UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

DEC 9 2004

Charlotte Sanson
BASF Corporation
26 Davis Drive
Research Triangle Park, North Carolina 27709

Subject: Headline® Fungicide
EPA Registration No. 7969-186
Your supplemental label amendment for Citrus, Corn, Dried Shelled Peas and Beans, Edible Podded Legume Vegetables, Mint, Succulent Shelled Peas, and Sunflower received by e-mail on December 8, 2004

Dear Ms. Sanson,

The amended labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, is acceptable, provided that you comply with the following conditions. At your next label printing, or within 18 months, whichever comes first, you must incorporate this supplemental labeling into the main product labeling.

1. Satisfy the data requirements listed below by the due date(s) included with each item.

a. Annually, by December 31 of each year and beginning in 2005, report percent crop treated data for pyraclostrobin for each crop pyraclostrobin is sold for use on.

b. Annually submit, by November 15, production information (pounds or gallons produced) for the subject product for the preceding fiscal year in which the uses are conditionally registered, in accordance with FIFRA section 29. The fiscal year begins October 1 and ends September 30 of each calendar year. This information must be submitted to:

U.S. Environmental Protection Agency
Office of Pesticide Programs
Registration Support Branch
Registration Division (7505C)
Washington, D.C. 20460

c. A satisfactory 18-Month Carcinogenicity Study in mice must be submitted for female mice by December 31, 2006. The primary deficiency in the results for female mice in the study previously submitted is that the highest administered dose was well below the subchronic maximum tolerated dose and there were no significant systemic treatment-related toxicological effects of the dosing.

d. A satisfactory 28-Day Inhalation Toxicity Study in Rats must be submitted by June 30, 2005. This study is required due to the potential for inhalation occupational/residential exposure, which we cannot currently assess. This study must be performed using: a) the same form of pyraclostrobin to which workers will be exposed and b) the protocol for the 90-Day Inhalation Toxicity Study, but over a 28-day exposure period.

e. Submit, by December 31, 2005, six more residue samples of head lettuce with wrapper leaves from the residue field trials that were submitted in support of the tolerance in/on Vegetable, Leafy, except Brassica Group.

f. Submit one satisfactory Head Lettuce residue field trial from either Region 1 or Region 2, by June 30, 2006, in support of the tolerance on Vegetable, Leafy, except Brassica Group.

g. Submit one satisfactory Leaf Lettuce residue field trial from either Region 1 or Region 2, by June 30, 2006, in support of the tolerance on Vegetable, Leafy, except Brassica Group.

h. Submit, by December 31, 2005, four more residue samples of cabbage wrapper leaves from the residue field trials that were submitted in support of the tolerance in/on Brassica Head and Stem Vegetable Subgroup.

i. Submit three more satisfactory Mustard Greens residue field trials, one each from Region 2, Region 3, and Region 10, by June 30, 2006. These studies will support the tolerance on Brassica Leafy Greens Subgroup.

j. Submit the results of the ongoing Dried Shelled Pea residue field trial in Region 11 by June 30, 2005.

k. Submit three more satisfactory Soybean Forage and Hay field trials, two from Region 5 and one from Region 4, by June 30, 2006. These studies will support the tolerance on Soybean Forage and Soybean Hay.

2. Submit one copy of your final printed labeling before you release the product for shipment.

If compliance with these conditions does not occur, the registration may be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

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If you have questions about this letter, please contact John Bazuin at (703)305-7381.

Sincerely yours,

John B. Bazuin, Jr.
For

Dennis McNeilly
Acting Product Manager (22)
Fungicide Branch
Registration Division (7505C)

Attachment: Label copy stamped "Accepted with Comments"

4315

Headline®

fungicide

Supplemental Labeling

For use in Citrus, Corn, Dried Shelled Peas & Beans, Edible Podded Legume Vegetables, Mint, Succulent Shelled Peas, and Sunflower

EPA Reg. No. 7969-186

Precautionary Statements

Endangered Species Concerns

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is violation of federal law. This pesticide is toxic to fish and aquatic invertebrates and must be used strictly in accordance with drift precautions on this label in order to minimize off-site exposures. **DO NOT** apply when weather conditions favor drift from treated areas to aquatic habitats. Notify State and/or Federal authorities and BASF immediately if you observe any adverse environmental effects due to use of this product.

