

# Technical Bulletin M2124

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## Plant Food 18-3-6 Product Specifications & MSDS

No. 92908

Plant Food 18-3-6, 2-1/2 Gallon



### Plant Food 18-3-6

Ideal for maintenance of established landscapes. A high nitrogen fertilizer with 9% of its nitrogen in a slow release form. Also contains a range of important micronutrients including Iron, Manganese, Zinc and Copper. 100% Chelated, these micronutrients are readily available for plant uptake which provides quick solutions for existing nutrient deficiencies. May be used on a variety of plant materials and is safe for use on tender plants, as well.

#### Guaranteed Analysis:

Total Nitrogen (N)	18%
	7.5% Urea Nitrogen
	1.5% Ammoniacal Nitrogen
	9.0% Slowly Available Water Soluble Nitrogen*
Available Phosphate (P2O5)	3%
Soluble Potash (K2O)	6%
Copper (Cu)	0.05%
	0.05% Chelated Copper (Cu)
Iron (Fe)	0.1%
	0.1% Chelated Iron (Fe)
Manganese (Mn)	0.05%
	0.05% Chelated Manganese (Mn)
Zinc (Zn)	0.05%
	0.05% Chelated Zinc (Zn)

#### Derived From:

Urea, Methylene Urea, Potassium Carbonate, Monoammonium Phosphate, Phosphoric Acid, Copper EDTA Chelate, Iron EDTA Chelate, Manganese EDTA Chelate, Zinc EDTA Chelate. Chelating Agent: EDTA

\*50% slowly available Nitrogen from Methylene Urea

Weight per gallon: 10.58 lbs. Potential acidity equivalent to 573 lbs. Calcium Carbonate per ton.

#### Product Description:

Growth Products 18-3-6 with 50% Slow Release Nitrogen plus micronutrients is a professional liquid fertilizer solution made from only the highest quality N-P-K raw materials and micronutrients to assure a safe, reliable and efficient product. 18-3-6 provides a balance of quick release nitrogen for initial green up and 50% slow release nitrogen for a continuous steady feeding. 18-3-6 contains methylene ureas from Nitro-30 (MDU), which resists leaching and provides a release over 8 to 12 weeks. The phosphorus and potassium are readily available for both foliar and root uptake. The K is a non chloride source. 18-3-6 provides fast green up without producing flush growth. Since all Growth Products are TRUE CLEAR SOLUTIONS, they are ideal for spray applications for turf, foliar feed and root injection of trees and ornamentals. Growth Products solutions are non-clogging and non-abrasive to equipment. No special agitation is needed. 18-3-6 is compatible with fungicides, herbicides and insecticides and can be mixed and sprayed in one application.

#### Suggested Uses:

Growth Products 18-3-6 liquid fertilizer is recommended for all turf grass applications, including Bentgrass, Rye, Fescues and warm season grass. 18-3-6 can be safely used on Rye overseeded areas. 18-3-6 is ideal for both foliar spray and soil injection of trees and shrubs. 18-3-6 is compatible with herbicides, fungicides and insecticides. No special agitation is needed.

#### Application Recommendations:

**Turf Applications:** Growth Products 18-3-6 liquid fertilizer can be applied throughout the growing season on warm, transitional and cool season grasses. Application can begin in early spring and continue through

#### Tech Support 800-430-5566

If you need more information or would like advice from an experienced professional, call our Technical Support team.

#### Sales 800-647-5368

Our sales department will gladly fax you an order form, update you on pricing, or take your order over the phone.

#### Online

[www.forestry-suppliers.com](http://www.forestry-suppliers.com)

For credit card and open account orders, visit our web site to place your order.



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fall at rates of 1/4 lb. to 1 lb. N (121 ml to 1.4 L) per 1,000 sq. ft. (100 m<sup>2</sup>), every 10 days to 4 week intervals, (or as needed). Dilute with water according to desired nitrogen rate per 1,000 sq. ft. (100 m<sup>2</sup>). (See dilution chart for application rates.)

### Nitrogen Per Ounce

9 oz.	1/8 lb.	2 week release rate
17 oz.	1/4 lb.	4 week release rate
22 oz.	1/3 lb.	6 week release rate
34 oz.	1/2 lb.	8 weeks release rate
51 oz.	3/4 lb.	10 week release rate
128 oz. (1 gal.)	1.9 lb.	

Apply per 1,000 sq. ft. at desired rate

**Tees & Greens:** Apply on greens and tees 17 to 22 oz. (1/4 to 1/3 lb. N) per 1,000 sq. ft. with a spray unit applying no less than 1 gal. tank mix per 1,000 sq. ft. This is the recommended rate for Bentgrass greens and tees. 18-3-6 is compatible with most technical turf products. Always use a jar test before mixing pesticides in your tank. In Southern areas where Rye overseeding is practiced, use 18-3-6 at a rate of 1/8 to 1/3 lb. nitrogen every 10 to 17 days to assure a steady and continuous source of nutrients.

