

MADE WITH **SeaXtra** SEAWEED EXTRACT AND **H<sub>3</sub>O<sup>+</sup>**

# Multi-Purpose Plus™ 4-0-2

A BIOPRO COMBINATION PRODUCT

## Benefits of Use:

- Improves environmental stress tolerance
- Optimizes root vitality
- Improves water use efficiency
- Minimizes localized dry spots
- Delays wilt
- Provides rapid, lasting color
- Optimizes winter dormancy recovery and accelerates spring green up

## Problems Conditions Improved:

- Shallow, weak root structure
- Localized dry spots
- Drought stress and wilt
- Poor turf establishment due to insufficient watering
- Winter desiccation
- Micronutrient deficiencies

Multi-Purpose Plus (4-0-2) is the next generation of combination liquids for turf and ornamentals. It contains SeaXtra™ Seaweed Extract, H<sub>3</sub>O Plus soil moisture management technology, a natural based surfactant, and micronutrients with superior chelation. This affordable, non-burning formulation is designed with the highest quality standards to assure consistent, long-lasting, fast performance. When applied at recommended rates Multi-Purpose Plus will supply enough SeaXtra and H<sub>3</sub>O Plus to achieve maintenance levels under their respective programs. Used as part of a regular maintenance program Multi-Purpose Plus will enhance color, improve soil water performance, and optimize root vitality for superior quality turf.



2.5 Gal. Jug (9.46 L)  
Net Wt. 27.8 lbs. (12.6 kg)  
Model No. 57614



30 Gal. Drum (113.6 L)  
Net Wt. 333.9 lbs. (151.5 kg)  
Model No. 57615



275 Gal. Tote (1,041 L)  
Net Wt. 3,060.8 lbs. (1,388.4 kg)  
Model No. 57616

**BIOPRO**<sup>®</sup>  
TECHNOLOGIES

# Multi-Purpose Plus™

# 4-0-2

F002182

**Made with H30 Plus™** - a proprietary blend of hygroscopic and humectant compounds that attracts and holds free water molecules from the air within the soil matrix, and efficiently transfers them to the roots of plants. This mechanism makes more water available to the roots, reducing overall watering requirements.

**Made with SeaXtra™** - a superior quality seaweed extract derived from *Ascophyllum nodosum*.

## APPLICATION INSTRUCTIONS:

Multi-Purpose Plus (4-0-2) can be applied through fertigation or conventional spray. It can be applied alone or tank mixed with other products.

## TURF:

Apply 6 oz. of product in 1 to 2 gallons of water per 1,000 sq. ft. of turf every 2 weeks, or 2 gallons of product in 40-80 gallons of water per acre every 2 weeks. Use large droplet nozzles and water lightly to assure movement into the soil.

## GREENHOUSE, NURSERIES, ORNAMENTALS:

Dilute with water at rate of 3.75 to 6 oz. per gallon of water. Drench or saturate planting media.

### WARNING



CAUSES SERIOUS EYE IRRITATION. CAUSES SKIN IRRITATION HARMFUL IF SWALLOWED. MAY CAUSE RESPIRATORY IRRITATION. MAY CAUSE AN ALLERGIC SKIN REACTION.

**PRECAUTIONARY STATEMENTS:** Keep out of reach of children. Read label before use. If medical advice is needed, have product container or label at hand. Avoid breathing mist or spray. Use only outdoors or in a well-ventilated area. Do not get in eyes, on skin, or on clothing. Recommended PPE: Wear protective gloves, protective clothing, eye protection, face protection, and other personal protective equipment as required.

**FIRST AID: IF SWALLOWED:** Call a poison center and/or doctor if you feel unwell. **IF INHALED:** Remove person to fresh air and keep comfortable for breathing. **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and able to do so. Continue rinsing eyes. Seek medical attention if eye irritation persists. **IF ON SKIN:** Rinse skin with water or shower.

**STORAGE & DISPOSAL:** Store between 40°-120°F. Avoid direct heat or fire. Decomposition may occur at high temperatures. Avoid freezing. Dispose of contents/container in accordance with local/regional/national and international regulations.

Refer to product SDS for additional safety instructions.