To determine whether your county has endangered aquatic species, consult the County Bulletins at http://www.epa.gov/espp/usa-map.htm. Endangered Species Bulletins may also be obtained from extension offices or state pesticide agencies. If a bulletin is not available for your specific area, check with the appropriate local state agency to determine if known populations of endangered aquatic species occur in the area to be treated.

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 may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation. Refer to the **Headline® fungicide** main label for precautionary statements, first aid and personal protective equipment requirements. This supplemental label must be in the user's possession during application.

General Information

Headline provides optimum disease control when applied in a regularly scheduled protective fungicide program and is used in a spray program that rotates fungicides with different modes of action. Refer to the **Headline** main label for general resistance management information and to the crop specific use recommendations and restrictions found in this label.

Application Information

Apply **Headline** according to the rate, timing, resistance management and adjuvant use recommendations in the **Crop Specific Use Directions (Table A)** in this label.

Headline may be applied by ground sprayer, aerial equipment or through sprinkler irrigation systems. Refer to the **Headline** main label for specific instructions on these methods.

Restrictions and Limitations

Headline is not for use in greenhouse or transplant production systems.

Follow the restrictions and limitations outlined in the **Crop Specific Restrictions and Limitations** table (**Table B**) in this label for:

- Minimum pre-harvest interval
- Maximum rate per acre per application
- Maximum number of applications per season
- Maximum rate per season
- Livestock grazing or feeding restrictions
- Aerial application restrictions

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours for all crops except when performing bare-hand detasseling or hand harvesting in treated corn. REI for bare-hand detasseling activities and hand harvesting in corn is **7 days**. Notify workers of the exception.

No aerial application in New York State except as permitted under FIFRA Section 24 (c), Special Local Needs Registration.

ACCEPTED
with COMMENTS
In EPA Letter Dated:
DEC 9 2004
Under the Federal Insecticide, Fungicide, and Rodenticide Act, [illegible]

7969-186

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Spray Drift Management

DO NOT spray when conditions favor drift beyond area intended for application. Conditions which may contribute to drift include thermal inversion, wind speed and direction, spray nozzle/pressure combinations, spray droplet size, temperature/humidity, etc. Contact your state extension agent for spray drift prevention guidelines in your area.

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

Avoiding spray drift at the application site is the responsibility of the applicator.

Aerial Application Methods and Equipment

The interaction of many equipment-and-weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

DO NOT apply under circumstances where possible drift to endangered species, unprotected persons, to food, forage, or other plantings that might be damaged, or crops thereof rendered unfit for sale, use or consumption can occur.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed ¾ the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. Use the largest droplet size consistent with acceptable efficacy. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see **Wind, Temperature and Humidity**, and **Temperature Inversions**).

Controlling Droplet Size

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - **DO NOT** exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is recommended practice. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Wind

Drift potential is lowest when wind speed does not exceed 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

Low humidity and high temperatures increase the evaporation of spray droplets and therefore the likelihood of increased spray drift. Avoid spraying during conditions of low humidity and/or high temperatures. When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. bodies of water or non-target crops) is minimal and when wind is blowing away from the sensitive areas.