### Turf Application in 100 Gal. of Tank Mix

Nitrogen Rate Per 1,000 Square Feet

If You Apply	1/4 lb. N	1/2 lb. N	3/4 lb. N	1 lb. N
5 Gal. Per 1,000 sq. ft.	2.6 gal.	5.3 gal.	7.9 gal.	10.5 gal.
4.5 Gal. Per 1,000 sq. ft.	2.9 gal.	5.8 gal.	8.8 gal.	11.7 gal.
4 Gal. Per 1,000 sq. ft.	3.3 gal.	6.6 gal.	9.8 gal.	13.1 gal.
3.5 Gal. Per 1,000 sq. ft.	3.8 gal.	7.5 gal.	11.3 gal.	15 gal.
3 Gal. Per 1,000 sq. ft.	4.4 gal.	8.8 gal.	13.1 gal.	17.5 gal.
2.5 Gal. Per 1,000 sq. ft.	5.3 gal.	10.5 gal.	15.8 gal.	21 gal.
2 Gal. Per 1,000 sq. ft.	6.6 gal.	13.1 gal.	19.7 gal.	26.3 gal.
1.5 Gal. Per 1,000 sq. ft.	8.8 gal.	17.5 gal.	26.3 gal.	35 gal.

### Tree Care Recommendations

**Root Application Rates:** For determining tree fertilization rates, measure the trunk diameter of the tree (DBH) 4-1/2 feet above ground. Growth Products liquid fertilizers should be injected into the top 4 to 8 inches of soil where feeder roots extend. Start application of fertilizer approximately 2 to 3 feet from tree trunk and extend the same distance from the drip line. A grid pattern should be laid out, and spacing should be every 2-1/2 ft. A minimum of 5 gallons of tank mix should be applied per inch of tree diameter. Inject approximately 1/2 gal. of fertilizer solution at each point.

### Application Rate At 75 Gallons Per 1,000 Square Feet

Tank Size	1/2 lb. N	1 lb. N	2 lbs. N
75 gal.	1/4 gal.	1/2 gal.	1 gal.
100 gal.	1/3 gal.	2/3 gal.	1-1/3 gal.
150 gal.	1/2 gal.	1 gal.	2 gal.
200 gal.	2/3 gal.	1-1/3 gal.	2-2/3 gal.
300 gal.	1 gal.	2 gal.	4 gal.
600 gal.	2 gal.	4 gal.	8 gal.
1,000 gal.	3-1/2 gal.	7 gal.	14 gal.

For ground area method measure below drip line of tree. Rates of 1/2 to 2 lbs. of nitrogen are recommended. Evergreens usually require slightly higher nitrogen rates than deciduous trees.

**Trees & Ornamentals:** Growth Products liquid fertilizers contain methylene urea, which has an extremely low salt index and resists leaching. 18-3-6 is a true solution and is ideal for root injection and for use through IPM units. Inject no lower than 8" below ground with correctly calibrated fertilizer injector equipment. See Injection Application Rate Chart.

### DBH Method

lbs. N Per Inch DBH	Quantity of 18-3-6 Per 100 Gallons of Water
1/18	73 oz.
1/12	110 oz.
1/6	1.75 gal.

Apply 5 gallons of tank mix per inch diameter. Always measure tree diameter at 4 -1/2 feet above ground.

### Storage & Handling:

**Storage:** All Growth Products professional liquid fertilizers can be stored in normal warehouse areas and are not affected by heat or freezing temperatures. 18-3-6 has a neutral pH and is neither corrosive or abrasive.

**Dilution:** 18-3-6 can be diluted by either adding the concentrate to water or the water to concentrate without any detrimental effects on the final product. Appropriate quantities of water should be added to the tank prior to adding pesticides, fungicides or herbicides. Never mix concentrated materials together without first diluting with water.

**Mixing:** High quality buffers allow 18-3-6 to be blended with acidic or alkaline materials. The following mixing procedures should be used after 18-3-6 has been diluted with water. Add products to mix in this order: 1. wettable powders, 2. flowables, 3. water solubles, 4. surfactants, 5. emulsifiable concentrates. Be sure to agitate during each addition before adding next. When mixing technical materials, check each product's mixing instructions. Apply all of mixture the same day.

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**MSDS Plant Food 18-3-6**

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GROWTH PRODUCTS, LTD. 914-428-1316  
P.O. BOX 1252  
WHITE PLAINS, NY 10602

**MATERIAL SAFETY DATA SHEET**

**SECTION ONE - PRODUCT DESCRIPTION**

TRADE NAME: GROWTH PRODUCTS  
NAME: 18-3-6 THE CLASSIC WITH  
50% SLOW RELEASE  
NITROGEN PLUS MICROS  
LIQUID FERTILIZER  
TYPE: SOLUTION  
APPLICATION: PROPRIETARY PRODUCT  
GROWTH PRODUCTS INC.

**SECTION TWO - HAZARDOUS INGREDIENTS**

THIS MATERIAL IS NOT A 'HEALTH HAZARD' OR A 'PHYSICAL HAZARD' AS DETERMINED WHEN REVIEWED ACCORDING TO THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION'S 29 CFR 1910.1200 'HAZARD COMMUNICATIONS' STANDARD.

