

ArborPlex[®]

14-4-5

With Slow Release Nitrogen

A BIOPRO SPECIALTY BLEND

Benefits of Use:

- Consistent, extended feeding
- Improved stress tolerance
- Provides essential micronutrients
- Improved vigor, especially in urban trees
- Promotes both root and shoot growth
- Enhances transplant survival

Problems Addressed:

- Nutrient deficiencies
- Loss of vigor
- Adverse growing conditions
- Depleted soils

ArborPlex (14-4-5) is a liquid nutrient solution designed to promote optimum tree and shrub health. 7.05% Slow release nitrogen (half of the total N) is supplied from a urea-triazone solution, which provides consistent, extended feeding. A high quality source of phosphorus improves availability within the soil to enhance root development. Potassium is supplied as potassium hydroxide (KOH), providing higher solubility and low salt index. ArborPlex also contains fully chelated micronutrients to enhance color and relieve deficiency symptoms.



2.5 Gal. Jug (9.46 L)
Net Wt. 26.4 lbs. (12.0 kg)
Model No. 57513



30 Gal. Drum (113.6 L)
Net Wt. 316.8 lbs. (143.7 kg)
Model No. 57514



275 Gal. Tote (1,041 L)
Net Wt. 2,904.0 lbs. (1,317.2 kg)
Model No. 57516

BIOPRO[®]
TECHNOLOGIES

APPLICATION INSTRUCTIONS:

ArborPlex can be applied through soil drench, root injection or foliar feeding. It may be applied alone or tank mixed with other products. Shake well before using.

ROOT ZONE INJECTION:

Dilution Rate: Mix 1.25 gallons (160 oz.) of ArborPlex per 100-gallon tank. Apply 2-4 times per year or as needed.

Operating pressure: 150 – 200 lbs PSI or ½ gal per 4 seconds

Area Method:

Trees: Apply 50 gallons of solution per 1,000 sq. ft. Inject 4-8 inches into the soil where the feeder roots typically occur. Begin injections 1-3 feet out from the trunk to avoid injury to large roots and work in a grid pattern away from the tree to within 2 feet of the drip line. Apply 1 pint (16 fl. oz.) of diluted solution per injection site at 18 inch spacing or ½ gallon (64 fl. oz.) of diluted solution per injection site at 3 foot spacing.

Shrubs: Apply 50 gallons of solution per 1,000 sq. ft. Inject one pint (16 fl. oz.) of diluted solution per injection site. Inject 4-6 inches into the soil with 18 inch spacing between injections.

DBH Method: Use the chart below to determine the volume of diluted solution to apply per inch of trunk diameter at breast height (DBH).

Tree Size (DBH Inch)	Diluted Solution / Inch DBH
Very Small (1-4")	0.5 gallon (64 fl. oz)
Sm (5-7")	1 gallon
Sm - Med (8-11")	1.5 gallons
Medium (12-15")	2 gallons
Med – Lrg (15-19")	2.5 gallons
Large (20+")	3 gallons

FOLIAR FEEDING:

To correct deficiencies that may occur during the season, mix 2 to 3 quarts of ArborPlex with 100 gallons of water. Spray the mixture onto the foliage until it begins to drip off. Do not foliar feed during drought conditions or when air temperature exceeds 85°F.

COMPATIBILITY: Perform a standard "jar test" to check compatibility with other products before mixing.



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.

Guaranteed Analysis:

Total Nitrogen (N)	14.00%
1.40% Ammoniacal Nitrogen	
0.95% Nitrate Nitrogen	
4.60% Urea Nitrogen	
7.05% Other Water Soluble Nitrogen*	
Available Phosphate (P ₂ O ₅)	4.00%
Soluble Potash (K ₂ O)	5.00%
Iron (Fe)	0.10%
0.10% Chelated Iron	
Manganese (Mn).....	0.05%
0.05 Chelated Manganese	
Zinc (Zn).....	0.05%
0.05% Chelated Zinc	

Derived From:

Urea, Urea-Triazone Solution, Ammonium Nitrate, Anhydrous Ammonia, Phosphoric Acid, Potassium Hydroxide, Ferrous Citrate, Manganese Citrate, and Zinc Citrate.