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Table A – Headline® fungicide Crop-Specific Use Directions

Crop	Target Diseases	Use Rate per Application	Maximum Number of Applications per Season	Maximum Rate per Season	Minimum Time from Application to Harvest (PHI)
Citrus Fruit Calamondin Citrus (citron) Citrus hybrids Chironja Grapefruit Kumquat Lemon Lime Mandarin Orange (sour and sweet) Pummelo Satsuma Tangelo Tangerine Tangor	Greasy spot (*Mycosphaerella citri*) Scab (*Elsinoe fawcettii*)	9 to 12 fl. oz. per acre	4	54 fl. oz/ per acre	0 days
	Alternaria brown spot (*Alternaria citri*) Anthracnose (*Colletotrichum acutatum, C. gloeosporiodes*) Black spot (*Guignardia citricarpa*) Melanose (*Diaporthe citri*) Post bloom fruit drop (*Colletotrichum acutatum*)	12 to 15 fl. oz. per acre			

Application Directions: For optimal disease control, begin applications of **Headline** prior to disease development and continue on a 10- to 21-day interval.

For control of diseases other than greasy spot, integrate 1 to 2 applications of **Headline** early in the spray program. For greasy spot control, integrate 1 to 2 applications of **Headline** into the fungicide program during the mid to late season.

Use the higher rate when disease pressure is high.

For aerial application to citrus orchards, use no less than 10 gallons of spray solution per acre.

Resistance Management: To limit the potential for development of resistance, **DO NOT** make more than four (4) applications of **Headline** or other QoI (Group 11) fungicides per season.

DO NOT make more than two (2) sequential applications of **Headline** before alternating to a labeled fungicide with a different mode of action.

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Table A – Headline® fungicide Crop-Specific Use Directions *(continued)*

Crop	Target Diseases	Use Rate per Application	Maximum Number of Applications per Season	Maximum Rate per Season	Minimum Time from Application to Harvest (PHI)
Corn Field corn Pop corn Sweet corn Seed production corn	Rust, Common (*Puccinia sorghi*) Rust, southern (*Puccinia polyspora*) Gray leaf spot (*Cercospora sorghi*)	6 to 9 fl. oz. per acre	6	72 fl. oz. per acre	7 days
	Anthracnose (*Colletotrichum graminicola*) Northern corn leaf blight (*Exserohilum turcicum*) Northern corn leaf spot (*Cochliobolus carbonum*) Physoderma brown spot (*Physoderma maydis*) Southern corn leaf blight (*Bipolaris maydis*) Yellow leaf blight (*Phyllosticta maydis*)	9 to 12 fl. oz. per acre			
	Application Directions: For optimal disease control, begin applications of **Headline** prior to disease development and continue on a 7- to 14-day interval if conditions are conducive for disease development. Use the higher rate and shorter interval when disease pressure is high. **Headline** may be used with adjuvants. **DO NOT** enter or allow worker entry into treated areas during the restricted entry interval (REI) of **12 hours** for all crops except when performing bare-hand detasseling or hand harvesting in treated corn. REI for bare-hand detasseling activities and hand harvesting in corn is **7 days**. Notify workers of the exception. **Resistance Management**: To limit the potential for development of resistance, **DO NOT** make more than six (6) applications of **Headline** or other QoI (Group 11) fungicides per season. **DO NOT** make more than two (2) sequential applications of **Headline** before alternating to a labeled fungicide with a different mode of action for at least one (1) application.				

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Table A – Headline® fungicide Crop-Specific Use Directions *(continued)*

Crop	Target Diseases	Use Rate per Application	Maximum Number of Applications per Season	Maximum Rate per Season	Minimum Time from Application to Harvest (PHI)
Dried Shelled Peas and Beans (except soybean) Broad bean Chickpea Guar Lablab bean Lentil Pigeon pea *Lupinus* spp. Grain lupin Sweet lupin White lupin *Phaseolus* spp. Field bean Kidney bean Pink bean Lima bean Navy bean Pinto bean Tepary bean *Vigna* spp. Adzuki bean Blackeyed pea Catjang Cowpea Crowder pea Moth bean Mung bean Rice bean Southern pea Urd bean *Pisum* spp. Field pea	Anthracnose (*Colletotrichum* spp.) Alternaria leaf and pod spot (*Alternaria* spp.) Ascochyta blight (*Phoma exigua, Ascochyta* spp.) Cercospora leaf spot (*Cercospora* spp.) Downy Mildew (*Phytophthora nicotianae*) Mycosphaerella blight (*Mycosphaerella* spp.) Powdery mildew (*Erysiphe polygoni*) Rust (*Uromyces appendiculatus*)	6 to 9 fl. oz. per acre	2	18 fl. oz. per acre	21 days
	Application Directions: For optimal disease control, begin applications of **Headline** prior to disease development and continue on a 7- to 14-day interval if conditions are conducive for disease development. Use the higher rate and shorter interval when disease pressure is high. Bean forage, bean hay, pea vines, and pea hay may be fed no sooner than 14 days after last application. **Headline** may be used with adjuvants. **Resistance Management:** To limit the potential for development of resistance, **DO NOT** make more than two (2) applications of **Headline** or other QoI (Group 11) fungicides per season.				

