Use Instructions

BURST®

YIELD BOOSTER™

A Plant Hormone To Increase Yields

Produced by
Burst AgriTech Inc.
Overland Park, KS 66202

EPA Registration No. 42852-2

ACCEPTED

MAY - 9 1984

Reg. No. 42852-2

42852-2

Read entire label before using this product: It is a violation of Federal Law to use this product in a manner inconsistant with the label.

Environmental Hazards: Keep out of lakes, ponds or streams. Do not contaminate water when cleaning equipment or disposing of waste.

BURST®
YIELD BOOSTER™

Burst® Yield Booster™ is a natural plant regulator product that contains Cytogen™, a cytokinin hormone complex which acts synergistically with the plant's natural hormones. From the scientific discovery of using plant hormones and plant regulation to increase yield has come a new concept in crop management. It's called Crop Physiology Management (CPM). CPM, through the use of Burst Yield Booster can provide the grower a tool to better manage his crop to maximize its genetic potential to yield. Burst Yield Booster can be used to regulate several physiological processes within the plant. By following the application recommendations, these physiological processes can be better managed resulting in increased plant vigor and production.

Cytogen will promote bud initiation and development, which will improve root growth, increase tillering and branching and promote production of yield bearing components and reproductive vigor. Applications early in the plant's life will help manage growth and determine the production potential of the plant.

Stress conditions, both environmental and those induced by cultural practices, can cause severe yield loss. Some of these stress conditions which occur in various degrees and can severely affect yields, are:

1. Chemical Stress: herbicide, insecticide, fungicide
2. Nutrient Stress: deficiency or excess
3. Weather-Induced Stress: drought, excess rain, hail, excessively high temperatures, low temperatures

Cytogen cannot change the environmental stress conditions. However, it can increase the plant's tolerance to stress and increase its ability to compensate for these stress conditions, thus aiding the plant to perform better. CPM, through the use of Burst Yield Booster, can provide some of the stress tolerance needed to reduce peak losses and maintain production efficiency nearer the maximum possible for the growing conditions. The potential result of CPM is higher yield.

CPM can help manage specific production problems during the growing season. Timely applications of Burst Yield Booster for CPM can be used to increase root production, increase bud initiation or development, increase branching or tillering or to increase general plant health and vigor, and always to increase production and development of the yield components. Remember, most stress conditions can not be completely overcome. However CPM can help reduce some of the physiological stress induced by environmental conditions and cultural practices.

CPM is the concept. Burst Yield Booster is the tool. Remember, it's Your Yield to Gain.

CONDITIONS FOR GOOD ACTIVITY:

Good growing conditions are necessary for maximu n utilization of the yield-enhancing properties of Burst Yield Booster.

For maximum gain from the use of Burst Yield Booster, a well-balanced plant nutrient program should always be used. Burst Yield Booster, in any of its applications, is not intended to replace fertilizer or to supply nutrients that would normally be added in a conventional fertility program. Timing of the foliar spray application is very important. Always follow directions precisely. **Do not apply when temperatures are above 95°F** or within eight hours of forecast rain.

NON-PHYTOTOXIC:

All crops tested to date have shown excellent tolerance to Burst Yield Booster, and when used as recommended, the product has not caused any damage to non-target crops.

TOXICOLOGY:

Burst Yield Booster is completely safe when used as recommended. According to EPA classification procedure (Federal Register Vol. 40, No. 129, July 3, 1975) the product is generally recognized as safe and is classed in Toxicity Category IV, i.e. oral LD_{50} greater than 5000 mg/kg. in white rats. Due to its safety, the product has been exempted by EPA from the need to establish a tolerance.

PRODUCT COMPATABILITY:

Burst Yield Ecoster may be used with a surfactant and has been successfully applied as a tank mix with some herbicides, insecticides and fungicides. However, it is best to be safe and use a "jar compatability test" and to treat a few plants with any new mixture to test the chemical and plant reaction before large field application. We do not recommend application of Burst Yield Booster and Benlate (Reg. Trade Mark of DuPont Company) within two weeks of each other.

