining vigorous plants.

*SOIL MOIST POLYMER DISKS*<sup>™</sup> is a crosslinked polyacrylamide with a bisacrylamide crosslinker molded in a wafer form. Incorporated in the polymer matrix is a polymer coated 8 - 9 month timed release 10-10-10 fertilizer. The crosslinker in the polymer is much stronger. The polymer is not effected by the salts in water, soil or fertilizer. Two sizes are available for the landscape and nursery industry. Please refer to our technical brochures, form 250 and 300 for more information.

## TECHNICAL:

*SOIL MOIST* is a synthetic acrylic polyacrylamide with a potassium salt base. We have modified and controlled the rate at which water is made available to the plants. A particle size distribution has been selected to insure rapid initial uptake of water by a portion of the polymer followed by slower absorption of water by the balance of the polymer. Good initial soaking is required to insure that both the soil and the polymer absorb water. Watering routines should be normal for five to seven days. Reductions and watering rates can then be established. From the initial soaking, the polymer will soften and swell. As the potting system dries, the polymer will release its water reservoir.

A common complaint associated with some polymers is their tendency to “float” and work their way to the surface of the soil when subjected to a heavy watering schedule. Once on the surface, the polymer is ineffective. *SOIL MOIST* polymers negate this problem. The pH of *SOIL MOIST* in an aqueous system is approximately 6.2 - 7.0. *SOIL MOIST* granular particle distribution is available in two grade sizes; 1000-2000 (1-2mm) microns and 2000-4000 (2-4mm) microns. The smaller granular size (1-2mm) can be used in all applications, primarily for amending new turf and potting soils. The coarse grade (2-4mm) is used for planting of green good materials. Other grade sizes are available, minimum quantities apply. *SOIL MOIST* will absorb over two hundred times its weight in tap water (rated at 160 mg. NaCl/liter of water). Lower salts in the water will increase the absorbancy of the polymer. Depending upon the pH of the soil, soil type, percentage of salts in the soil and water, *SOIL MOIST* will work effectively in the soil for several seasons.

*SOIL MOIST FINES* are made from the same components as *SOIL MOIST*. The particle size and distribution is 500 microns to 50 microns. *SOIL MOIST FINES* are an effective water management aid for the Forestry, Landscape and Nursery trade. The Fines are incorporated in slurry mixes for field planting of bare root seedlings. They are also used as a packaging medium for transporting bare root seedlings. *SOIL MOIST FINES* are effective as a soil amendment for small nursery containers and mini-cells. *SOIL MOIST HYDRO* is used in hydroseeding and hydromulching applications and for amending soils in small containers. The polymer increases media moisture retention. The particle distribution size is 700 microns to 100 microns.

*SOIL MOIST*<sup>™</sup> Plus polymer products are manufactured under one or more of the following U.S. Patents: 4,060,678; 4,426,492; 4,163,092; 4,036,788; 4,071,508; 3,532,679; 3,878,175 and patents pending.

# BENEFITS

*SOIL MOIST* products are not multi-use polymers that were developed for other industries. *SOIL MOIST* products are potassium based and specifically designed for the horticultural and agricultural industry.

- Cost effective - You don't pay for the costs associated with a repackaged polymer.
- Reduces plant watering by 50%
- Helps reduce soil compaction
- Lasts for several seasons
- Reduces transplanting shock
- Will NOT float to the surface of the soil
- With particle size disbursement and absorption properties, *SOIL MOIST* products will not compete with the plant for water.
- *SOIL MOIST* products will not reduce air porosity in a confined potting medium.

# APPLICATIONS

## LANDSCAPE INDUSTRY:

### *Bare Root/Seedlings*

Mix one pound of *SOIL MOIST FINES* with 20-40 gallons of water. Let the product stand for at least 15 minutes. Dip the plant/tree immediately before planting. Adjust the slurry to the thickness that best adheres to the roots. When mixing the *FINES* in water, be sure the polymer is poured in slowly and that the water is moving. The longer the gel is allowed to stand, the tackier it will become and the better it will adhere to the roots. One pound will treat approximately 12,000 - 19,200 seedlings. The Hydro (100-700 microns) can be used as a packing medium for transporting bare root stock.

## TRANSPLANTING:

Use one and a half to two ounces of *SOIL MOIST* per one foot of rootball. Mix one half the amount around the planting hole, mix balance with backfill. Do not amend the top two inches of backfill with polymer. Water liberally. Rate should be slightly increased to two to three ounces per one foot of rootball in sandy soils.

- 1/2 oz. (3 tsp.) per 4" rootball
- 1 oz. (2 tbl.) per 8" rootball
- 1 1/4 oz. (7 tsp.) per 10" rootball

Balled and Burlapped			SOIL MOIST	
Caliper Size	Average Amount	Sandy Soils	Containerized	SOIL MOIST
1"	2 oz.	3 oz.	1 gallon	1/2 oz.
2"	4 oz.	6 oz.	3 gallon	3/4 oz.
3"	6 oz.	9 oz.	5 gallon	1 oz.
4"	8 oz.	12 oz.	10 gallon	2 oz.
Boxed Trees			15 gallon	3 oz.
24"	7 oz.		20 gallon	4 oz.
36"	14 oz.		30 gallon	6 oz.
48"	18 oz.		50 gallon	8 oz.

# BROAD AREA TREATMENT: *Flower Beds, Ornamental Gardens*

There are two methods to treat broad areas. The most effective method is to sprinkle a small amount (1/2 tsp.) of *SOIL MOIST* in the plant hole. Water plants liberally to activate the polymer. Another method is to apply up to one pound of *SOIL MOIST* per 100 square feet of ground area. Spread the polymer and work into the soil at a depth of three to four inches.