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Table A – Headline® fungicide Crop-Specific Use Directions *(continued)*

Crop	Target Diseases	Use Rate per Application	Maximum Number of Applications per Season	Maximum Rate per Season	Minimum Time from Application to Harvest (PHI)
Edible Podded Legume Vegetables Jack bean Pigeon pea Sword bean *Phaseolus* spp. Runner bean Snap bean Wax bean *Vigna* spp. Asparagus bean Chinese longbean Moth bean Yardlong bean *Pisum* spp. Dwarf pea Edible-podded pea Snow pea Sugar snap pea	Anthracnose (*Colletotrichum* spp.) Alternaria leaf and pod spot (*Alternaria* spp.) Ascochyta blight (*Phoma exigua, Ascochyta* spp.) Cercospora leaf spot (*Cercospora* spp.) Downy Mildew (*Phytophthora nicotianae*) Mycosphaerella blight (*Mycosphaerella* spp.) Powdery mildew (*Erysiphe* polygoni) Rust (*Ucromyces appendiculatus*)	6 to 9 fl. oz. per acre	2	18 fl. oz. per acre	7 days
	Application Directions: For optimal disease control, begin applications of **Headline** prior to disease development and continue on a 7- to 14-day interval if conditions are conducive for disease development. Use the higher rate and shorter interval when disease pressure is high. Bean forage, bean hay, pea vines, and pea hay may be fed no sooner than 14 days after last application. **Headline** may be used with adjuvants. **Resistance Management**: To limit the potential for development of resistance, **DO NOT** make more than two (2) applications of **Headline** or other QoI (Group 11) fungicides per season.				

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Table A – Headline® fungicide Crop-Specific Use Directions *(continued)*

Crop	Target Diseases	Use Rate per Application	Maximum Number of Applications per Season	Maximum Rate per Season	Minimum Time from Application to Harvest (PHI)
Mint	Leaf spot (*Ramularia* spp., *Alternaria* spp., *Phoma* spp.) Powdery mildew (*Erysiphe* spp.) Rust (*Puccinia* spp.)	9 to 12 fl. oz. per acre	4	48 fl. oz. per acre	14 days
	Application Directions: For optimal disease control, begin applications of **Headline** prior to disease development and continue on a 7- to 14-day interval if conditions are conducive for disease development. Use the higher rate and shorter interval when disease pressure is high. **Headline** may be used with adjuvants. **Resistance Management:** To limit the potential for development of resistance, **DO NOT** make more than four (4) applications of **Headline** or other QoI (Group 11) fungicides per season. **DO NOT** make more than two (2) sequential applications of **Headline** before alternating to a labeled fungicide with a different mode of action for at least one (1) application.				