## Guaranteed Analysis:

Total Nitrogen (N) .....	4.00%
3.50% Nitrate Nitrogen	
0.50% Urea Nitrogen	
Soluble Potash (K <sub>2</sub> O) .....	2.00%
Calcium (Ca) .....	3.00%
Magnesium (Mg) .....	0.80%
0.80% Soluble Magnesium	
Iron (Fe) .....	2.12%
2.12% Chelated Iron	
Manganese (Mn).....	0.55%
0.55% Chelated Manganese	

## Derived From:

Urea, Calcium Nitrate, Potassium Hydroxide, Magnesium Nitrate, Iron Citrate, Manganese Citrate.

## ALSO CONTAINS NONPLANT FOOD INGREDIENTS:

2.00% Seaweed Extract (*Ascophyllum nodosum*) (microbe food)  
14.58% Humectants (sugar alcohols, polysaccharides and neutral salts of alpha-hydroxypropionic acid)  
2.70% Nonionic Surfactant

Chlorine (Cl)...not more than..1.00%

## Physical Characteristics:

11.13 lbs./gal. @ 68°F (0.45 lbs. N/gal.)

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

Information about the components of this lot of fertilizer may be obtained by writing to BioPro Technologies, LLC, 4060 SE 45th Court, Ocala, FL 34480

4060 SE 45th Court • Ocala, FL 34480 • 352-390-6502

[www.BioProTechnologies.com](http://www.BioProTechnologies.com)

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**BIO PRO**  
TECHNOLOGIES

# SAFETY DATA SHEET

FILE NO.: BPTMNP0005-2017Q3

NAME OF PRODUCT: **Manganese Plus™ 0-0-0-5Mn**

Preparation Date: 12/3/2002

Revision: 8/31/2017

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT CODES:** BPT-MNP0005  
**PRODUCT NAME:** Manganese Plus (0-0-0-5Mn)  
**SYNONYMS:** plant micronutrient, Manganese

**MANUFACTURER:** BioPro Technologies, LLC  
**ADDRESS:** 4060 SE 45<sup>th</sup> Court, Ocala, FL 34480

**EMERGENCY PHONE:** (888) 545-6307

**CHEMTREC PHONE:**

**OTHER CALLS:** (352) 620-2020

**FAX PHONE:** (352) 620-0312



**PRODUCT USE:** Turf management

**PREPARED BY:** E.F. Wilson III

## SECTION 2: HAZARDS IDENTIFICATION

### GHS CLASSIFICATION:

<b>Health:</b> Eye Effects: Category 2(a) Skin Irritation: Category 2 Acute Toxicity, Oral: Category 4	<b>Environmental:</b> Acute Aquatic Toxicity: Unknown	<b>Physical:</b> No Physical Hazards Present
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<b>GHS Pictogram:</b> 	<b>ANSI/Old Pictogram:</b> 	<b>Signal Word:</b> Warning
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<b>Hazard Statements:</b> H303 – May be harmful if swallowed. H315 – Causes Skin Irritation H320 - Causes eye irritation.	<b>Precautionary Statements:</b> P101: If medical advice is needed, have product container or label at hand P102: Keep out of reach of children P103: Read label before use P261: Avoid breathing mist/spray P262: Do not get in eyes, on skin, or on clothing P271: Use only outdoors or in a well ventilated area P280: Wear protective gloves/protective clothing/eye protection/face protection P281: Use personal protective equipment as required  If on skin: Rinse skin with water/shower, wash contaminated clothing before reuse. (P353+P363)  If swallowed: Call a poison center and/or doctor if you feel unwell. Rinse Mouth. Induce vomiting. (P301+P312+P330)  If inhaled: Remove person to fresh air and keep comfortable for breathing. (P304+P340)  If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and able to do so. Continue rinsing eyes. Seek medical attention if eye irritation persists. (P305+P313+P337+P351+P338)
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## SECTION 2 NOTES:

Physical Description (also see Section 9): Dark brown liquid

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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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### INGREDIENTS\*:

Ferrous Sulfate – CAS# 7720-78-7

Manganese Sulfate – CAS# 7785-87-7

Seaweed extract – Ascophyllum Nodosum – CAS# 84775-78-0

Chelated with organic acids

\*AS PER 29 CFR §1910.1200, THE SPECIFIC CHEMICAL IDENTITY AND/OR EXACT PERCENTAGE (CONCENTRATION) OF COMPOSITION HAS BEEN WITHHELD AS A TRADE SECRET.

