



MADE WITH

Iron Plus MnTM 12-0-0

with 6% Iron (Fe) and 2% Manganese (Mn)

A BIOPRO MICRONUTRIENT

Benefits of Use:

- Improved color
- Rapid response from foliar uptake
- Enhanced uptake from citric acid chelation
- Increased turf vigor
- Optimizes natural root development

Problems Addressed:

- Off-color or chlorotic turf due to iron deficiency
- Landscape situations that necessitate rapid color response
- Chlorotic landscape ornamentals

Iron Plus Mn (12-0-0) with SeaXtra is a formulation of essential iron, manganese, sulfur, nitrogen and seaweed extracts. Iron Plus Mn is designed for foliar application to correct and prevent iron and manganese deficiencies in turfgrasses, trees, shrubs and woody ornamentals. The iron and manganese are chelated with citric acid to improve nutrient availability and uptake.



2.5 Gal. Jug (9.46 L)
Net Wt. 28.7 lbs. (13.1 kg)
Model No. 57198



30 Gal. Drum (113.6 L)
Net Wt. 343.8 lbs. (155.9 kg)
Model No. 57199



275 Gal. Tote (1,041 L)
Net Wt. 3,151.5 lbs. (1,429.5 kg)
Model No. 57205



Iron Plus Mn™

12-0-0

with 6% Iron (Fe) and 2% Manganese (Mn)

F002182

APPLICATION INSTRUCTIONS:

Iron Plus Mn (12-0-0) can be applied through fertigation or foliar spray. It can be applied alone or tank mixed with other products. Shake well before using.

GREENS & TEES:

Apply 3 to 6 oz. of Iron Plus Mn diluted in 1 gallon water per 1,000 sq. ft. (1 to 2 gallons in 40 gallons of water per acre) every two weeks. To maximize performance, rates may be split into weekly applications.

FAIRWAYS, LAWNS, ATHLETIC FIELDS AND OTHER TURF:

Apply 6 to 12 oz. of Iron Plus Mn diluted in 1 gallon of water per 1,000 sq. ft. (2 to 4 gallons in 40 gallons of water per acre) per month. To maximize performance, rates may be split into weekly or bi-weekly applications.

EVERGREENS, DECIDUOUS SHRUBS, TREES & PALMS:

Mix 1 gallon of Iron Plus Mn diluted in 100 gallons of water and spray foliage to the point of runoff. Best results will occur when applied to actively growing foliage during periods of high humidity and low plant stress (early mornings, late afternoons and cloudy days are preferable to hot, dry conditions).

COMPATIBILITY: Do not mix with high phosphate fertilizers. Perform a standard "jar test" to check compatibility with other products before mixing.

CAUTION: Iron Sulfate will discolor surfaces such as tile, rock, masonry, etc. Avoid contact with these surfaces. If contact is made, immediately wash with large volumes of water.



WARNING

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

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.

DO NOT APPLY NEAR WATER, STORM DRAINS, OR DRAINAGE DITCHES. DO NOT APPLY IF HEAVY RAIN IS EXPECTED. APPLY THIS PRODUCT ONLY TO YOUR LAWN/GARDEN, AND SWEEP ANY PRODUCT THAT LANDS ON THE DRIVEWAY, SIDEWALK, OR STREET, BACK ONTO YOUR LAWN/GARDEN.

Guaranteed Analysis:

Total Nitrogen (N)	12.00%
12.00% Urea Nitrogen	
Sulfur (S)	3.46%
Iron (Fe)	6.03%
6.03% Chelated Iron	
Manganese (Mn).....	2.00%
2.00% Chelated Manganese	

Derived From:

Urea, Ferrous Sulfate*, Manganese Sulfate*

*Chelated with Citric Acid

ALSO CONTAINS NONPLANT FOOD INGREDIENTS:

1.15% Seaweed Extract (Ascopyllum nodosum) (microbe food)

Physical Characteristics:

11.46 lbs./gal @ 68°F. (1.38 lbs. N/gal. and 0.69 lbs. Fe/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

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R20200715

BIOPRO
TECHNOLOGIES

SAFETY DATA SHEET

FILE NO.: BPTIPMN-2020Q1

NAME OF PRODUCT: **Iron Plus Mn™ 12-0-0 (6Fe-2Mn)** Preparation Date: 12/13/2016

Revision: 03/20/2020

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT CODES: BPT-IP15006
PRODUCT NAME: Iron Plus Mn 12-0-0 (6Fe – 2Mn)
SYNONYMS: plant nutrient blend, nitrogen fertilizer with iron and manganese

