



Material Safety Data Sheet

GINSTAR® EC DEFOLIANT

MSDS Number: 84
MSDS Version 1.1

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name GINSTAR® EC DEFOLIANT
Chemical Name N-phenyl-N'-(1,2,3-thiadiazol-5'yl)-urea; 3-(3,4-dichlorophenyl)-1,1-dimethylurea (active ingredients)
Synonym
MSDS Number 84
Chemical Family
Chemical Formulation Mixture (active ingredients: C₉H₈N₄O₅;
EPA Registration No. 264-634
Canadian Registrat. No.

Aventis CropScience USA LP
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

☎ For Product Use Information: (888)-AVENTIS (283-6847) Monday through Friday
8:00AM-4:30PM
For Medical Emergency contact DART: (800) 334-7577 24 Hours/Day
For Transportation Emergency CHEMTREC: (800) 424-9300 24 Hours/Day

Product Use Description GINSTAR EC is a defoliant used as a harvest aid on cotton.

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Component Name</u> | <u>CAS No.</u> | <u>Concentration % by Weight</u> | |
|-------------------------------------------------------------|----------------|----------------------------------|----------------|
| | | <u>Minimum</u> | <u>Maximum</u> |
| Thidiazuron | 51707-55-2 | 12.0000 | |
| Diuron | 330-54-1 | 6.0000 | |
| Inert ingredients, including: Pyrrolidone (Trade Secret) | | 82.0000 | |

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview Corrosive to eyes; causes irreversible eye damage.
Causes burns.
The product is a light brown to amber liquid.

Physical State liquid

Odor Slight amine odor

Appearance Light brown to amber

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| | |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Routes of Exposure | Skin contact, mist inhalation. |
| Immediate Effects | |
| Eye | CORROSIVE. Causes irreversible eye damage. |
| Skin | A skin irritant. Causes moderate to severe skin irritation on prolonged contact. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. |
| Ingestion | Harmful if ingested. Ingestion may cause blisters/tissue damage of the mouth, throat, and digestive tract. |
| Inhalation | Harmful if inhaled. Prolonged inhalation of mist may cause coughing and difficulty in breathing. |
| Chronic or Delayed Long-Term | None of the components of this formulation are listed as carcinogenic by NTP, IARC, or OSHA. |
| Signs and Symptoms | Overexposure to inert ingredients may cause burning sensations/irritation to eyes, nose, throat and other mucous membranes. Ingestion may cause blisters/tissue damage of the mouth, throat, and digestive tract. Prolonged inhalation of mists may cause coughing and difficulty in breathing. |

SECTION 4. FIRST AID MEASURES

| | |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye | Hold eyelids open and immediately flush with a steady, gently stream of water for at least 15 minutes. Call a physician. |
| Skin | Wash with plenty of soap and water. Get medical attention. |
| Ingestion | DO NOT INDUCE VOMITING. Drink promptly a large quantity of milk, egg white, gelatin solution, or if these are not available, large quantities of water. Avoid alcohol. Call a physician immediately. |
| Inhalation | Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention. |
| Note to Physician | Probable mucosal damage may contraindicate use of gastric lavage. |

SECTION 5. FIRE FIGHTING MEASURES

| | |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flash Point | > 107 °C / > 225 °F TCC |
| Fire and Explosion Hazards | Thermal decomposition of this product may generate toxic fumes including carbon dioxide, carbon monoxide, aldehydes, and/or oxides of sulfur and nitrogen. |
| Suitable Extinguishing Media | Foam, sand, earth, dry powder, carbon dioxide, water spray. |
| Fire Fighting Instructions | Wear self-contained breathing apparatus and impervious protective clothing. Spray exposed containers with water to keep cool. Use water spray cautiously. Do not use water in a jet. |

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FLAMMABILITY CLASSIFICATION/RATING:
NFPA/OSHA Class: IIIB
NFPA Rating (Fire): 1

HAZARDOUS COMBUSTIBLE PRODUCTS:
Hazardous oxides of carbon, nitrogen and sulfur.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- General and Disposal** Use proper protective equipment to minimize personal exposure (see Section 8). Take all necessary action to prevent and to remedy the effects of the spill. Ensure that the disposal is in compliance with federal or local disposal regulations (see Section 13). Notify the appropriate authorities immediately (see Section 15 for applicable Reportable Quantity (RQ)). Report to authorities if water enters watercourse or sewer.
- Land Spill or Leaks** Stop leak if it can be done without risk. In case of spillage, cover with an absorbent such as soda ash, lime, clay, or sawdust. Sweep up and bury. Wash area thoroughly with water and detergent. For large spills, contact Aventis for further assistance if necessary.

SECTION 7. HANDLING AND STORAGE

- Handling Procedures** Do not get in eyes, on skin, or clothing. Avoid breathing vapor or spray mist.
- Storing Procedures** Store in the original container and keep closed. Store in a cool, dry place. Do not use or store near heat or open flame. Do not contaminate food or foodstuffs.
- Work/Hygienic Procedures**
- (1) Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
 - (2) Remove contaminated clothing immediately and wash thoroughly before reuse.
 - (3) See "User Safety Recommendations" on the product label for additional details.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering Controls** Control airborne concentrations below the exposure guideline (see below for any applicable OSHA/ACGIH Exposure Limits). Local exhaust ventilation may be necessary under certain confined conditions.
- Eye/Face Protection** Chemical goggles or face shield.
- Body Protection** Impervious gloves (PVC or rubber). Long-sleeved shirt and long pants (fine weave) and rubber boots, as recommended by the site Safety Manager. Eye wash facility and safety shower should be available on site.
- Respiratory Protection** Use in well ventilated areas. Use NIOSH/MSHA/MESA approved vapor respirator when excessive vapor is likely in breathing zone.