## SECTION 3 NOTES:

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## SECTION 4: FIRST AID MEASURES

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**IF INHALED:** Remove victim from contaminated atmosphere.

**IF ON SKIN (OR HAIR):** Remove any contaminated clothing. Wash affected area with mild soap and water. Get medical attention if irritation persists or develops. Launder contaminated clothing before reuse.

**IF IN EYES:** Immediately flush eyes with plenty of water for at least 15 minutes. Continue rinsing. Remove contact lenses, if present and easy to do. Hold eyelids apart during irrigation to ensure thorough flushing of the entire area of the eye and lids with water. If eye irritation persists: Get medical advice/attention if irritation persists.

**IF SWALLOWED:** Give 2 or 3 glasses of water to drink. Induce vomiting by touching back of throat with finger. Get immediate medical attention.

**SECTION 4 NOTES:** In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). No specific antidote; treat symptomatically.

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## SECTION 5: FIRE-FIGHTING MEASURES

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**FLAMMABLE PROPERTIES:** NON-FLAMMABLE

**FLASH POINT:** SAMPLE BEGINS TO BOIL BUT NO FLASH IS OBSERVED

**AUTOIGNITION TEMPERATURE:** NOT APPLICABLE, MIXTURE WILL NOT AUTOIGNITE

### NFPA HAZARD CLASSIFICATION

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 0

OTHER: 0

**EXTINGUISHING MEDIA:** Water spray, dry chemical, carbon dioxide, or foam.

**SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS:** Fire fighters should wear full protective equipment and self-contained breathing apparatus. Prevent runoff from entering water systems. Keep non-essential personnel out of fire area.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Containers exposed to fire may rupture violently. Keep containers cool with water spray.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of nitrogen and sulfur; hydrogen sulfide

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

**ACCIDENTAL RELEASE MEASURES:** Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**ENVIRONMENTAL PRECAUTIONS:** Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. If spill is of major proportions soil may need to be evacuated.

**CONTAINMENT METHODS AND CLEANUP:** Stop the flow of material, if this is without risk.

Large Spills: Dike to prevent spill from entering water systems. Recover as much solution as possible.

Small Spills: Wear protective equipment. Prevent spill from entering water systems. Absorb spill on inert material such as clay, vermiculite or kitty litter. Place absorbed material into labeled container for proper disposal.

## SECTION 7: HANDLING AND STORAGE

**HANDLING AND STORAGE:** Avoid contact with skin/eyes/clothing. Do not take internally. Wash after handling. Do not dispose of equipment wash waters, contaminating waters. Store in a cool, dry area preferably locked and out of reach of children and animals.

**OTHER PRECAUTIONS:** THIS PRODUCT IS FOR AGRICULTURAL AND HORTICULTURAL USE ONLY AND IS NOT INTENDED FOR OTHER APPLICATIONS. USE NORMAL SAFE HANDLING PROCEDURES AS WITH ALL CHEMICALS. SEE LABEL FOR APPLICATION INSTRUCTIONS AND DIRECTIONS FOR USE.

**SECTION 7 NOTES:** Store locked up. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (see Section 10 of the SDS).

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Use in open, outdoor areas only.

**VENTILATION :** Provide adequate ventilation.

**RESPIRATORY PROTECTION:** In confined areas, NIOSH/MSMA approved respirator.

**EYE PROTECTION:** Safety glasses/goggles/face shield recommended to prevent splash from concentrated material.

**SKIN PROTECTION:** Impervious gloves (ex. Nitrile 0.11mm thickness), clothing and boots suggested.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT:** Wear suitable protective clothing. Wash contaminated clothing prior to reuse. In case of insufficient ventilation, wear suitable respiratory equipment.

**WORK HYGIENIC PRACTICES:** When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**EXPOSURE GUIDELINES:** Occupational limits not established for this product. ACGIH limits for ammonia are TWA 25 ppm and STEL 35 ppm; OSHA limit for ammonia is 35ppm STEL.

