BIOBURST™ HUMIC ACID

Product Information Sheet

BIOBURST™ HUMIC ACID is a humic substance extracted from Leonardite and then spray dried to increase solubility in water.

As organic materials in the soil decay, humus is formed. The term *humus* is widely accepted as synonymous for *soil organic matter*. It is defined as the total of the organic compounds in soil, exclusive of undecayed plant and animal tissues, their partial decomposition products, and the soil biomass.

Humic substances refers to a heterogeneous mixture of humus organic compounds that cannot be classified as any other chemical class—such as polysaccharides, proteins, etc.—and are traditionally defined according to their solubilities. They constitute 70-80% of soil organic matter and vary in composition depending on their source, location, and method of extraction. However, the range of elemental composition of humic substances is relatively narrow—approximately 40-60% carbon, 30-50% oxygen, 4-5% hydrogen, 1-4% nitrogen, 1-2% sulfur, and 0-0.3% phosphorus.

Leonardite, is a naturally oxidized lignite—a humic substance—resulting from prolonged weathering. It is distinguished from lignite by higher oxygen and moisture content. The moisture content of Leonardite in deposit ranges from 30% to 60%. Leonardite is not a single mineral species, but rather a name applied by Dr. A. G. Leonard, the first state geologist in North Dakota, to the oxidized products of lignite having a high content of humic acids and is the base material from which **BIOBURST™ HUMIC ACID** is derived.

There are three recognized grades of Leonardite: (1) a mixture of lignite and leonardite, containing about 45% humic acids, occurring at broken seam tops and along stream courses; (2) black, colloidal material, swelling in water, identified in Dana's System of Mineralogy as "active humus acid," containing about 80% humic acid—the source material of **BIOBURST™ HUMIC ACID**—and (3) fine grained, reprecipitated "calcium humates," intermixed with gypsum, containing about 10% humic acids.

The humic acid composition of **BIOBURST™ HUMIC ACID** is a naturally oxidized form of organic matter containing broken molecular bonds which create negative charge attachment sites for micronutrient ion absorption. As a result of their structure, humic acids function as surfactants, with the ability to bind both hydrophobic and hydrophilic materials. This function in combination with their colloidal properties, makes humic materials effective as agents in transporting both organic and inorganic contaminants in the environment.

CERRO CORP. ▪ 370 N. Draper Lane ▪ Provo, UT 84601-2311
Ph (801)377-9207 ▪ Fax (801)377-9234 ▪ Email: info@cerrocorp.com

BIOBURST™ HUMIC ACID performs a variety of beneficial soil and plant growth functions, including:

Enhances Soil Structure and Texture

- Improves aeration
- Increases water penetration
- Increases moisture retention
- Accelerates growth of beneficial microorganisms
- Improves soil tilth
- Reduces soil erosion

Increases Fertilizer Efficiency

- Improves plant assimilation of fertilizers
- Releases nutrients in readily available forms
- Provides a natural chelation and transport of trace materials
- Creates slow release of organic phosphate, auxins, cytokinins, and amino acids
- Increases soil buffering capacity

Stimulates Plant Growth

- Stimulates root growth
- Increases germination rate of seeds
- Stimulates plant enzymes
- Reduces plant stress
- Increases yields

TYPICAL PHYSICAL PROPERTIES

Physical Form:	Micro-Fine Spray Dried Dark Brown Powder
Active Content:	≥98% Humic Acid (BaCl method)
Solubility:	Readily Soluble
Specific Gravity:	0.8
Moisture:	<10%

"The most biochemically active and plant responsive components of fertile soil are humic and fulvic acids. The decision to replace and maintain adequate levels of humic/fulvic acids in the soil will have a more positive economic and ecological impact on a grower than any other decision he makes about growing a crop"

Dr. Robert E. Pettit
Emeritus Professor
Texas A&M University

CERRO CORP. ▪ 370 N. Draper Lane ▪ Provo, UT 84601-2311
Ph (801)377-9207 ▪ Fax (801)377-9234 ▪ Email: info@cerrocorp.com