

*** Patented Production Process ***

Nutrol™

**Fungicide, Plant Nutrient & Tank Buffering Agent
Crop Protection with Nutrol**

For the Control of Powdery Mildew on Turfgrass and Ornamentals

Active Ingredient: Potassium Dihydrogen Phosphate 100%

Crop Protection with Nutrol™

Keep Out of Reach of Children

CAUTION

See back panel for First Aid and additional Precautionary Statements

Precaucion al usuario: Si usted no lee ingles,
no use este producto hasta que la etiqueta haya sido explicada ampliamente.

Warranty and Disclaimer

1. Seller warrants that this product consists of the ingredients specified and is reasonably fit for the purpose stated on this label when used in accordance with directions under normal conditions of use. No one, other than the officer of Seller, is authorized to make any warranty, guarantee or direction concerning this product.
2. To the extent permitted by applicable law, the seller's liability for handling, storage and use of this product contrary to label instructions shall be limited to replacement of product or refund of purchaser price.

EPA Reg. No. 70644-1

- EPA Est. 70644-NJ-1
- EPA Est. 67536-FL-1
- EPA Est. 14322-NY-1
- EPA Est. 2935-CA-1
- EPA Est. 66196-CA-1

Net Weight: _____ pounds (____ kg)
{1, 2, 2.7, 3, 5, 10, 20, 40 or 50 pounds}

Distributed and
Guaranteed by
LidoChem, Inc.
20 Village Court
Hazlet, NJ 07730
Phone 732-888-8000
Fax 732-264-2751



Product of Israel
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Manufactured and Packaged for LidoChem, Inc.

First Aid	
If Inhaled	<ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.• Call a poison control center or doctor for further treatment advice.
If Swallowed	<ul style="list-style-type: none">• Immediately call a poison control center or doctor for treatment advice.• Have person sip a glass of water if able to swallow.• Do not induce vomiting unless told to do so by a poison control center or doctor.• Do not give anything by mouth to an unconscious person.
If on Skin or Clothing	<ul style="list-style-type: none">• Take off contaminated clothing.• Immediately rinse skin with plenty of water for 15-20 minutes.• Call a poison control center or doctor for treatment advice.
If in Eyes	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
Hot Line Number	
Have the product container or label with you when calling a poison control center or doctor or when going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION: Harmful if swallowed, inhaled or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust or spray mist. Thoroughly wash with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash before reuse.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions are given for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls

When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR § 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

Important: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment break-down.

User Safety Recommendations

Users should:

- Immediately remove clothing/PPE if pesticide gets inside, then thoroughly wash and put on clean clothing.
- Immediately remove PPE after handling product. Wash the outside of gloves before removing. As soon as possible, thoroughly wash and change into clean clothing.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash water or rinsate.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers (long sleeved shirt, long pants, waterproof gloves, shoes and socks) are to be in the area during application. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of four (4) hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Do not enter treated area without protective clothing until sprays have dried.

Crop Protection with Nutrol

Nutrol is a soluble crystalline product to be mixed with water. Application rates vary according to the specific volumes of water applied to the crop. When the crop can be completely covered with the spray solution, use the lower range of spray volumes. Surfactant use and spray efficiency will impact coverage. Select a water volume and corresponding rate of Nutrol necessary to thoroughly spray/mist all fruit and foliage surfaces. Gradually add

the specific amount of product to a half-filled sprayer tank and mix, then add the balance of required water while continuing to agitate the solution. Always add Nutrol to the tank mix first, then add other products after all Nutrol has been completely solubilized. **Add an approved/compatible “spreader-sticker” to the solution to assure complete spray coverage of plant surfaces.** Plant disease pressure can increase when plant surfaces are frequently wet and temperatures are warm. Under these severe disease conditions, use the higher spray rate and apply at the shorter spray interval.

Nutrol suppresses existing mildew disease and inhibits further development of new mildew growth on plant tissue. Use alone, in alternating applications or in tank-mix spray programs with other compatible, EPA-approved fungicides. It is rapidly absorbed by the plant and is mobile within the plant tissues, improving the potassium and phosphorous content in the plant. It therefore acts in a dual role as a biocompatible fungicide for plant disease control and as an essential plant food. Nutrol will also acidify/buffer your spray tank solution to help reduce alkaline hydrolysis of other compatible, tank-mixed materials.

Best performance is attained by beginning Nutrol applications prior to the onset of disease, as a preventative disease control program. **DO NOT MIX with copper fungicides or with any spray materials that warn against low pH (<5.5) applications.**

Important

Resistant Powdery Mildew Fungus Strains May be Present!