CHEMICAL HAZARD RATING  
HEALTH = 1 (SLIGHT)  
FIRE = 0 (LEAST)  
REACTIVITY = 0 (LEAST)

**SECTION THREE - PHYSICAL DATA**

APPEARANCE: CLEAR LIQUID  
COLOR: GREEN  
ODOR: SLIGHTLY MUSTY ODOR  
WEIGHT PER GALLON: 10.58# @ 21 DEG. C  
STORAGE LIFE AT 70F: 2 YEARS  
PH-21 DEG. C: 8.0 - 8.5  
WATER SOLUBILITY: COMPLETELY MISCIBLE  
EVAPORATION RATE: SAME AS WATER  
BOILING POINT: ABOUT 210 DEG. F  
FREEZING POINT: 32 DEG. F  
VISCOCITY: 1-10 cps @ 21 DEG. C

**SECTION FOUR - FIRE FIGHTING DATA**

FLASH POINT (METHOD USED CLOSED CUP) NONCOMBUSTIBLE  
FLAMMABLE LIMIT LEL: N.A. UEL: N.A.  
EXTINGUISHING MEDIA DOES NOT BURN  
SPECIAL FIRE FIGHTING PROCEDURES NONE  
UNUSUAL FIRE & EXPLOSION PROCEDURES NONE

**SECTION FIVE - HEALTH & FIRST AID DATA**

THRESHOLD LIMIT VALUE: NONE ESTABLISHED  
EFFECTS OF OVER EXPOSURE: LIQUID CONTACT MAY CAUSE SLIGHT EYE IRRITATION AND REPEATED SKIN EXPOSURE MAY CAUSE SOME SKIN IRRITATION. INGESTION: CALL A PHYSICIAN IMMEDIATELY IF SIGNIFICANT AMOUNTS HAVE BEEN SWALLOWED. GIVE THE EMPLOYEE LARGE AMOUNTS OF WATER OR MILK TO DRINK FOR DILUTION EFFECT. DO NOT INDUCE VOMITING.

INHALATION: NOT EXPECTED TO BE HARMFUL UNDER NORMAL CONDITIONS OF USE, HOWEVER, IF ALLOWED TO BECOME AIRBORNE, MAY CAUSE IRRITATION OF NOSE, THROAT AND LUNGS.  
SKIN: MAY CAUSE IRRITATION ON PROLONGED OR REPEATED CONTACT.  
EYES: MAY CAUSE IRRITATION ON PROLONGED OR REPEATED CONTACT.

**SECTION SIX - REACTIVITY DATA**

STABILITY: STABLE  
CONDITIONS TO AVOID IF UNSTABLE: NOT APPLICABLE  
INCOMPATIBILITY WITH OTHER: NOT APPLICABLE  
MATERIALS: NOT APPLICABLE  
HAZARDOUS DECOMPOSITION PRODUCTS OF DRY MATERIAL: CO, CO2, NH3, ALDEHYDES (INCLUDING FORMALDEHYDE), PARTICULATE MATTER AND OTHER ORGANIC COMPOUNDS. WILL NOT OCCUR  
HAZARDOUS POLYMERIZATION: UNCONTROLLED POLYMERIZATION: NOT APPLICABLE.

**SECTION SEVEN - SPILL & DISPOSAL PROCEDURES**

STEPS TO BE TAKEN TO HANDLE SPILLS OR RELEASES: PREVENT PRODUCT FROM ENTERING DRINKING WATER SUPPLIES. COLLECT LIQUID OR SOLIDIFY WITH ABSORBANT MATERIAL AND PACKAGE FOR DISPOSAL ACCORDING TO LOCAL, STATE, AND FEDERAL REGULATIONS. WASTES DISPOSAL PROCEDURES: THIS PRODUCT IS LIKELY TO HAVE A PH LESS THAN 8.5 AND WOULD NOT BE CONSIDERED A FEDERAL HAZARDOUS WASTE ACCORDING TO EPA REGULATION 40CFR 261. DISPOSE IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.

PERSONAL PROTECTION INFORMATION  
RESPIRATORY PROTECTION: NOT NORMALLY NEEDED VENTILATION: WHERE AIR CONTAMINANTS CAN EXCEED ACCEPTABLE CRITERIA, USE NIOSH/MSHA APPROVED RESPIRATORY PROTECTION EQUIPMENT. RESPIRATORS SHOULD BE SELECTED BASED ON THE FORM AND CONCENTRATION OF CONTAMINANTS IN AIR IN ACCORDANCE WITH OSHA 29 CFR 1910.134 OR OTHER APPLICABLE STANDARDS OR GUIDELINES. USE GOGGLES IF CONTACT IS LIKELY. WEAR IMPERVIOUS GLOVES AS REQUIRED TO PREVENT SKIN CONTACT.

**SECTION EIGHT - SPECIAL PRECAUTIONS**

NOT HARMED BY FREEZING, BUT THAW FROZEN FERTILIZER SLOWLY AND STIR BEFORE USING.  
STORE IN A COOL PLACE. ROTATE STOCK IN STORAGE TO USE OLDEST FIRST. REFER TO PRODUCT SPECIFICATIONS.

18 - APRIL - 2001  
(LF 18-3-6)