APPLICATION:

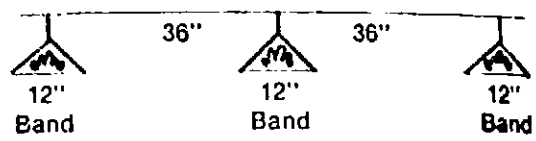
Burst Yield Booster may be applied by conventional ground equipment or by aerial application methods. Use sufficient water to provide good foliage coverage. The company has not developed recommendations for application of Burst Yield Booster with vegetable oil or similar products as the carrier. All equipment should be flushed clean before using. Spraying equipment should be operated with ample agitation. Screens should be removed from nozzles when in use and sprayer must be flushed clean after use. **DO NOT** store sprayer with Burst Yield Booster solution in it.

Product application by either a broadcast or banded application is acceptable. A broadcast application is when the entire field surface is sprayed. A banded application is when only a portion of the field surface is sprayed. When using a broadcast method, use the rates published in the Use Instructions. When using a banded method, reduce the published broadcast rate by multiplying the broadcast rate by the percent of the field surface covered with the band application. **DO NOT** reduce any rate below 1/4 pint per acre. To calculate the percent of the field surface covered simply divide the width of the band by the row or bed spacing.

$$\frac{\text{Band Width (Inches)}}{\text{Row or Bed Spacing (inches)}} = \text{\% of field surface covered}$$

Broadcast Rate X % of field surface covered = Banded Rate (not to be less than 1/4 pint per acre)

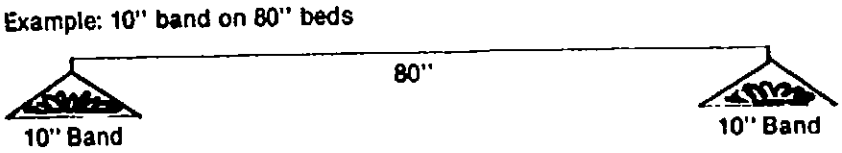
Example: 12" band on 36" rows



$$\frac{\text{12" band}}{\text{36" spacing}} = \frac{1}{3} \text{ or 33\% (\% of field surface covered)}$$

1 pint (16 oz.) broadcast rate X 33% = 1/3 pint (5 oz.) banded rate per field acre.

Example: 10" band on 80" beds



$$\frac{\text{10" Band}}{\text{80" Spacing}} = \frac{1}{8} \text{ or 13\% (\% of field surface covered)}$$

2 pint (32 oz.) Broadcast Rate X 13% = 4 oz. (1/4 pint) banded rate per field acre

Any application using over 30 gallons of water per acre should be made using the Broadcast Rate of Burst Yield Booster per acre.

WARRANTY

Burst AgriTech, Inc. warrants only that product shall be of its standard quality and shall conform to the label there on. There are no representations or warranties, express or implied, except as expressly set forth herein. Burst AgriTech's liability for product purchased by Distributor and Distributor's exclusive remedy, shall be limited to the replacement without charge, F.O.B. Burst warehouse, of all product shown to be otherwise than as warranted. In no event shall Burst be liable to Distributor, Distributor's customers or users for special or consequential damages.

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BURST YIELD BOOSTER For Fruits and Vegetables

Burst has a broad spectrum of activity and is effective on a variety of crops. Timing and rate of application are important. Multiple applications provide multiple benefits. Burst has three practical applications: (1) as a transplant program, (2) as a foliar spray program during the growing and reproductive stages, and (3) as a combination of transplant and foliar spray programs.

GENERAL USE INSTRUCTIONS

1. **FOLIAR SPRAY PROGRAM:** Two methods are recommended for this program:

   A. BASIC FOLIAR SPRAY PROGRAM: This program is the minimum necessary for economical yield responses. The recommended rates for each crop are broadcast rates. (See specific crop recommendations) Apply with sufficient water for thorough foliage coverage.

   B. MAXIMUM FOLIAR SPRAY PROGRAM: To promote maximum plant vigor and tolerance Burst Yield Booster may be applied in conjunction with scheduled spray application programs for insect or disease control. (See specific crops recommendations)

2. **TRANSPLANT PROGRAM: Two methods are recommended for this program:**
   A. WATER-IN (DRENCH) METHOD: At transplanting, 8 oz. (1/2 pint) of a solution of one (1) part Burst to four hundred (400) parts water should be used to drench the plant and root zone. The recommended FOLIAR SPRAY PROGRAM should begin two (2) weeks after transplanting.