If treatment is not effective following use of conventional fungicides as instructed, a resistant strain of the fungus may be present. If this occurs, then fungicides such as benzimidazole, thiophanate or DMI type will not give effective control. When resistant fungus strains are present, give serious consideration to the use of Nutrol for effective mildew control and crop protection. Nutrol controls mildew strains that are resistant to other fungicides and is a valuable “resistance management” tool. The pH of a 1% aqueous solution of Nutrol is 4.5 ± 0.3 .

0-50-32

Guaranteed Analysis: Available Phosphate (P_2O_5) 50%
Soluble Potash (K_2O) 32%
Derived from: Monopotassium Phosphate

Product Description

Nutrol is manufactured specifically as a low salt, water soluble, foliar and special application fungicide and plant nutrient. Its use is suggested as a supplement to a grower’s standard practice fungicide and fertilizer programs. The target is reduced pesticide use and enhanced yield and quality. Nutrol is a highly soluble, low salt index formulation developed to supplement standard fertility practices by providing a highly available source of phosphorous and potassium.

Research has shown that foliar-applied nutrients, in a pure and soluble form, are absorbed more efficiently by foliage than are those supplied in the soil. Nutrient translocation to all parts of the plant is generally more rapid when nutrients are applied foliarly. Foliar fertilization with Nutrol is intended as a supplement to a regular fertilization program and will not, by itself, provide all the nutrients normally required by agricultural crops.

A good tissue testing program may be helpful to monitor and maintain optimum plant growth and development. Adverse conditions such as moisture, stress, weather, salts, soil type, etc., may induce nutrient deficiency symptoms. When applied as directed, Nutrol application is a means of obtaining a quick response to needed nutrients.

Salt Index: 8.4 (0.097 per 1% of plant nutrient)
pH (1% aqueous solution): 4.5 ± 0.3

Mixing Directions

- * Add approximately 1/2 water to tank before gradually adding Nutrol. Agitate thoroughly while adding Nutrol and the remaining water. When tank mixing, add pesticide last.
- * When temperatures are cold, allow extra time for this product to completely dissolve.
- * Research has demonstrated enhanced uptake with the addition of a surfactant. Do not use with surfactants when plants are under severe stress conditions, such as heat or water stress. Immediately begin applications after adverse stress conditions subside.
- * Mix Nutrol at 1.9 lbs or less per gallon of water. Consider the pH of the solution when using concentrations greater than 1 to 1.9 lbs per gallon. Do not store high concentration mixes in temperatures less than 60°F.

Compatibility

Nutrol is compatible with most pesticides and liquid fertilizers. Apply Nutrol in an alternating tank mix program.

Tank Mix Compatibility Testing: Perform a jar test prior to tank mixing to ensure compatibility of this product with other products. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jells, has oily films, layers or other precipitates, it is not compatible; do not use the tank mix combination.

NOTE: Nutrol acts as a buffer resulting in an acidic spray solution. Do not combine Nutrol with copper fungicides or with any spray materials that warn against low pH (<5.5) solutions. Always test tank mixes for compatibility, via a jar test, before mixing large batches. Use Nutrol, combined with labeled rates for Prudent liquid fertilizers, in accordance with local crop protection practices.

Notification of Possible Admixes

For practical purposes, Nutrol is rarely used alone; instead, Nutrol is generally part of a formulation or tank mix. Those formulations, as a rule, contain an inert support and/or an inert surfactant in addition to active material. These inert admixes are dictated by local and cultural practices. An inert support may be organic or mineral, natural or synthetic. These inert supports facilitate the application of Nutrol to the plant, to seeds or soil and aid in its transportation and handling. Inert surfactants include ionic or non-ionic emulsifiers, dispersants, wetting agents, fatty acids or fatty amines. If desired, prepare Nutrol to include a penetration agent, adhesive, anti-lumping agent and/or colorant.

Other Possible Inert Additives May Include

- * A carbon skeleton component: Water-soluble carbohydrates such as sucrose, fructose, glucose and other mono-, di- and oligosaccharides are suitable.
- * A macronutrient component: The macronutrients are essential to nutrition and growth. The most important macronutrients are N, P and K. Nitrogen sources include: nitric acid salts, ammonium salts, urea, methylene ureas, amino acids, proteins and nucleic acids. Phosphate sources include salts of phosphorus acid. Potassium sources include potassium salts.
- * A micronutrient component: The most important micronutrients are salts of Zn, Fe, Cu, Mn, B, Co and Mo.
- * Complexing agents: The following inert materials serve as anti-precipitation agents: citric acid, fulvic acid, humic acid, EDTA, EDDA, EDDHA, HEDTA, LPCA, MEA, IDS and EDDS.
- * Seaweed or kelp extracts: Seaweed or kelp extracts as nutritional supplements.
- * Plant extracts.

