

FBS Humate Plus™ 0-0-5

DESCRIPTION

FBS Humate Plus™ is a soil-applied liquid fertilizer and soil conditioner that is designed to provide potassium to plants with potassium deficiencies and may aid in micronutrient nutrient uptake.

DIRECTIONS FOR USE

FBS Humate Plus is compatible with many NPK fertilizers. Do not mix **FBS Humate Plus** with fertilizers that have pH levels below 3.5, or with fertilizers that contain Calcium (like CN-9 or CAN-17). **FBS Humate Plus** is compatible with chelated micronutrients.

A standard jar test should be conducted before mixing with other micronutrient products. Most **FBSciences** soil applied micronutrients can be mixed with **FBS Humate Plus** at low rates. Please use a standard jar test to confirm compatibility beforehand, or call your **FBSciences** representative for specific advice.

Best results will be obtained when applied before fertilizer applications when watered in. Inject with a drip or sprinkler irrigation system. May be sprayed under the drip line of the plants or knifed in prior to a sprinkler irrigation or surface irrigation. Apply enough water to move the product into the area of active rooting.

RATES & TIMING

| | | |
|------------------------------------------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Orchards & Vineyards | 1 QUART PER ACRE | Apply any time or apply prior to first fertilizer application and repeat twice, once at stone hardening (for almonds and stonefruit) or flowering (for vineyards and citrus); repeat a third time during fruit enlargement (for citrus) or prior to first post-harvest fertilizer. |
| Field, Row, Vegetable & Fruit Crops | 1-2 QUARTS PER ACRE | Apply at any time. |

WARRANTY & CONDITIONS OF SALE

Manufacturer warrants that this material conforms to the chemical description hereon and is reasonably fit for use as directed. No other warranty is made, either expressed or implied. **BEFORE OPENING**, see other conditions and limitations that apply which are available at: <http://www.FBSciences.com/ProductConditionsOfSale/>.

Information regarding the contents and levels of metals in this product is available on the Internet at: <http://www.aapfco.org/metals.htm>

0-0-5

GUARANTEED ANALYSIS

Soluble Potash (K_2O) 5.00%

Derived from: potassium hydroxide.

ALSO CONTAINS NONPLANT FOOD INGREDIENT
19% Humic Acid derived from Leonardite

READ ENTIRE LABEL BEFORE USE
SHAKE WELL BEFORE USE
DO NOT STORE BELOW 40°F (5°C)
KEEP OUT OF REACH OF CHILDREN
WARNING



HAZARD STATEMENTS

Contact with eyes or skin may cause serious irritation. Harmful if swallowed.

PRECAUTIONARY STATEMENTS

Wear protective gloves and protective eyewear. Wash skin thoroughly after handling. Clothing should be thoroughly washed before re-use.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists, get medical attention.

IF SWALLOWED: Do not induce vomiting. Clean mouth with water. Call a Poison Control Center or doctor if you feel unwell.

IF ON SKIN: Remove immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs get medical attention.

IF INHALED: Remove person to fresh air & obtain medical attention immediately if breathing becomes difficult.

2.50 US Gal / 9.46 Liters
9.18 lbs per Gallon @ 68° F
1.10 kg per Liter @ 20° C
Net Wt. 22.95 lb / 10.40 kg

FBSciences Inc.

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Collierville, TN 38017 USA

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V041718

fbsciences®

FBS Humate Plus

Safety Data Sheet



According to Federal Register/Vol. 77, No. 58/Monday, March 26, 2012/Rules and Regulations

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND COMPANY

1.1 PRODUCT IDENTIFIERS

Product Name: FBS Humate Plus
Product Number: FBS1090
Active Ingredient (%): 19.0% Humic Acid derived from Leonardite
5.0% Soluble Potash (K₂O)
Recommended Use: Soil Conditioner

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Uses of the Substance/Mixture: Manufacturing use for various agricultural applications

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

FBSciences, Inc.
153 N. Main St., Ste. 100
Collierville, TN 38017 USA
1-901-221-1200

1.4 EMERGENCY TELEPHONE NUMBER

Emergency Number: CHEMTREC 1-800-424-9300
24 Hour Emergency HAZMAT Response: 1-800-229-5252
EPA National Response Center: 1-800-424-8802