*7.05% Slow Release Nitrogen from Urea-Triazone Solution

Physical Characteristics:

10.56 lbs./gal. @ 68°F (1.48 lbs. N/gal.,
0.42 lbs. P₂O₅ / gal., 0.53 lbs. K₂O/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

SAFETY DATA SHEET

FILE NO.: BPTAP1445-2019Q1

NAME OF PRODUCT: **ArborPlex™ 14-4-5**

Preparation Date: 12/13/2016

Revision: 02/28/2019

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT CODES: BPT-AP1445
PRODUCT NAME: ArborPlex 14-4-5
SYNONYMS: plant nutrient blend (14-4-5)

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(b) Respiratory Irritation: Category 3 Skin Irritation: Category 3 Acute Oral Toxicity: Category 3	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. H316 - Causes mild skin irritation. H320 - Causes eye irritation H335 - May cause respiratory 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 dust/fume/gas/mist/vapors/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 If swallowed: Call a physician or Poison Control Center. If swallowed, DO NOT induce vomiting. If conscious, give large amounts of water to drink. 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.
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SECTION 2 NOTES:

Physical Description (also see Section 9): Dark brown liquid; slight ammonia 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. Ingestion may irritate gastrointestinal tract.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS*:

Urea – CAS# 57-13-6 - <40%
Tetrahydro-1,3,5-triazin-2(1H)-one – CAS# 7098-14-8 - <40%
Ammonium Nitrate – CAS# 6484-52-2 - >5<10%
Potassium Hydroxide – CAS# 1310-58-3 - <20%
Leonardite Shale – CAS# 68525-81-5 - <5%
Citric Acid – CAS# 77-92-9 - >5<10%
Phosphoric Acid – CAS# 7664-38-2 - >=5%

<1.00% of the following:

Iron Sulfate – CAS# 17375-41-6
Zinc Sulfate - CAS# 7446-19-7
Manganese Sulfate – CAS# 10034-96-5
Ammonium Hydroxide – CAS# 1336-21-6

*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 to fresh air. Get immediate medical attention.

IF ON SKIN (OR HAIR): Immediately flush with large quantities of water. Remove contaminated clothing under a safety shower. Continue rinsing. Obtain medical attention if irritation occurs.

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: Call a physician or Poison Control Center. If swallowed, DO NOT induce vomiting. If conscious, give large amounts of water to drink. Follow with diluted vinegar, fruit juice or white of eggs beaten with water. Get immediate medical attention.

SECTION 4 NOTES: Product is corrosive to eyes, skin, and internal organs

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

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

SPECIAL FIRE FIGHTING PROCEDURES: Prevent runoff from entering water systems. Keep non-essential personnel out of fire area. THERE ARE NO SPECIAL FIREFIGHTING PROCEDURES. COOL SEALED CONTAINERS TO REDUCE RISK OF RUPTURE DUE TO EXCESSIVE HEAT.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS: SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING MUST BE WORN IN CASE OF FIRE. MOVE CONTAINERS FROM FIRE AREA IF YOU CAN DO SO WITHOUT RISK. KEEP CONTAINERS/STORAGE VESSELS IN FIRE AREA COOLED WITH WATER SPRAY. MOVE CONTAINER FROM FIRE AREA IF POSSIBLE WITHOUT RISK.

UNUSUAL FIRE AND EXPLOSION HAZARDS: During fire, gases hazardous to health may be formed. Heating (flames) of closed or sealed containers may cause violent rupture of container due to thermal expansion of compressed gases. Vapors are irritating to eyes, skin and respiratory tract.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon and nitrogen.

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Keep people away from any upwind of spill/leak. Keep out of low areas. Keep unnecessary personnel away. 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: Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

CONTAINMENT METHODS AND CLEANUP: Stop the flow of material, if this is without risk.
Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite.
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 taste or swallow. Avoid breathing mist or vapor. Avoid contact with skin and eyes. 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 ventilation.

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

EYE PROTECTION: SPLASH PROOF GOOGLES ARE RECOMMENDED WHILE POURING AND HANDLING TO PREVENT EYE CONTACT FROM SPLASH.

SKIN PROTECTION: RUBBER GLOVES ARE RECOMMENDED FOR NORMAL CLEANLINESS.

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

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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	
Ammonium Nitrate	5*	NA	NA	NA	NA	NA	NA

*as respirable dust, if generated; also CA OSHA limit.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Dark brown liquid

ODOR: Slight ammonia odor

PHYSICAL STATE: Liquid

pH AS SUPPLIED: 7.6 @ 21.2C

WEIGHT: 10.56 lbs. per gal. (1.26 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): 1.3

SPECIFIC GRAVITY (H₂O = 1): 1.260

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:

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, phosphorus, and sulfur; hydrogen sulfide.

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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.

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: ArborPlex 14-4-5

HAZARD CLASS: Not regulated

OCEAN/WATER TRANSPORTATION

PROPER SHIPPING NAME: ArborPlex 14-4-5

AIR TRANSPORTATION

PROPER SHIPPING NAME: ArborPlex 14-4-5

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: The following appear on state RTK Chemical Lists: Potassium hydroxide: CA, FL, NJ & MN; urea: CA & MN; ammonium nitrate: FL & NJ; Check with specific state authorities since regulations vary within states.

Other Regulations: Section 304 chemicals: potassium hydroxide (CERCLA RQ=1,000 lbs.)

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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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