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Table A – Headline® fungicide Crop-Specific Use Directions *(continued)*

Crop	Target Diseases	Use Rate per Application	Maximum Number of Applications per Season	Maximum Rate per Season	Minimum Time from Application to Harvest (PHI)
Succulent Shelled Peas Pigeon pea *Vigna* spp. Blackeyed pea Cowpea Southern pea *Pisum* spp. English pea Garden pea Green pea	Anthracnose (*Colletotrichum* spp.) Alternaria leaf and pod spot (*Alternaria* spp.) Ascochyta blight (*Phoma exigua, Ascochyta* spp.) Cercospora leaf spot (*Cercospora* spp.) Downy Mildew (*Phytophthora nicotianae*) Mycosphaerella blight (*Mycosphaerella* spp.) Powdery mildew (*Erysiphe polygoni*) Rust (*Uromyces appendiculatus*)	6 to 9 fl. oz. per acre	2	18 fl. oz. per acre	7 days
	Application Directions: For optimal disease control, begin applications of **Headline** prior to disease development and continue on a 7- to 14-day interval if conditions are conducive for disease development. Use the higher rate and shorter interval when disease pressure is high. Bean forage, bean hay, pea vines, and pea hay may be fed no sooner than 14 days after last application. **Headline** may be used with adjuvants. **Resistance Management**: To limit the potential for development of resistance, **DO NOT** make more than two (2) applications of **Headline** or other QoI (Group 11) fungicides per season.				

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Table A – Headline® fungicide Crop-Specific Use Directions *(continued)*

Crop	Target Diseases	Use Rate per Application	Maximum Number of Applications per Season	Maximum Rate per Season	Minimum Time from Application to Harvest (PHI)
Sunflower	Alternaria leaf spot (*Alternaria* spp.) Cercocospora leaf spot (*Cercospora helianthi*) Downy mildew (*Plasmopara halstedii*) Powdery mildew (*Erysiphe cichoracearum*) Rust (*Puccinia helianthi, ucromyces* spp. Septoria leaf spot (*Septoria* spp.) White rust (*Albugo tragopogonis*)	6 to 12 fl. oz. per acre	2	24 fl. oz. per acre	21 days
	Application Directions: For optimal disease control, begin applications of **Headline** prior to disease development and continue on a 7- to 14-day interval if conditions are conducive for disease development. Use the higher rate and shorter interval when disease pressure is high. **Headline** may be used with adjuvants. **Resistance Management:** To limit the potential for development of resistance, **DO NOT** make more than two (2) applications of **Headline** or other QoI (Group 11) fungicides per season.				

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Table B – Headline® fungicide Use Restrictions and Limitations for Citrus, Corn, Dried Shelled Peas & Beans (except soybean), Edible Podded Legume Vegetables, Mint, Succulent Shelled Peas and Sunflower

Crop	Minimum Time from Application to Harvest (PHI) (days)	Maximum Rate per Acre per Application (fl. oz.)	Maximum Number of Sequential Applications	Maximum Number of Applications per Season	Maximum Rate per Acre per Season (fl. oz.)	Livestock Grazing or Feeding
Citrus Fruit Crop Group:[1] Orange, Grapefruit, Lemon, Lime, Tangerine, and Tangelo	0	15	2	4	54[2]	Yes
Corn (All types)	7	12	2	6	72	Yes
Dried Shelled Peas & Beans (except soybean)[1]	21	9	2	2	18	Yes[3]
Edible-podded Legume Vegetables[1]	7	9	2	2	18	Yes[3]
Mint	14	12	2	4	48	NA[4]
Succulent Shelled Peas [1]	7	9	2	2	18	Yes[3]
Sunflower	21	12	2	2	24	Yes

[1] For a complete list of crops within a crop group, see **Table A. Headline Crop-Specific Use Directions**.
[2] See **Table A. Crop Specific Use Directions, Citrus Fruit**
[3] Bean forage, bean hay, pea vines, and pea hay may be fed no sooner than 14 days after last application.
[4] NA = not applicable

Aerial application is permitted for all labeled crops. **No aerial application in New York State except as permitted under FIFRA Section 24 (c), Special Local Needs Registration.**

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Conditions of Sale and Warranty

The **Directions For Use** of this product reflects the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. All such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above. BASF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL BASF OR THE SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing **Conditions of Sale and Warranty** which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

Refer to main **Headline** label for further conditions of sale and warranty information.

***Headline** is a registered trademark of BASF.*

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Supersedes: NVA 2004-04-088-0100

BASF Corporation
Agricultural Products
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The Chemical Company