MANUFACTURER: BioPro Technologies, LLC
ADDRESS: 4060 SE 45th 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:

Health: Eye Effects: Category 2(a) Skin Irritation: Category 2 Acute Toxicity, Oral: Category 4	Environmental: Acute Aquatic Toxicity: Unknown	Physical: No Physical Hazards Present
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GHS Pictogram: 	ANSI/Old Pictogram: 	Signal Word: Warning
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Hazard Statements: H302 - Harmful if swallowed. H315 – Causes Skin Irritation H319 - Causes serious eye irritation.	Precautionary Statements: 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 P353: Rinse skin with water/shower P363: Wash contaminated clothing before reuse. If swallowed: Call a poison center and/or doctor if you feel unwell. Rinse Mouth. (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 brownish-green liquid; slight odor.

Medical Conditions Aggravated by Long-Term Exposure: Persons with existing skin lesions should exercise caution when using or handling this product. These individuals should also avoid all contact with possible spray mist.

Chronic Effects: Prolonged or repeated skin contact may cause dermatitis.

Acute Effects: Ingestion may cause abdominal cramps, nausea, vomiting, and/or diarrhea.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS*:

Urea –	CAS# 57-13-6	<30%
Ferrous Sulfate –	CAS#	<10%
Manganese Sulfate –	CAS# 7785-87-7	<10%
Seaweed extract – Ascophyllum Nodosum –	CAS# 84775-78-0	<5%
Potassium Fulvate -	CAS# 479-66-3	<5%

Contains organic acid chelating agents

*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:

SECTION 4: FIRST AID MEASURES

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. If eye irritation persists: Get medical advice/attention.

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.

SECTION 5: FIRE-FIGHTING MEASURES

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: 1 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: Heating (flames) of closed or sealed containers may cause violent rupture of container due to thermal expansion of compressed gases. Keep containers cool with water spray.

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HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of nitrogen and sulfur, hydrogen sulfide.

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.

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. Dispose of in accordance with local, State, and Federal laws and regulations; see Section 13.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Do not ingest. Avoid breathing mist or vapor. Avoid contact with skin, eyes, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Observe good industrial hygiene practices. Wash hands thoroughly after handling. Store in a cool, dry, locked area 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:

[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	2	1	NA	NA

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Dark brownish-green

ODOR: Slight odor

PHYSICAL STATE: Liquid

pH AS SUPPLIED: 2.92 @ 24°C

WEIGHT: 11.46 lbs. per gal. (1.38 kg/L)

BOILING POINT:

F: 212

C: 100

MELTING POINT/FREEZING POINT:

F: 32

C: 0

VAPOR PRESSURE (mmHg): Unknown

VAPOR DENSITY (AIR = 1): Unknown

DENSITY (g/cm³): 1.4

SPECIFIC GRAVITY (H₂O = 1): 1.374

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:

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID (STABILITY): Avoid extreme heat. Do not freeze.

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).

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: Not determined; no data available.

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SECTION 12: ECOLOGICAL INFORMATION

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

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

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

U.S. DEPARTMENT OF TRANSPORTATION

PROPER SHIPPING NAME: Iron Plus Mn 12-0-0

HAZARD CLASS: Not regulated

ID NUMBER:

PACKING GROUP:

LABEL STATEMENTS:

OCEAN/WATER TRANSPORTATION

PROPER SHIPPING NAME: Iron Plus Mn 12-0-0

AIR TRANSPORTATION

PROPER SHIPPING NAME: Iron Plus Mn 12-0-0

OTHER AGENCIES:

SECTION 14 NOTES:

SECTION 15: REGULATORY INFORMATION

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

OSHA Regulations: Refer to Sections 2 & 8.

State Regulations: Urea appears on the CA & MN RTK Chemical Lists. Check with specific state authorities since regulations vary within the states.

Other Regulations: Ferrous sulfate is a Section 304 Chemical; (CERCLA RQ= for each=1,000 lbs.).

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

SECTION 15 NOTES:

SECTION 16: OTHER INFORMATION

OTHER INFORMATION:

PREPARATION INFORMATION:

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