



DATA SHEET #19

FOR TREES, SHRUBS, FLOWER BEDS and TURF

**DIEHARD™ HUMATE SP**



*“Stimulates root growth naturally”*

DIEHARD™ Humate SP is potassium-sodium humate powder that acts a natural soil and plant growth stimulant. It is a dark brown to black powder with an 85% humic acid content. DIEHARD™ Humate SP is 88-92% soluble in water. It is easily assimilated by plants and some of its main functions include improving plant immunity, improving plant metabolism, improving plant root development, improving the supply of plant nutritional elements and increasing the formation of ferments. DIEHARD™ Humate SP promotes the increased accumulation of chlorophyll, sugar, amino acids and more and improves the efficiency of nitrogen utilization, allowing for reduced fertilizer rates. One of the primary actions of DIEHARD™ Humate SP is to increase the plant's ability to withstand the stresses of heat, drought, cold, disease, insect and other types of environmental or cultural pressures. DIEHARD™ Humate SP also increases general plant productivity, in terms of yield, as well as plant stem strength. Within the soil, DIEHARD™ Humate SP stimulates soil microorganisms, promoting Humus formation.

### Advantages Over Conventional Humates

#### Full Water Solubility Over a Broad pH Range

Both acid & alkaline soluble - pH <0.5 to pH 14.0  
Solutions will not precipitate in phosphoric acid

#### Versatile Product Form

Available as a completely soluble powder.

#### High Rio-available Humic Acid Assay

Proprietary extraction and modification process maximizes humate content

Made from the highest quality North American leonardite.

High % humate content provides superior performance on a pound per pound basis.

Low solution viscosity at high humic acid concentrations provides for easy mixing and pumping

#### Superior Redissolving Properties

High solubility prevents build up of insoluble sludges that normally clog lines under low flow  
Rapidly redissolves and wets out without leaving insoluble clumps

Dissolved powder performs equivalently to liquid product

#### Excellent Salt Tolerance

Superior compatibility in all types of fertilizer and pesticide formulations

Does not precipitate out of solution like conventional humates

Effective component in a wide-range of NPK, nutrient or combination fertilizer formulations

#### High Ion Exchange Capacity

Better stability under varying soil pH conditions

Better at complexing metals

Makes micronutrients more readily available to plants

#### Complexes Micronutrients

Solution complexes to form 10% Zn, 7% Mn, 5% Cu, 5% Fe, 5% Ca, and 4% Mg nutrient solutions.

### Non Plant Food Ingredient

Derived from Leonardine, 85% Humic Acid

### Directions For Use

**Turf** - 1 ½ to 2 ½ lbs. per acre every three to four weeks during the growing season. Treatment should be 16-20 lbs per acre per year. Apply to all spray treatment programs FIRST at the rate of 1 oz. of 12% concentrate per 10 gallons of finished solution. (Chemical use in conjunction with this treatment may reduce the rate of the required active chemical significantly.)

**Flowerbeds** - 1-2 lbs. per acre every three to four weeks.

**Ornamentals** - 3 lbs. per acre per treatment; weekly treatments in irrigation water

**Drip irrigation** - 3 lbs. per acre per treatment; weekly treatments

**Soil fertilizers** - 1 lb. per acre per treatment to promote adsorption

**Leaf fertilizers** - ½ lb. per acre per treatment to promote adsorption

**Hydromulching** - 2 lbs. per acre

**Garden Vegetables and Strawberries** - 1 lb. per acre per treatment; three treatments per year in irrigation water

**Fruits** - 1 lb. per acre per treatment; minimum of three treatments per year in irrigation water

**Citrus** - 1 lb. per acre per treatment; minimum of three treatments per year in irrigation water

**Banana** - 10 lbs. per acre per treatment; minimum of five treatments per year in irrigation water at equal intervals

**Vineyard Grape** - ½ lb. per acre per treatment; minimum of three treatments per year in irrigation water

**Corn** - 1- 2 ½ lbs. per acre per treatment; minimum of two treatments per year in irrigation water

**Olive** - ½ lb. per acre per treatment; minimum of two treatments per year in irrigation water

**Sorghum** - 1- 2 ½ lbs. per acre per treatment; minimum of two treatments per year in irrigation water

### Health & Safety

**Inhalation** If dusty conditions exist wear a dust mask.

**Ingestion** Drink large amounts of water, induce vomiting, and seek medical attention.

**Contact** Avoid contact with open cuts.

**Eyes** Flush with large amounts of water.

**Safety** Product comes very slippery when wet.

### Storage & Handling

Store in a cool, dry place. Avoid high temperatures and direct sunlight. Product shelf life is up to 18 months.

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