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AGRICULTURAL USES:

The following personal protective equipment (PPE) must be worn when using product or upon early entry into treated areas during the Restricted Entry Interval (REI):

Long-sleeved shirts and long pants; or Coveralls (for early entry during REI only)
Chemical-resistant gloves such as barrier laminate or butyl rubber gloves
Shoes plus socks
Protective eyewear

Note: Refer to the product label for applicable details concerning the "User Safety Recommendations" and the use of PPE under the EPA Worker Protection Standards (40 CFR Part 170).

MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS:

The personal protective equipment (PPE) in accordance with OSHA standards is recommended above.

Exposure Limits

| | | | | |
|--------|----------|-----------|---------|----------------------|
| Diuron | 330-54-1 | ACGIH | TWA | 10 mg/m ³ |
| | | NIOSH | REL | 10 mg/m ³ |
| | | OSHA Z1A | TWA | 10 mg/m ³ |
| | | US CA OEL | TWA PEL | 10 mg/m ³ |

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|------------------------------|-----------------------------|
| Appearance | Light brown to amber |
| Physical State | liquid |
| Odor | Slight amine odor |
| Vapor Pressure | Not volatile (inert) |
| Specific Gravity | 0.978 |
| Boiling Point | (est) > 100°C and < 145°C |
| Solubility (in water) | Slight; emulsifies in water |

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No known chronic effects.

Assessment Carcinogenicity

ACGIH

Diuron

330-54-1

Group A4

NTP

None

IARC

None

OSHA

None

Reproductive & Developmental Toxicity

Thidiazuron technical

No adverse effects on fertility or reproduction were observed in rat multigeneration study.

Diuron technical

Animal testing showed that diuron technical (up to 125 ppm, the maximum test dose) had no adverse effects in reproduction or lactation.

Teratogenicity

Thidiazuron technical

No teratogenic effects were observed for thidiazuron in rat or rabbit teratology studies.

Diuron technical

Tests with diuron technical (>97%) in some animal studies indicate that diuron may have embryotoxic activity. The product contains 6.0% diuron.

Mutagenicity

Thidiazuron technical

Thidiazuron is not mutagenic or genotoxic when tested in several mutagenicity studies.

Diuron technical

Diuron is not mutagenic when tested in animals.

Inert Ingredients

Not mutagenic when tested in the Ames test.

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SECTION 12. ECOLOGICAL INFORMATION

Environmental Precautions

The product contains inert ingredients which are considered toxic to fish and aquatic organisms. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters.

Do not apply through any type of irrigation system.

Do not apply when weather conditions favor drift; spray drift contact with trees or crops other than cotton may injure or defoliate these crops.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance

Any disposal practice must be in compliance with all Federal, State/Provincial, and local laws and regulations. State (Provincial) and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Chemical additions, processing, storage, or otherwise altering this material may make the waste disposal information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Waste characterization and disposal compliance are the responsibility solely of the party generating the waste or deciding to discard or dispose of the material. Refer to appropriate Federal (RCRA: 40 CFR.261), State/Provincial, or local requirements for proper classification information. For regulatory information on the ingredient components, see Section 15.

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Pesticide waste are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact for guidance your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office.

Container Disposal

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in sanitary landfill, or by other procedures approved by state and local authorities. Do not reuse empty container.

RCRA CLASSIFICATION:
RCRA Hazardous Waste ingredients: None

SECTION 14. TRANSPORT INFORMATION

NOT REGULATED FOR TRANSPORT

SECTION 15. REGULATORY INFORMATION

US Federal

| | |
|----------------------|----------|
| EPA Registration No. | 264-634 |
| TSCA list | |
| Diuron | 330-54-1 |

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TSCA 12b export notification

None

SARA Title III - section 302 - notification and information

None

SARA Title III - section 313 - toxic chemical release reporting

| | | |
|--------|----------|------|
| Diuron | 330-54-1 | 1.0% |
|--------|----------|------|

US States Regulatory

CA Prop65

This product contains a chemical known to the state of California to cause cancer.

None

This product contains a chemical known to the state of California to cause birth defects or other reproductive harm.

None

US State right-to-know ingredients

| | | |
|--------|----------|------------------------|
| Diuron | 330-54-1 | CA, CT, IL, NJ, PA, RI |
|--------|----------|------------------------|

Canadian Regulations

Canadian Registrat. No.

Canadian Domestic Substance List

| | |
|--------|----------|
| Diuron | 330-54-1 |
|--------|----------|

Environmental

CERCLA

| | | |
|--------|----------|---------|
| Diuron | 330-54-1 | 100 lbs |
|--------|----------|---------|

Clean Water Section 307 Priority Pollutants

None

Safe Drinking Water Act Maximum Contaminant Levels

| | |
|--------|----------|
| Diuron | 330-54-1 |
|--------|----------|

International Regulations

EU Classification

None

European Inventory of Existing Commercial Substances (EINECS)

| | |
|-------------|------------|
| Thidiazuron | 51707-55-2 |
|-------------|------------|

| | |
|--------|----------|
| Diuron | 330-54-1 |
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SECTION 16. OTHER INFORMATION

| | Health | Flammability | Reactivity | Others |
|------|--------|--------------|------------|--------|
| HMIS | 3 | 1 | 0 | H |
| NFPA | 3 | 1 | 0 | None |

REVISED SECTIONS:

MSDS REVISION INDICATOR: New Format.

PREPARED BY: Dept. of Regulatory Affairs

PHONE: 800-438-5837

SUPERCEDES MSDS DATED: 10/3/2000

Print Date: 09/18/2001

Supersedes MSDS, which is older than: 09/18/2001

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