   B. SEEDLING SPRAY OR DRENCH METHOD: Bedded seedlings may be sprayed or drenched in flats 12-24 hours before transplanting to reduce transplant shock. This treatment may be made as a substitute for the in-field water-in drench. The spray or drench should be prepared by mixing one (1) part Burst with four hundred (400) parts water. The FOLIAR SPRAY PROGRAM should begin two (2) weeks after transplanting.

3. **COMBINATION PROGRAM:**

   With transplanted crops, a Combination Program of the Transplant and Foliar Spray Programs is most effective. However, if you are unable to accomplish the transplant program on transplanted crops, proceed with the Foliar Spray Program beginning after transplant.

The Environmental Protection Agency (EPA) has granted Burst an exemption from establishing a tolerance on the crops listed. Please contact your local CPM technician for application recommendations on these crops:

Asparagus	Celery	Peas
Beets	Okra	Potato, Sweet
Brussels Sprouts	Onion	Radish
Carrot	Parsley	Strawberry
Cauliflower		

BURST YIELD BOOSTER

APPLICATION INSTRUCTIONS

Crop	Program	Number of Applications	Broadcast Rate	Banded Rate	Time To Apply
Beans Bush Pole Halfrunner	Basic	2	1 2 pt A	See Footnote 1	1st Apply when the first trifoliate is unfolded 2nd 2 weeks after the first
	Program	**Number**	**Broadcast**	**Banded**	**Time To Apply**
Broccoli* Cabbage* Lettuce Spinach	Basic	3	1 pt A	See Footnote 1	1st When the 5th leaf begins to unfold 2nd 2 weeks after the first 3rd 2 weeks after the second
*Use Surfactant	Maximum	Multiple	1 2 pt A	See Footnote 1	1st When the 5th leaf begins to unfold then continuous applications at 7 10 day intervals throughout the production season
	Transplant See Paragraph 2 General Use Instructions				
	Combination See Paragraph 3 General Use Instructions				
	Program	**Number**	**Broadcast**	**Banded**	**Time To Apply**
Cantaloupe Cucumbers Muskmelon Watermelon Honeydew Squash Winter Yellow Pumpkin	Basic	[illegible]	[illegible] A	See Footnote [illegible]	1st When the 3rd leaf begins to unfold 2nd 2 weeks after the first
	Maximum	Multiple	[illegible] A	See Footnote [illegible]	1st When the 3rd leaf begins to unfold then continuous applications at 7 10 day intervals throughout the production season
	Transplant See Paragraph 2 General Use Instructions				
	Combination See Paragraph 3 General Use Instructions				
	Program	**Number**	**Broadcast**	**Banded**	**Time To Apply**
Pepper Tomato Egg Plant	Basic	[illegible]	[illegible] A	See Footnote [illegible]	1st When the plants have 3 true leaves 2nd 2 weeks after the first 3rd 2 weeks after the second
	Max	[illegible]	1 2 pt A	See Footnote [illegible]	1st When plants have 3 true leaves [illegible]
	[illegible] Paragraph 2 General Use Instructions				
	[illegible] See Paragraph 3 General Use Instructions				
	Program	**Number**	**Broadcast**	**Banded**	**Time To Apply**
P[illegible]	[illegible]	[illegible]	[illegible] A	[illegible] A	Dip or [illegible]
	[illegible]	[illegible]	[illegible] A	See Footnote 1	Apply [illegible] weeks [illegible]
	Program	**Number**	**Broadcast**	**Banded**	**Time To Apply**
~~Sweet Corn~~	~~Basic~~	[illegible]	~~1 pt A~~	See Footnote 1	~~Apply when plants are in the 8 to 11 leaf stage~~

[illegible] Always [illegible] over thirty gallons of water [illegible] DO NOT [illegible]

BURST YIELD BOOSTER

For Cotton

APPLICATION:

Burst is applied as a spray to the leaves of the cotton plant. The active ingredient, Cytogen, is absorbed by the leaves and stems and then translocated to a site of action. For best results use a minimum of 10 gallons of water per acre when applying with ground equipment. For applications made by air, use a minimum of 3 gallons of water per acre.

Rate: 1/2 pint per acre, broadcast

Timing:

The application window begins at first elongated square (immediately before 1st white bloom) and ends at 25% bloom.

ALTERNATE TIMING:

If your pest management program includes an ovicide application beginning at pin head square for four weekly applications, we recommend the addition of 2 ounces of Burst Yield Booster per acre with each application of ovicide.

