Fertilizer Additive for Nitrogen Stabilization

NOT A PLANT FOOD INGREDIENT OR FERTILIZER

ACTIVE INGREDIENTS:
N-Butyl-thiophosphoric triamide (NBPT), hydroxyphenolic acids, alkyl ethers, and dimethyl polysiloxane ................................................................. 100.00%

PATENT PENDING

KEEP OUT OF REACH OF CHILDREN
CAUTION
See Inside Panel for Additional Precautionary Statements

WEIGHT PER GALLON: 8.504 lbs. (3.857 kg)

F224
Manufactured For
HELENA CHEMICAL COMPANY
225 SCHILLING BOULEVARD, SUITE 300 • COLLIERVILLE, TENNESSEE 38017

OPM #120149
PEEL BACK BOOK HERE AND RESEAL AFTER OPENING

NET CONTENTS:
is a specialized fertilizer additive that reduces the loss of nitrogen that occurs when urea-based fertilizers are surface applied to crops. **N-FIXX™ PF** inhibits the activity of urease – an enzyme that converts urea nitrogen into the more volatile ammonia form. By reducing the formation of ammonia nitrogen, the loss of nitrogen from surface-applied fertilizer is minimized. **N-FIXX™ PF** is applicable for use with any nitrogen-consuming crop when used in conjunction with urea-based fertilizers.

**NOTE:** This product is not a fertilizer and should not be used as a substitute for one.

### GENERAL INFORMATION

A number of factors in the application environment contribute to the degree and rate of nitrogen loss due to volatility. When considering the appropriate use rate of **N-FIXX™ PF**, consideration should be given to these factors that are known to increase urea-nitrogen volatility:

1. High levels of soil moisture
2. The degree of soil dryness, sunlight, wind, and humidity
3. Conditions of high heat (both air and soil)
4. Soil pH (higher pH soils have greater potential for volatility)
5. Soil organic matter and CEC (low levels increase volatility potential)
6. Crop residue/stubble: High amounts of these materials tend to increase volatility potential due to their higher levels of urease.

### APPLICATION RATES: (Per Ton Fertilizer)

<table>
<thead>
<tr>
<th>Fertilizer</th>
<th>Urea Rate</th>
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</thead>
<tbody>
<tr>
<td>Urea</td>
<td>3 – 4 quarts/ton</td>
</tr>
<tr>
<td>UAN</td>
<td>3 – 4 pints/ton</td>
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**NOTE:** When the conditions for increased nitrogen volatility exist – use the higher end of the rate range. If a higher length of nitrogen stabilization is needed, the rate may be increased by 25%.

### PREPARATION OF N-FIXX™ PF/UREA BLENDS

For direct blending/impregnation on urea, a fertilizer blender or equipment capable of mixing urea directly with **N-FIXX™ PF** is required. Rotary, auger, and paddle mixers are all applicable, but their surfaces must be clean, dry, and free of rust.

1. Personnel responsible for preparing **N-FIXX™ PF**/Urea mixtures should wear the following personal protection:
   a) Long sleeves and pants
   b) Neoprene gloves
   c) NIOSH/MSHA-approved organic mist vapor respirator should be worn in areas of poor ventilation and air-exchange. Avoid the generation of a mist when applying this product. If mist is generated, a full face-piece respirator with supplied air is required.
   d) Weigh the urea and transfer it directly to the blender. Measure the desired amount of **N-FIXX™ PF**, and apply directly to the urea. **NOTE:** Make sure that the **N-FIXX™ PF** is fully blended with the urea before applying any other types of fertilizer.
   e) Blend the urea/**N-FIXX™ PF** mixture until coverage is uniform. **N-FIXX™ PF** contains a blue dye to help in the verification that blending is sufficient.
   f) **N-FIXX™ PF**-stabilized urea may be stored for up to 6 weeks without significant degradation of active ingredient – provided the mixture is kept free from moisture.

Under certain temperature/humidity conditions, **N-FIXX™ PF**-treated fertilizer may clump together in the blender due to excess moisture. This situation may be prevented by including other types of fertilizers (e.g., potash) or by adding drying agents based on attapulgite clay (e.g., AgSorb). Include the drying agent at the rate of .25 – .5% of the urea/**N-FIXX™ PF** blend.
PREPARATION OF N-FIXX™ PF/UREA-AMMONIUM-NITRATE (UAN) BLENDS

1. Personnel responsible for preparing N-FIXX™ PF/UAN mixtures should wear the following personal protection:
   a) Long sleeves and pants
   b) Neoprene gloves
   c) NIOSH/MSHA-approved organic mist vapor respirator should be worn in areas of poor ventilation and air exchange.
   d) Fill the spray application tank to 1/2 its volume with UAN. While maintaining agitation, add the desired amount of N-FIXX™ PF and mix well. Complete the mixture by adding the remainder of the UAN.
   e) A foam control agent may be needed to manage foam generation.
   f) It is recommended that UAN/N-FIXX™ PF blends be applied soon after preparation. If necessary, the blend may be stored up to 10 weeks.

COMPATIBILITY

N-FIXX™ PF-treated fertilizers are compatible with most agricultural chemicals. Compatibility tests, however, are recommended prior to the preparation of spray mixtures that lack commercial history. It is also recommended that N-FIXX™ PF/UAN spray mixtures with pesticides, adjuvants, and other products be applied to the soil as soon as possible after preparation.

CONDITIONS OF SALE – LIMITED WARRANTY

Read the Conditions of Sale–Warranty and Limitations of Liability and Remedies before using this product. If the terms are not acceptable, return the product, unopened, and the full purchase price will be refunded.

This label is believed to be reliable and should be followed carefully. Injury to the crop to which the product is applied may result from the occurrence of extraordinary or unusual weather conditions or the failure to follow the label directions or good application practices, all of which are beyond the control of Helena Chemical Company (the “Company”) or seller. In addition, failure to follow label directions may cause injury to crops, animals, man or the environment. The Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to subject to the factors noted above which are beyond the control of the Company. The Company makes no other warranties or representations of any kind, express or implied, concerning the product, including no implied warranty of merchantability or fitness for any particular purpose, and no such warranty shall be implied by law.

The exclusive remedy against the Company for any cause of action relating to the handling or use of this product shall be limited to, at Helena Chemical Company's election, one of the following:

1. Refund of the purchase price paid by buyer or user for product bought, or
2. Replacement of the product used

To the extent allowed by law, the Company shall not be liable and any and all claims against the Company are waived for special, indirect, incidental, or consequential damages or expense of any nature, including, but not limited to, loss of profits or income. The Company and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitation of warranty, liability and remedies.

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