Chemigation

Apply this product only through sprinkler (including center pivot, lateral move, end tow, side [wheel] roll, traveler, big gun, solid set or hand move) or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Refer to the "Mixing Directions" above when preparing the chemigation mixture. Apply Nutrol for the duration of the water application.

For Sprinkler Chemigation:

- The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- Do not apply when wind speed favors drift beyond the area intended for treatment.

For Drip (Trickle) Chemigation:

- The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Nutrol Guidelines for Nutritional Application

Crop	Rate	Timing
Cool Season Turf Grass	2-4 ozs per 1000 sq. ft. (6-11 lbs/Acre) per application. Use a maximum of 3 lbs of product per 10 gallons of spray solution. Use higher rates in chemigation systems where Nutrol is the primary source of P and K.	Apply every 7 to 14 days throughout the season.
Ornamentals	Use 1 lb in 10 gallons of water and spray to wet. Transplants – Use 1-2 lbs of product per 10 gallons and apply approximately 1/2 gallon per transplanted shrub/tree.	Apply at bloom, spring shoot push or shortly after transplant and repeat in 14-21 days. Use any time new growth is pushing or in conjunction with pesticide applications.
Warm Season Turf Grass	2-4 ozs per 1000 sq. ft. (6-11 lbs/Acre) per application. If used as a starter, apply 4-6 ozs per 1000 sq. ft. (11-16 lbs/Acre). Use a maximum of 3 lbs of product per 10 gallons of spray solution. Use higher rates in chemigation systems where Nutrol is the primary source of P and K.	Apply every 7 to 14 days throughout the season. Use as a starter fertilizer during transition periods to cool season grasses.

Nutrol Crop Protection Fungicide Application Guidelines

For each crop, see the following Table for additional rates per water volume.

Crop Protection with Nutrol lbs/Acre												
Crop	Water Volume gal/Acre					Crop	Water Volume gal/Acre					
	50	100	150	200	250		50	100	150	200	250	
Ornamentals	8-13	13-16	19-38	25	40	Turfgrass	8-13	13-25	19-38	25-40	25-40	
Roses	5	6-8	9-10	10	10							

Ornamentals

For control of powdery mildew, including but not limited to *Microsphaeri alni* and *Erysiphe cichoracearum* on woody and herbaceous ornamentals, use 8 to 40 lbs of Nutrol per acre. Start spraying in early spring when conditions become favorable for disease development (i.e. cool, humid, cloudy periods) and continue spraying on a 7 to 14 day schedule for the entire season.

Min: 8 lbs/50 gallons spray solution per acre.

Max: 40 lbs/250 gallons spray solution per acre.

DO NOT exceed 16 lbs per 100 gallons of finished spray solution.

Roses

For control of powdery mildew (*Sphaerotheca pannosa* var. *rosae*), use 5 to 10 lbs Nutrol per acre. Apply at 5 to 7 day intervals as needed. Best performance will be achieved with full wetting of leaves without runoff.

Min: 5 lbs/50 gallons spray solution per acre.

Max: 10 lbs/250 gallons spray solution per acre.

DO NOT exceed 8 lbs per 100 gallons of finished spray solution.

Turfgrass

For control of powdery mildew (*Erysiphae graminis* D.C.), use 8 to 40 lbs of Nutrol per acre. Start spraying in early spring when conditions become favorable for disease development (i.e. cool, humid, cloudy periods) and continue spraying on a 7 to 14 day schedule for the entire season.

Min: 8 lbs/50 gallons spray solution per acre.

Max: 40 lbs/250 gallons spray solution per acre.

DO NOT exceed 25 lbs per 100 gallons of finished spray solution.

Expanded Efficacy with Product Combinations

Nutrol in combination with labeled rates of Prudent fertilizers is acceptable with local crop protection practices. The end user must contact a LidoChem, Inc. representative or specialist for specific rates, timing and use recommendations. It has been found that the combination of Nutrol and Prudent fertilizers aid in the protection of the following crops:

Ornamentals and Bedding Plants

Use Prudent fertilizers combined with labeled rates of Nutrol on ornamentals and bedding plants grown in field nursery, greenhouse, landscaping and conifer nursery situations, for control of diseases caused by *Pythium* and *Phytophthora*.

Use Prudent fertilizers combined with labeled rates of Nutrol on ornamentals for control of downy mildew and fire blight and for the suppression of bacterial blight caused by certain pathovars of *Xanthomonas campestris*. Applications must be made prior to disease development and in conjunction with good cultural management practices. Use the higher rate when disease pressure is severe. Do not exceed recommended rates or apply more frequently than at specified intervals or plant injury will occur.