SECTION 2: HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification (GHS-US):

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (209 CFR 1910.1200)

Acute Toxicity: 4 H302- Harmful if swallowed
Skin Irritation: 3 H315- Causes skin irritation
Eye Irritation: 2A H19- Causes serious eye irritation

2.2 LABEL ELEMENTS

Pictograms



Signal word: WARNING

Hazard statement(s):

| | |
|------|-------------------------------|
| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |

Precautionary statement(s):

| | |
|------|----------------------------------------------------------------------------|
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
|------|----------------------------------------------------------------------------|

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| P309+P310 | IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician. |
| P303+P361+P353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

2.3 OTHER HAZARDS NOT CLASSIFIED (HNOC) OR NOT COVERED BY GHS

None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 SUBSTANCES

| <u>Material</u> | <u>% by Weight</u> | <u>CAS No.</u> |
|-------------------------------------|--------------------|----------------|
| Humic Acids derived from Leonardite | 19.0% | |

SECTION 4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

General information: Contact with eyes or skin may cause irritation. Seek medical attention if irritation persists.

If inhaled: Move to fresh air: Obtain medical attention immediately if breathing becomes difficult

In case of skin contact: Wash off with plenty of water. If prolonged contact occurs, rinse thoroughly with soap and water.

Eye contact: Flush eyes with water immediately with plenty of water for at least 15 minutes. Obtain medical attention if irritation persists.

Following eye contact: Obtain medical attention if irritation persists.

If ingested: Do not induce vomiting. Obtain medical attention.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Symptoms/effects: None reasonably foreseeable

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Notes for the doctor: Treat symptomatically

SECTION 5: FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

Suitable extinguishing media: Use water, dry chemical, foam or CO2 extinguishing media.

Unsuitable extinguishing media: No information available.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Fire hazard: Not flammable

Hazardous combustion products: Product is non-reactive under normal conditions.

5.3 ADVICE FOR FIRE FIGHTERS

Do not attempt to take action without suitable protective equipment: self-contained breathing apparatus and complete protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

For non-emergency personnel: Ensure adequate ventilation. Use personal protective equipment. Avoid contact with eyes or skin.

Protective equipment for emergency responders: Do not attempt to take action without suitable protective equipment. For further information, see section 8 Exposure controls/personal protection.

6.2 ENVIRONMENTAL PRECAUTIONS

Avoid uncontrolled release into the environment.

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

For containment: Store in original container.

For cleaning up: Take up liquid spill in absorbent material.

SECTION 7: HANDLING AND STORAGE

Handling: Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin or eyes. Do not ingest.

Storage: Keep out of reach of children. Do not contaminate water, food, or feed by storage or disposal. Do not store below 40°F (5°C). Keep from freezing.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

No additional information available.

8.2 EXPOSURE CONTROLS

Environmental exposure controls: Avoid uncontrolled release to the environment.

8.2.1 APPROPRIATE ENGINEERING CONTROLS

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

8.2.2 PERSONAL PROTECTIVE EQUIPMENT

Hand protection: Protective gloves.

Eye protection: Safety glasses.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: Follow the OSHA respirator regulations found in 29 CFR 1910.134

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-------------------|------------------------------------|
| Physical State: | Liquid |
| Color: | Dark brown/black |
| Odor: | Odorless |
| Vapor Pressure: | Greater than 1.0 @ 100°C |
| Vapor Density: | (Air = 1) N/A |
| pH: | 10.0 -11.5 |
| Relative Density: | H2O=1 1.1 g/cm ³ @ 20°C |
| Melting Point: | N/A |

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| Freezing Point: | 0°C |
| Solubility in Water: | Complete |
| Solubility in alcohols: | N/A |
| Boiling Point: | 100°C |
| Flash Point & Method: | Non-flammable |
| Evaporation Rate: | Non-volatile |
| Flammability: | Non-flammable |
| Flammable Limits: | N/A LEL: N/A UEL: N/A |
| Auto-ignition Temperature: | N/A |
| Decomposition Temperature: | N/A |
| Viscosity: | N/A |
| Solids Content: | 26% |

9.2 OTHER INFORMATION

No other information.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY

The product is non-reactive under normal conditions of use, storage and transport.

10.2 CHEMICAL STABILITY

Stable under normal conditions.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No dangerous reactions known under normal conditions of use.