### EXPOSURE GUIDELINES:

*[Numbers represent mg/M3 unless otherwise indicated].*

Ingredient	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	TWA	STEL	TWA	STEL	TWA	STEL	
Ferrous Sulfate	NA	NA	1	NA	1	2	NA
Manganese Sulfate	NA	NA	5	NA	NA	NA	NA

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:** Dark brown liquid

**ODOR:** Slight odor

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**PHYSICAL STATE:** Liquid

**pH AS SUPPLIED:** 1.4 – 1.6

**WEIGHT:** 10.47 lbs. per gal. (1.25 kg/L)

**BOILING POINT:**

F: 212F

C: 100C

**MELTING POINT/FREEZING POINT:**

F: 32F

C: 0C

**VAPOR PRESSURE (mmHg):** N/A

**VAPOR DENSITY (AIR = 1):** Unknown

**DENSITY (g/cm3):** 1.3

**SPECIFIC GRAVITY (H2O = 1):** 1.25

**EVAPORATION RATE:** Not determined.

**BASIS (=1):**

**SOLUBILITY IN WATER:** Soluble

**PERCENT VOLATILE:** NO VOLATILITY PRESENT

**VOLATILE ORGANIC COMPOUNDS (VOC):** NONE

**MOLECULAR WEIGHT:** NO DATA PRESENT

**VISCOSITY:** Not determined

**SECTION 9 NOTES:**

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## SECTION 10: STABILITY AND REACTIVITY

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**STABILITY:** Stable under normal conditions of use and storage. DO NOT FREEZE.

**CONDITIONS TO AVOID (STABILITY):** Extreme heat. Freezing temperatures.

**INCOMPATIBILITY (MATERIAL TO AVOID):** None Known.

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Oxides of nitrogen and sulfur; hydrogen sulfide.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**CONDITIONS TO AVOID:** Temperatures above 120°F (49°C) and below 32°F (0°C).

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## SECTION 11: TOXICOLOGICAL INFORMATION

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**TOXICOLOGICAL INFORMATION:** Not determined; no data available.

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## SECTION 12: ECOLOGICAL INFORMATION

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**ECOLOGICAL INFORMATION:** Accidental spills of undiluted product may cause vegetation kills. Keep out of any body of water; may harm aquatic life. Keep out of any body of water.

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## SECTION 13: DISPOSAL CONSIDERATIONS

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**WASTE DISPOSAL METHOD:** Consult local, state or federal regulatory agencies for acceptable disposal procedures and locations. Disposal in waterways or sewers may be prohibited.

**HAZARDOUS WASTE CODE:** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**RCRA HAZARD CLASS:** NOT APPLICABLE

## SECTION 14: TRANSPORT INFORMATION

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### U.S. DEPARTMENT OF TRANSPORTATION

**PROPER SHIPPING NAME:** Manganese Plus 0-0-0-5Mn

**HAZARD CLASS:**

**ID NUMBER:**

**PACKING GROUP:**

**LABEL STATEMENTS:**

### OCEAN/WATER TRANSPORTATION

**PROPER SHIPPING NAME:** Manganese Plus 0-0-0-5Mn

### AIR TRANSPORTATION

**PROPER SHIPPING NAME:** Manganese Plus 0-0-0-5Mn

**OTHER AGENCIES:**

**SECTION 14 NOTES:**

## SECTION 15: REGULATORY INFORMATION

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**EPA Regulations:** Not regulated by EPA under FIFRA or FQPA.

**OSHA Regulations:** Refer to Sections 2 & 8.

**State Regulations:** Check with specific state authorities since regulations vary within the states.

**Other Regulations:** Ferrous sulfate is a Section 304 chemical (CERCLA RQ=1,000 lbs.).

**SARA Title III; Sections 311/312:** Sudden Release of Pressure (0), Reactivity (0), Fire (0), Immediate (Acute) Health (Y), Delayed (Chronic) Health (N).

**SECTION 15 NOTES:**

## SECTION 16: OTHER INFORMATION

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**OTHER INFORMATION:**

**PREPARATION INFORMATION:**

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