## TURF/SODDING: (1000-2000 microns)

Use *SOIL MOIST* at a rate of six pounds per 1000 square feet or 300 pounds per acre if the polymer is worked into the soil at a depth of five to six inches. Use four to five pounds per 1000 square feet or 175 to 225 pounds per acre if the polymer is worked into the soil at a depth of three to four inches. For sandy soils we recommend five pounds per 1000 square feet or 225 pounds per acre at a depth of three to four inches.

Broadcast the polymer with a spreader or drop seeder for even disbursement. Work into the soil, spread seed or lay sod, roll and water liberally. If applying grass seed, you may want to use our *SOIL MOIST SEED COAT*. Please refer to our technical brochure, Form 190.

## HYDROMULCHING:

Add three to four pounds of *SOIL MOIST HYDRO* per 1000 gallons of liquid in the storage tank. Let the product stand at least 5 minutes before adding fertilizer. Depending upon water retention desired, soil type and salt content of the water, one acre will require nine to fifteen pounds of *SOIL MOIST HYDRO*. For more detailed information, please refer to our technical brochure, form 195.

## GOLF COURSE GREENS:

For Greens and problem areas, use up to one pound per 100 square feet at a depth of five to six inches in the soil.

To determine the square feet area of a circular green, take the diameter, square it and multiply it by .7854.

Example: a 20 foot circular green is 314 square feet;  $20^2 \times .7854 = 400 \times .7854 = 314$ .

<u>Amount of SOIL MOIST</u> (1000-2000 microns)			
Diameter	Square Ft.	Max. Amt.	Average Amt. (5 lbs./1000 sq. ft.)
10	78	0.8 lb.	0.4 lb.
20	314	3.0 lb.	1.5 lb.
25	491	4.8 lb.	2.4 lb.
30	707	7.0 lb.	3.5 lb.
35	962	10.0 lb.	5.0 lb.
40	1257	12.6 lb.	6.3 lb.
45	1590	16.0 lb.	8.0 lb.
50	1964	20.0 lb.	10.0 lb.
60	2827	28.0 lb.	14.0 lb.

<u>Convenient Conversions</u>		
9 square feet	=	1 square yard
43,560 square feet	=	1 acre
4,840 square yards	=	1 acre

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## GREENHOUSE/NURSERY: (1000-2000 microns)

To use as a soil amendment, mix two pounds of *SOIL MOIST* per cubic yard of soil. Make sure the polymer is thoroughly mixed for even disbursement. Use two pounds of *SOIL MOIST FINES* or *HYDRO* per cubic yard of soil for mini-cells and small containers. Best results in mixing are achieved when *SOIL MOIST* and *SOIL MOIST FINES* or *HYDRO* are incorporated into the soil in the dry crystal form.

### Bulk Mixing

1 cubic foot of soil
1 bushel
1 cubic yard

### SOIL MOIST (1-2mm), SOIL MOIST FINES, HYDRO

1.2 oz. (34 grams)
1.5 oz. (42 grams)
2 lbs.

**ESTIMATED COVERAGE:** Based on the usage rate of two pounds of *SOIL MOIST*, *SOIL MOIST FINES* or *HYDRO* per cubic yard of soil, the following information can be used as a general guideline. (Please note: Actual pot dimensions may vary from one manufacturer to another and soil volumes will vary depending upon the type of soil used.)

### **BULK MIXING**

#### Amount of Soil Moist

#### *SOIL MOIST / SOIL MOIST FINES/HYDRO*

Container Size	per individual container	Pots per cubic yard of soil	<u>Amount Treated per Container Size</u>			
			8 lb.	30 lb.	40 lb.	50 lb.
2 1/2" round	—	5,616	22,464	84,240	112,320	140,400
2 1/2" square	—	6,048	24,192	90,720	120,960	151,200
4" round	1/2 tsp.	1,296	5,184	19,440	25,926	32,400
4" square	1/2 tsp.	1,512	6,048	22,680	30,240	37,800
5" round	3/4 tsp.	756	3,024	11,340	15,120	18,900
6" round	3/4 tsp.	432	1,728	6,480	8,640	10,800
8" round	1 tsp.	162	648	2,430	3,240	4,050
10" round	1/2 oz.	81	324	1,215	1,620	2,025
10" hanging	1/2 oz.	135	540	2,025	2,700	3,375
1 gallon	1/2 oz.	189	756	2,835	3,780	4,725
3 gallon	3/4 oz.	122	486	1,822	2,430	3,050
5 gallon	1 oz.	50	200	750	1,000	1,250
11" x 2 1/4" x 2 1/4" flat	—	124	496	1,860	2,480	3,100

Above estimated coverage does not take into consideration the increase in soil volume when water is absorbed in a potting soil mixture containing *SOIL MOIST*, *SOIL MOIST FINES* or *HYDRO*. Soil volume will increase ten to fifteen percent.

### Soil Volumes

25.7 quarts	=	1 cubic foot
27 cubic feet	=	1 cubic yard
1 bushel	=	1 1/4 cubic feet
22 bushels	=	1 cubic yard

### Conversion Chart

3 tsp.	=	1 tbl.
1 tbl.	=	1/2 oz. Soil Moist
3 tsp.	=	1/2 oz. Soil Moist

100 square feet of bench area, with a depth of six inches of soil is equal to 50 cubic feet of soil.

### **CAUTION: KEEP OUT OF REACH OF CHILDREN**

*SOIL MOIST™* products are non-toxic. Keep away from open wounds. When mixing large quantities for bulk mixing, wear a mask, dusty conditions may exist. If ingested or eye contact occurs, call a physician. Spilled materials are slippery when wet. Sweep up spills and place in disposal container. Maintain good housekeeping to control dust accumulations. **DO NOT ALLOW MATERIAL TO ENTER DRAINS.**

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