*Approximate Days from Emergence to 1st White Bloom	Geographical Area
50 60	Mid South & Southeast Texas High Plains Rio Grande Valley
55 75	Southwest Desert

*For planning purposes only, a visual inspection is necessary.

BURST Yield Booster For Rice

APPLICATION

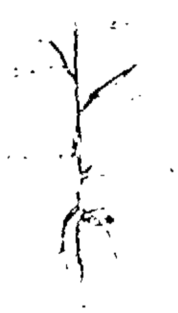
Burst Yield Booster should be applied at 1 pint per acre as a foliar spray to the plant during EITHER ONE of the following stages of development

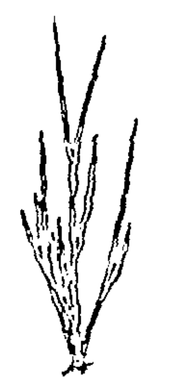
PRIMARY RECOMMENDATION - 3 TO 7 LEAF STAGE: This application must be made after the rice seedling has 3 fully emerged leaves and the 4th leaf is beginning to emerge but before the seeding has completed development of 7 leaves or 3 tillers. This period for application generally begins about 3 to 6 weeks after seeding and ends 5 to 9 weeks after seeding. The duration of this period depends on the variety and the growing conditions. This application may be made in conjunction with corresponding herbicide applications. See illustrations in Figures 1 and 2.

Primary Recommendation for BURST Yield Booster Application: To determine GROWTH STAGE for application of Burst Yield Booster proceed according to the following instructions

1. Remove [illegible] with roots from soil. Figure 1 shows [illegible] with three fully emerged leaves and the fourth leaf emerging. The [illegible] sometimes have died and fall[en] off. This stage is the earliest for Burst Yield Booster application.
2. The cut-off date for Burst Yield Booster application is at the emergence of the third tiller or the [illegible] leaf stage (Figure 2).

Note: [illegible] of development of the rice [illegible] with growing conditions and variety. [illegible]





ALTERNATE RECOMMENDATION — TWO MILLIMETER (mm) PANICLE GROWTH STAGE. [illegible] Burst Yield Booster can be applied to [illegible] This application must be [illegible] **NO MORE THAN** [illegible] of the main culms are at the 2mm panicle growth [illegible] growth stage [illegible] Burst Yield Booster [illegible] CAUTION [illegible] of the application [illegible]

ALTERNATE RECOMMENDATION FOR BURST YIELD BOOSTER APPLICATION

[illegible] to determine the 2mm panicle growth stage, proceed according to the following steps

1. Pull plant with roots from soil. Pull at least ten plants.
2. [illegible] back with sharp blade exposing plant crown.
3. Separate and discard tillers from the main culm (stem).
4. Cut off top of main stem about four inches (10 cm) from the crown (*Figure 3a*). Discard the top.
5. Determine the center of the stem from the end that was cut and very carefully slit the stem *lengthwise into equal halves down* through the crown. (Figure 3b). A sharp knife or razor blade should be used.
6. The internode points should have started elongation to about 1/2 inch in **no more than 10** [illegible] of the plants (*Figure 3b and 3c*). Carefully examine the growing point immediately above the node for the presence of the panicle. The panicle (2 mm or 1/12 inch) is shaped like a *small spear head and should* look like a cluster of very fine fibers when lifted from the stem with a knife point and viewed with a *magnifying glass* (Figure 3c).

Apply Burst Yield Booster when such a panicle 2 mm in size is present in **no more than 10** [illegible] *of the culms* from a random selection of rice plants. Check upper and *lower ends of fields* to be sure that the rice is at the same stage of development. In large fields it may be *necessary to split the* application to correspond with the difference in development of the rice plants from the upper and *lower ends of the field*.