10.4 CONDITIONS TO AVOID

None under recommended storage and handling conditions (see section 7).

10.5 INCOMPATIBLE MATERIALS

None known.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

No additional information available.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Product Information

Component information

| <u>Component</u> | <u>LD50 Oral</u> | <u>LD50 Dermal</u> | <u>LC50 Inhalation</u> |
|------------------|------------------|--------------------|------------------------|
| Humic Acid | 1938 mg/kg* | not known | not known |

*estimated value based on %KOH in final solution; KOH is from the extraction process of the humic acid from the Leonardite.

Toxicologically Synergistic Products: No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Acute

| | |
|----------------------------|---------------------------------------------------|
| Likely Routes of Exposure: | Skin, Eye, Ingestion |
| Acute Oral Toxicity: | Category IV. No additional information available. |

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| | |
|------------------------|----------------------------------------------------|
| Acute Dermal Toxicity: | Category IV. No additional information available. |
| Acute Inhalation: | Category IV. No additional information available. |
| Eye Irritation: | Irritating effect |
| Skin Sensitization: | May cause irritation; no sensitizing effects known |

Mutagenic Potential: None observed
Reproductive Hazard Potential: None observed
Chronic/Subchronic Toxicity Studies: None observed
Carcinogenic Potential: None observed
Other Toxicity Information: Not available
Toxicity of Other Components: Not available

SECTION 12: ECOLOGICAL INFORMATION

12.1 TOXICITY

Ecotoxicity: Do not empty into drains.
Persistence and Degradability: This substance will only very slowly biodegrade. No other data available.
Bioaccumulation/ Accumulation: Not likely to bioaccumulate in animals.
Results of PBT and vPvB assessment: Not applicable
Mobility: This substance's mobility will be diminished by clay and cations in the soil.
Other General notes: Do not allow undiluted product or large quantities of this material to reach ground water, water course, or sewage system.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal: Dispose of in an approved disposal facility in accordance with all municipal, provincial, and federal regulations. Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Container Disposal: Non-refillable container. Do not reuse or refill this container. Triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke. Contact the nearest State Pesticide or Environmental control Agency, or the Hazardous Waste representative at the nearest EPA regional office for guidance.

SECTION 14: TRANSPORT INFORMATION

UN Number: Not regulated by DOT, IATA or IMDG
UN Proper Shipping Name: Not applicable
DOT Classification: Not applicable; no label or placard required
B/L Freight Classification: Not regulated
International Transportation: Not applicable
HAZARD CLASSIFICATION (0 minimal, 1 slight, 2 moderate, 3 serious, 4 severe)
NFPA: HEALTH 0 FIRE 0 REACTIVITY 0

SECTION 15: REGULATORY INFORMATION

15.1 US FEDERAL REGULATIONS

UN Number: Not regulated by DOT, IATA or IMDG
UN Proper Shipping Name: Not applicable

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DOT Classification: Not applicable; no label or placard required

B/L Freight Classification: Not regulated

International Transportation: Not applicable

HAZARD CLASSIFICATION (0 minimal, 1 slight, 2 moderate, 3 serious, 4 severe)

NFPA: HEALTH 0 FIRE 0 REACTIVITY 0

15.2 INTERNATIONAL REGULATIONS

Canada: No additional information available.

EU Regulations: No additional information available.

15.1.2 NATIONAL REGULATIONS

SARA 302 Components: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards: No SARA Hazards

Massachusetts Right To Know Components: No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components:

Humic Acid

New Jersey Right To Know Components:

Humic Acid

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: OTHER INFORMATION

The directions for use of this product are believed to be adequate and must be followed carefully. The use of this product is beyond the control of the manufacturer, and, therefore, to the extent consistent with applicable law, no warranty, representation, or guarantee of any kind, expressed or implied, is made as to the effects of such use or any results obtained if not used in accordance with printed directions and established safe practice or if unusual or extraordinary weather conditions occur. To the extent consistent with applicable law, the buyer's exclusive remedy and manufacturer's or seller's exclusive liability in tort or otherwise, shall be limited, at the manufacturer's option, to replacement of, or the repayment of the purchase price for, the quantity of product with respect to which damages are claimed.

The information and recommendations contained herein are based upon data believed to be correct. However there is no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein.