



Acidifier/Buffering Agent

DESCRIPTION

FBS Harmony™ is a citric acid-based acidifier/buffering agent specifically designed to lower the pH of tank mixes to achieve an ideal compatibility among nutrients and crop protection chemicals.

DIRECTIONS FOR USE

FBS Harmony is compatible with a wide range of nutrient and crop protection materials that may be applied as a tank mix solution. A standard quart jar test is always recommended before tank mixing other materials. Specific use rates will vary with conditions such as total water volume, pH of other materials added, or amount of bicarbonates or carbonates in the water. In most cases the ideal pH for compatibility and ideal nutrient uptake is between a pH of 4.5 and 5.5. Use enough **FBS Harmony** to adjust the final tank mix pH to the desired level. Water pH should be monitored and checked before and after introduction of **FBS Harmony** to ensure desired pH adjustment. A pH that is higher than 8 will need increasingly more buffer to achieve desired pH levels. Always read the labels of each crop protection product in the tank mix. Make sure that the desired target pH is also in the ideal pH range of all crop protection products.

RATES & TIMING

Chemigation: Use **0.5-2 quarts** per 100 gal of finished solution.
Tank Mix Buffer: Use **1-2 quarts** per 100 gal of finished spray solution. To adjust the pH of spray solution to 4.5-5.5, add 4-64 oz of **FBS Harmony** per 100 gallons of spray solution. When using **FBS Sciences' Phosron™ Foliar** (7-21-3) and other **FBS Sciences' foliar** products the ideal final pH of the tank mix is between 4.5 and 5.5. This can be achieved by adding 1 quart of **FBS Harmony** for each 2 quarts of **Phosron Foliar**.

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/>.

FBSciences Inc.

153 N. Main St, Suite 100 Collierville, TN 38017 USA

2.50 US Gal / 9.46 Liters

10.01 lbs per Gallon @ 68° F

1.20 kg per Liter @ 20° C

Net Wt. 25.02 lb / 11.35 kg

PRINCIPAL FUNCTIONING AGENTS

Citric Acid	40.00%
Constituents Ineffective As Spray Adjuvants	60.00%
Total	100.00%

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

Causes serious eye irritation. Contact with skin may cause irritation.

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 and obtain medical attention immediately if breathing becomes difficult.

NOT FOR AQUATIC USE

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

STORAGE: Store from freezing. Store only in original, tightly sealed container and out of reach of children.

PRODUCT DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Triple rinse (or equivalent) during mixing and loading. Recycling decontaminated containers is the best option of container disposal.

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V062618



FBS Harmony

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 Harmony
Product Number: FBS1096
Active Ingredient (%): Citric Acid
Recommended Use: Acidifier/buffering agent

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

Uses of the Substance/Mixture: 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 (29 CFR 1910.1200).

Skin Irritation: 2 H315 - Causes skin irritation
Eye Irritation: 2A H319 – Causes serious eye irritation

2.2 LABEL ELEMENTS

Pictograms



Signal word: Warning

Hazard statement(s):

H315 Causes skin irritation
H319 Causes serious eye irritation

Precautionary statement(s):

P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313	If eye irritation persists: Get medical advice/ attention.
P301+P330	IF SWALLOWED: Rinse mouth.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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>
Citric Acid	20-45%*	77-92-9

**exact percentage withheld as confidential business information*

SECTION 4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

General information: Contact with eyes or skin may cause irritation. Undiluted material will be irritating on direct eye contact. If ingested, a small quantity may cause nausea, diarrhea or stomach discomfort. Clothing should be thoroughly washed before re-use. 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 with soap and plenty of water.

In case of eye contact: Flush eyes with water immediately with plenty of water for at least 15 minutes. 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 MEDIAL 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: no data available

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. Full contact material: Nitrile rubber. Minimum layer thickness: 0.11mm.

Eye protection: Safety glasses with side shields.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Amber
Odor:	Slight Citrus
Vapor Pressure:	Greater than 1.0 @ 100°C
Vapor Density:	(Air = 1) Not available.

pH:	Not available
Relative Density:	H ₂ O=1 1.20 @ 20°C
Melting Point:	Not available.
Freezing Point:	Not available.
Solubility in Water:	Complete
Solubility in alcohols:	Not available.
Boiling Point:	Not available.
Flash Point & Method:	Non-flammable
Evaporation Rate:	Non-volatile
Flammability:	Non-flammable
Flammable Limits:	Not available. LEL: Not available. UEL: Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Viscosity:	Not available.

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

Strong oxidizers, Bases, Reducing agents, Nitrates.

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>
Citric Acid	5,400 mg/kg (rat)	>2,000mg/kg (rat)	No data available
<u>Toxicologically Synergistic Products:</u> 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
Eye Irritation:	Irritating to eyes

Skin Sensitization:

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

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.
Toxicity to fish mortality LC50 - *Leuciscus idus melanotus* - 440 mg/l - 48 h
Persistence and Degradability: No information available
Bioaccumulation/ Accumulation: No information available.
Mobility: No information available.

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.
Container Disposal: Non-refillable container. Do not reuse or refill this container.

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 1 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
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 1 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: Acute Health Hazard.

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

Pennsylvania Right To Know Components:

Citric Acid CAS-No. 77-92-9

New Jersey Right To Know Components:

Citric Acid CAS-No. 77-92-9

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.