Ornamentals

Foliar applications to plants such as Agalonema, Aphelandra, Azalea, Bougainvillea, Boxwood, *Cattelya skinneri*, Cissus, Dieffenbachia, Hibiscus, Juniper, Leather-leaf Fern, Pittosporum, Philodendron, Pothos, Rhododendron, Spathiphyllum and *Taxus medi*: Mix 8-11 pounds of Nutrol with labeled rates of Prudent fertilizers per 100 gallons of water and apply as necessary, but do not exceed one application every 7 days.

Drench applications to plants such as Aphelandra, Azalea, Boxwood, Cissus, Dieffenbachia, Japanese Holly, Juniper, Monterey Pine, Philodendron, Pieris, Pittosporum, Rhododendron, Schefflera, Spathiphyllum and *Taxus media*: Mix 8-11 pounds of Nutrol with labeled rates of Prudent fertilizers per 100 gallons of water and apply as necessary, but do not exceed one application every 7 days.

Bedding Plants

Foliar applications to plants such as Begonia, Pansy, Vinca, Marigold, Zinnia, Petunia, Geranium and Impatiens: Mix 11 pounds of Nutrol with labeled rates of Prudent fertilizers per 100 gallons of water and apply as necessary, but do not exceed one application every 7 days.

For Use on Conifers in Nurseries to Prevent Phytophthora Root Rot

Dip treatments to conifers such as Douglas firs, spruce and pines: Dip in a mix of 8-11 pounds of Nutrol with labeled rates of Prudent fertilizers per 100 gallons of water and apply as necessary, but do not exceed one application every 30 days. Dip immediately before transplanting. When making dip applications, wear chemical/water resistant gloves, goggles or face shield, long pants (coveralls), long-sleeved shirt, shoes and socks.

Foliar applications to conifers such as Douglas firs, spruce and pines: Mix 8-11 pounds of Nutrol with labeled rates of Prudent fertilizers per 100 gallons of water and apply as necessary, but do not exceed one application every 30 days. For injection applications, contact a LidoChem, Inc. representative.

Downy Mildew Control in Roses

Foliar applications to roses (field, container, landscape and mini varieties) to control Downy mildew (*Peronospora sparsa*): Applications must be made in conjunction with a disease sanitation program to reduce the spread of the disease to uninfected plants. Mix 8-11 pounds of Nutrol with labeled rates of Prudent fertilizers per 100 gallons of water and apply as necessary, but do not exceed one application every 7 days.

Fire Blight Suppression

Foliar applications to plants such as ornamental pear, pyracantha and hawthorne: Applications must be made in conjunction with a strict sanitation program to reduce the spread of the disease to uninfected plants. Mix 8-11 pounds of Nutrol labeled rates of Prudent fertilizers per 100 gallons of water and apply as necessary. Nutrol and Prudent fertilizers work solely as a preventative treatment. Begin spray treatments at prebloom stage and continue at 7-day intervals until bloom period ends. Do not exceed one application every 7 days. For injection applications, contact a LidoChem, Inc. representative.

Bacterial Blight Suppression

Foliar applications to plants, such as English ivy, schefflera, anthurium, dieffenbachia, spathphyllum, syngonium and ficus, for the suppression of the *Xanthomonas campestris* pathovars *hederae*, *diffenbachiae*, *syngonii* and *fici*: Applications must be made in conjunction with a disease sanitation program to reduce the spread of the disease to uninfected plants. Mix 8-11 pounds of Nutrol with labeled rates of Prudent fertilizers per 100 gallons of water and apply as necessary, but do not exceed one application every 7 days. Refer to compatibility statements concerning use of coppers or other compounds.

Crop	Disease Name	Pathogen
Turf	Pythium Root Rot	<i>Phthium aphanidermatum</i>
	Pythium Blight	<i>Pythium ultimum</i>
Roses	Downy Mildew	<i>Peronospora sparsa</i>

Storage and Disposal

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: **Store product in original container away from children and domestic animals.**

Pesticide Disposal: **To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, send remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).**

Container Disposal {Pager Bags}: **Nonrefillable container; do not reuse or refill this container. Completely empty bag contents into application equipment by shaking and tapping sides and bottom to loosen clinging particles; then offer for recycling, if available, or dispose of empty bag in a sanitary landfill, or by incineration. Do not burn, allowed by state and local ordinances. Batch Code _____.**

[Container Disposal {Plastic Containers}: **Nonrefillable container; do not reuse or refill this container. Promptly triple rinse (or equivalent) container after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times; then offer for recycling, if available, or dispose of empty container in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances . Batch Code _____.**