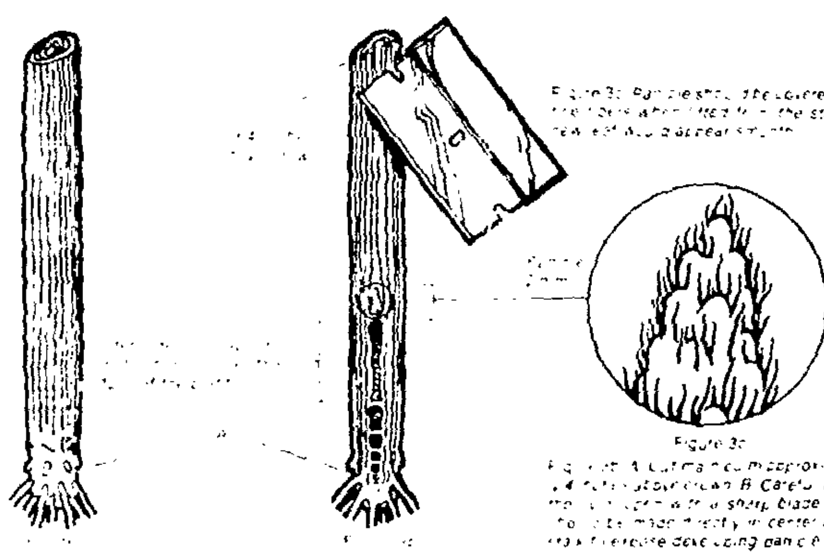


Figure 3c [illegible]

BURST YIELD BOOSTER For Field Corn

Burst is recommended for application to varieties that have a tendency for multiple earing. Varieties bred specifically to eliminate tillering and multiple earing do not respond to Burst in the same manner as do tillering and multiple ear forming varieties.

APPLICATION PROCEDURES:

RATE: One (1) pint per acre, broadcast

TIMING: Apply when the corn has reached the 9 to 11 leaf growth stage, approximately five weeks after emergence

BURST YIELD BOOSTER For Sorghum

Burst should be applied to sorghum to enhance both grain and stover yields.

Rate: ½ pt per acre

Timing:

Grain Sorghum: Apply Burst as a foliar spray to the crop after it has reached the 3rd leaf stage but before the 7th leaf is visible (Approximately 10 to 25 days after emergence.) Burst can be applied with corresponding post emerge pesticide applications.

Hay Sorghum: Apply Burst as a foliar spray to the crop at any time from the 3 leaf stage to the boot stage. Burst can be applied with corresponding post emerge pesticide applications.

BURST YIELD BOOSTER For Wheat, ~~Barley, Oats~~ delete Jpm

WINTER WHEAT ~~OR BARLEY~~: Jpm

RATE: 1 pint per acre

A single application should be made in the spring. The application should be made after spring growth has initiated but prior to the growing point moving above ground. This cut-off stage is frequently referred to as "jointing," or "internode elongation" and is the same as the cut-off time for 2,4-D or phenoxy herbicide application. The cut off date will vary with location and growing conditions. It is necessary to sample the total field to determine its growth stage.

SPRING WHEAT, ~~BARLEY or OATS~~ Jpm

RATE: 1 pint per acre

A single application should be made when the third leaf is fully developed and can be made up to the time when the sixth leaf is fully developed and the seventh leaf is emerging.

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BURST YIELD BOOSTER For Soybeans

The yield boosting merits of Burst Yield Booster have been established from over a decade of experimental research and six years of experimental farm tests and field use. University and field trials have shown that Burst Yield Booster does provide a significant yield boost for soybeans.

TWO FOLIAR APPLICATIONS ARE RECOMMENDED.

1st APPLICATION: Apply Burst Yield Booster from the 2nd to the 4th trifoliate growth stage, in 5 to 10 gallons of water by air, and up to 20 gallons of water if applied by ground equipment. Post emerge herbicides with corresponding application timing, may be made in conjunction with Burst.

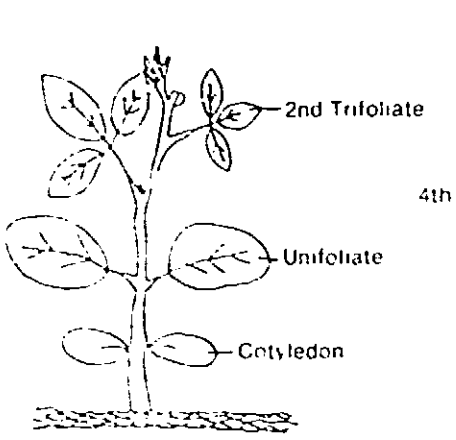
2nd APPLICATION: Apply Burst Yield Booster from the 5th to 7th trifoliate growth stage. Follow water instructions for 1st application. This application is especially beneficial following the earlier application of a post emerge herbicide.

The timing of the applications of Burst Yield Booster to soybeans is critical for maximum benefits. See growth stage identification in illustration below.

