



(untreated field)

Soil Conditioner and Erosion Control Polymer

Application Guide for Agriculture

Reduces soil loss 80% - 98%

**Increases water infiltration during irrigation
up to 60%**

**Lowers concentration of nitrogen,
phosphorus & pesticides, & decreases
biological oxygen demand in runoff water**

- ◆ Reduces hardening and crusting of irrigated soils
- ◆ Reduces turbidity and sediment runoff
- ◆ Lessens furrow reshaping, soil spreading and cultivating
- ◆ Aids in plant growth on high-grade slopes
- ◆ Suitable for surface, mechanical and drip irrigation systems
- ◆ No bioaccumulation in crops
- ◆ Cost effective and time saving
- ◆ Environmentally safe! Biodegradable!



Erosion control, sediment runoff, and the availability and efficient use of water are some of the most serious issues facing irrigated agriculture. Many of the new environmental laws and regulations deal specifically with these issues. Today, one of the fastest growing and most successful BMP technologies available to irrigated agriculture is the use of polyacrylamides. They improve runoff water quality by reducing the amount of sediment, nitrogen, phosphorus, COD, BOD, and pesticides in the water. In their first commercial use in the US in 1995, approximately 50,000 acres were treated and one million tons of soil were saved (Sojka and Lentz, 1996). By 2001, approximately two million acres were being treated.



SOILFLOC™ is a water-soluble, linear polyacrylamide polymer that was designed to be used in agriculture for erosion control, to improve water infiltration, for dust abatement, and to reduce crust formation.

SOILFLOC™ works by aggregating fine, suspended soil particles and settling them, thus maintaining soil pore space and infiltration capacity, resulting in soils that are less susceptible to raindrop and irrigation induced erosion. **SOILFLOC™** improves water infiltration by up to 60% (average is 15%) and enhances water distribution and infiltration. With the use of **SOILFLOC™** you will see a reduction in the loss of soil nutrients, pesticides and herbicides in your tail water runoff.

SOILFLOC™ is environmentally safe. It will naturally degrade with UV light and is biodegradable. A variety of these products have been approved by NSF International for potable water clarification. They have also been approved by the FDA under several 21CFR regulations that allow their use as both direct and indirect food additives. They are registered by thirty-seven individual state Departments of Agriculture. The USDA has been a strong advocate for polyacrylamide use. The NRCS (Natural Resources Conservation Service) finalized the conservation practice standard for polyacrylamides as a BMP in July 2000. MSDS and TDS available upon request.

SOILFLOC™ products are available in both dry and liquid form.

Directions for application of SOILFLOC™ for surface flood/furrow irrigation: SOILFLOC™ 100D (dry) or SOILFLOC™ 300E (liquid) is recommended for this application

- We recommend that **SOILFLOC™** be added to loose soil either after seeding or cultivation or after all field work has been completed prior to rain or irrigation. Adding **SOILFLOC™** to soil that has crusted from rain or irrigation will not be effective. Always add **SOILFLOC™** to disturbed soil.

SOILFLOC™ 100D (dry)

- Standard application rates for dry **SOILFLOC™ 100D** vary from 1-3 lb. per acre.
- To apply **SOILFLOC™ 100D**, meter the product into irrigation water upstream where turbulence is greatest, allowing the product to mix thoroughly prior to the first furrow irrigated. Discontinue product application when water reaches the end of the field. Never dump large quantities of product into irrigation water, as it will form lumps. Inadequate turbulence will negatively affect product performance.



To apply dry **SOILFLOC™ 100D** using the patch method:

- **SOILFLOC™ 100D** dry can also be applied in a patch method by using a dispenser that can apply 0.5-1 oz. of dry **SOILFLOC™** per 1000 ft. of furrow just above the water source.

***SOILFLOC™ 100D** recommended metering & dispenser equipment available upon request

SOILFLOC™ 300E (liquid)

- Standard application rates for liquid **SOILFLOC™ 300E** vary from 1 pint to 2 quarts per acre.
- To apply **SOILFLOC™ 300E**, meter or drip it into irrigation water upstream where turbulence is greatest, allowing the product to mix thoroughly prior to the first furrow irrigated.
- All **SOILFLOC™** products should be added during the advance phase of irrigation or after any soil disturbance. **SOILFLOC™** may also need reapplication when erosion conditions reappear (frequency may vary depending on soil and climate conditions). NOTE: lower **SOILFLOC™** dosages can be used as good soil erosion management is achieved.

Directions for application of SOILFLOC™ for sprinkler and drip irrigation: **SOILFLOC™ 300E (liquid) is recommended for these applications**

- When using **SOILFLOC™ 300E** liquid the standard application rate, based on ¼- to ½-inch per acre of irrigation water, is 1 pint to 1 gallon of **SOILFLOC™** per acre.
- To apply **SOILFLOC™ 300E**, inject the undiluted product directly into the sprinkler irrigation system while the water is running by using a pump designed for low volume chemical injection (pump recommendations available upon request). You also must have backflow protection to prevent gumming in **SOILFLOC™** injection lines.
- To avoid any problems associated with the injection of **SOILFLOC™ 300E** always make sure that the chemical injection lines are free of water prior to adding **SOILFLOC™ 300E**. Once **SOILFLOC™ 300E** injection is complete, flush the chemical feed lines with crop or mineral oil to remove any residual **SOILFLOC™ 300E**. This practice will help avoid plugging of equipment and injection lines.
- **SOILFLOC™** can also be injected in drip irrigation systems to reduce biofilm accumulation in the lines, strengthen soil structure, and promote deeper water infiltration.

Always add **SOILFLOC™** to water; never add water to **SOILFLOC™**.

SOILFLOC™ polymers, when used properly, can greatly reduce sediment discharge to settling ponds, thus reducing the costs associated with pond maintenance, dredging and cleaning.

SOILFLOC™ application rates, methods, and concentrations should be adjusted to maintain optimal performance, which may vary from location to location. **SOILFLOC™** can be used alone or to augment other cover practice BMPs. CAUTION: because of product benefits, normal irrigation and cultivation practices may need to be altered to adjust for changes brought on by product use. Do not over-apply.

"It's natural for streams to have sediment moving in them, but not mud and topsoil." (Hold on to Your Dirt, 2001, San Francisco Estuary Project Video)



Frequently Asked Questions

1. Q. Where have polyacrylamides been tested and by whom?

A. These products have been tested and researched by many Universities and organizations among them: the University of Georgia, University of Idaho Coop. Ext., Washington Department of Ecology, and the University of California Coop. Ext., USDA ARS scientists at Kimberly, Idaho.

2. Q. How long have polyacrylamides been used?

A. After great success in Europe, commercial use of these products began in the US in 1995 and has increased steadily ever since. Worldwide studies on this chemistry are ongoing.

3. Q. How long does each application of SOILFLOC™ last?

A. Each application will last for approximately 2 irrigation cycles or six weeks. Reapply SOILFLOC™ if the soil is significantly disturbed or if runoff becomes cloudy. SOILFLOC™ will slowly degrade naturally by UV light and microbiological attack, leaving no chemical residue. SOILFLOC™, however, is not recommended for ingestion or inhalation, and therefore should be kept out of the reach of children.

4. Q. How is SOILFLOC™ stored?

A. SOILFLOC™ in the dry form can be stored for up to 2 years in a dry area at a temperature of 32°F to 95°F. SOILFLOC™ in a liquid form can be stored for up to 6 months for optimum potency, but should not be stored in direct sunlight, extreme heat, or freezing temperatures. Insulated blankets can be wrapped around drums for added protection.

5. Q. Can I use too much SOILFLOC™?

A. Yes. Too much SOILFLOC™ can stabilize suspended particles rather than flocculate them. SOILFLOC™ dosages should not exceed 10 parts per million.

6. Q. When irrigating, why does the first drop of water have to have SOILFLOC™ in it?

A. Untreated water will immediately degrade the soil structure, greatly lowering the ability of SOILFLOC™ to reduce erosion or improve infiltration.

7. Q. Why use SOILFLOC™ over other conservation practices for furrow irrigation?

A. Other conservation practices have been generally regarded as inconvenient to use during busy field operations. Not only can these practices be disruptive to desired furrow appearance, they also fail to capture the clay-sized solids. SOILFLOC™ is easily applied and flocculates all suspended solids. Once the equipment is set up, it takes just minutes to use.

8. Q. Why buy from Hydrosorb, inc.™?

A. Hydrosorb, inc.™ provides dependable, personalized service and technical expertise. We offer person-to-person communication and always return your calls. Our specialty is quality products at competitive prices.

To place an order, for consulting, or for more information:

Hydrosorb, inc.™
Phone (714) 771-6040
Fax (714) 771-1465
sales@hydrosorb.com
www.hydrosorb.com

Serving polymer customers for over 25 years!