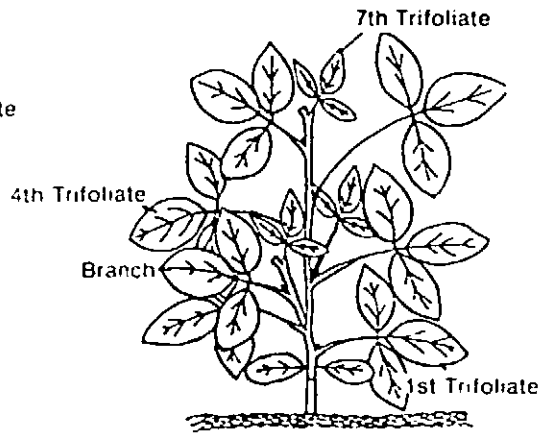
RATE: The rate for each application is 1/2 pint per acre broadcast or 1/4 pint per acre banded.

TANK MIXING: Burst Yield Booster has not demonstrated any incompatability when tank mixed with other chemicals. However, it is best to be safe and use a "jar compatability test, and to treat a few plants with any new mixture to test the chemical and plant reaction before large field application." We do not recommend the application of Burst Yield Booster within two weeks of Benlate. (Reg. Trade Mark of DuPont Co.) application.

PROPER IDENTIFICATION OF GROWTH STAGES FOR BURST YIELD BOOSTER APPLICATION



2nd Trifoliate Stage
Earliest Growth Stage For Application



7th Trifoliate Stage
Latest Growth Stage For Application

Keep Out of Reach of Children

CAUTION

See Side Panel for Precautions

Active Ingredients:

Cytokinin as Kinetin (based on biological activity) *Cytogen™	0.004%*

EPA EST. NO. 3837-MO-1
EPA REGISTRATION NO. 42853-2

PRODUCED BY:

BURST AGRITECH, INC.
Overland Park, KS 66202
Net Contents: 5 U.S. Quarts
(10.5 lbs.) (4.7 liters) (4.8 kg)

BURST AGRITECH, INC. warrants only that product shall be of its standard quality and shall conform to the label there on. There are no representations or warranties, express or implied, except as expressly set forth herein. Burst AgriTech's liability for product purchased by Distributor and Distributor's exclusively remedy, shall be limited to the replacement without charge, F.O.B. Burst warehouse, of all product shown to be otherwise than as warranted. In no event shall Burst AgriTech, Inc. be liable to Distributor, Distributor's customers or users, for special or consequential damages.

NON-PHYTOTOXIC: All crops tested to date have shown excellent tolerance to Burst Yield Booster, and when used as recommended, the product has not caused any damage to non-target crops.

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READ ENTIRE LABEL BEFORE USING THIS PRODUCT: It is a violation of Federal law to use this product in a manner inconsistent with the label.

Read the entire Use Instruction Booklet before using this product. The Use Instruction Booklet is part of the label.

Burst Yield Booster is a natural plant regulator product that contains Cytogen™, a cytokinin hormone complex which acts synergistically with the plant's natural hormones. From the scientific discovery of using plant hormones and plant regulation to increase yield has come a new concept in crop management. The use of Burst Yield Booster can provide the grower a tool to manage the physiology of his crop to maximize its genetic potential to yield. Burst® Yield Booster can be used to beneficially regulate several physiological processes within the plant. By following the use recommendations, these physiological processes can be better managed to increase plant vigor and production.

Cytogen will promote bud initiation and development, which will improve root growth, increase tillering and branching and promote production of yield bearing components and increase reproductive vigor. Applications early in the plant's development will help manage the growth and establish the maximum production potential of the plant.

Yield enhancement will continue as the Burst Yield Booster application accelerates root growth and development to promote root vigor, increase tolerance to stress, increase reproductive vigor through enhanced fertileness and increase the plant's yielding potential.

Keep Out of the Reach of Children

CAUTION

Harmful if swallowed or absorbed through skin. Causes eye irritation. Avoid breathing vapors. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling.

If Swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If in eyes: Flush with plenty of water. Get medical attention if irritation persists.

If on skin: Wash with plenty of soap and water. Get medical attention if irritation persists.

ENVIRONMENTAL HAZARDS: Keep out of lakes, ponds, or streams. Do not contaminate water by cleaning of equipment or disposal of waste.

STORAGE AND DISPOSAL: Keep from freezing. Do not store near heat or open flame. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Container disposal:

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.