SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: RONSTAR® G HERBICIDE
MSDS Number: 102000004005
EPA Registration No.: 432-886

Bayer Environmental Science
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
For Product Information call: 1-800-331-2867

SECTION 2. HAZARDS IDENTIFICATION

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

Emergency Overview: Warning! Causes eye irritation. Causes skin irritation. Harmful if inhaled. Do not get in eyes, on skin, or on clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling.

Physical State: granular
Odor: slight
Appearance: grey to tan
Exposure routes: Inhalation, Eye contact, Skin contact, Ingestion

Immediate Effects:
- Eye: Causes redness, irritation, tearing. Do not get in eyes.
- Skin: Causes irritation, redness, swelling. Do not get in eyes, on skin, or on clothing.
- Ingestion: Harmful if swallowed.
- Inhalation: May cause upper respiratory tract irritation. Harmful if inhaled. Avoid breathing dust.

Chronic or Delayed Long-Term: This product contains ingredients that are considered to be probable or suspected human carcinogens (see Section 11 - Chronic). Prolonged contact may cause benign changes in lung tissue. This product or its components may have target organ effects.
Medical Conditions Aggravated by Exposure

Skin contact may aggravate existing skin disease. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis.

Potential Environmental Effect

Toxic to fish.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Average % by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxadiazon</td>
<td>19666-30-9</td>
<td>2.00</td>
</tr>
<tr>
<td>Polyoxethylene-(octylphenyl)-ether</td>
<td>9036-19-5</td>
<td>1.25</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>0.92</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>0.42</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

General

When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Eye

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 physician or poison control center immediately.

Skin

Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Ingestion

Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Inhalation

Move 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 physician or poison control center immediately.

Notes to physician Hazards

Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Treatment

Treat symptomatically. There is no specific antidote.
SECTION 5. FIRE FIGHTING MEASURES

Flash point  
not applicable

Fire and Explosion Hazards  
Dangerous gases are evolved in the event of a fire.

Fire Fighting Instructions  
Use appropriate extinguishing media for material that is supplying fuel. Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions  
Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods for cleaning up  
Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations. Decontaminate tools and equipment following cleanup.

Additional advice  
Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal. Do not allow product to contact vegetation.

SECTION 7. HANDLING AND STORAGE

Handling procedures  
Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. Handle and open container in a manner as to prevent spillage. Take measures to prevent the build up of electrostatic charge.

Storing Procedures  
Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Work/Hygienic Procedures  
Keep away from food, drink and animal feedingstuffs. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.
Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### General Protection
Follow all label instructions. Train employees in safe use of the product.

Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

#### Eye/Face Protection
Tightly fitting safety goggles

#### Hand protection
Chemical resistant nitrile rubber gloves

#### Body Protection
Wear long-sleeved shirt and long pants and shoes plus socks.

#### Respiratory protection
When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Under conditions immediately dangerous to life or health, or emergency conditions with unknown concentrations, use a full-face positive pressure air-supplied respirator equipped with an emergency escape air supply unit or use a self-contained breathing apparatus unit.

### Exposure Limits

<table>
<thead>
<tr>
<th>Substance</th>
<th>ACGIH</th>
<th>REL</th>
<th>STEL</th>
<th>TWA</th>
<th>ST EL</th>
<th>PEL</th>
<th>TWA PEL</th>
<th>STEL</th>
<th>TWA</th>
<th>ST EL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthalene</td>
<td>91-20-3</td>
<td>10 ppm</td>
<td>15 ppm</td>
<td>10 ppm</td>
<td>440 ug/m³</td>
<td>44 ug/m³</td>
<td>10 ppm</td>
<td>15 ppm</td>
<td>10 ppm</td>
<td></td>
</tr>
<tr>
<td>Cellulose</td>
<td>9004-34-6</td>
<td>10 mg/m³</td>
<td>5 mg/m³</td>
<td>10 mg/m³</td>
<td>5 mg/m³</td>
<td>15 mg/m³</td>
<td>5 mg/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>grey to tan</td>
</tr>
<tr>
<td>Physical State</td>
<td>granular</td>
</tr>
<tr>
<td>Odor</td>
<td>slight</td>
</tr>
<tr>
<td>Bulk density</td>
<td>44.0 - 50.0 lb/ft³ (loose)</td>
</tr>
<tr>
<td>Water solubility</td>
<td>insoluble</td>
</tr>
</tbody>
</table>

SECTION 10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Condition</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions to avoid</td>
<td>no data available</td>
</tr>
</tbody>
</table>
Material Safety Data Sheet
RONSTAR® G HERBICIDE

Incompatibility

Strong bases
Strong acids
Strong oxidizing agents

Hazardous Decomposition Products

Thermal decomposition
nitrogen oxides (NOx)
Hydrogen chloride (HCl)
Carbon oxides

Chemical Stability

Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity studies have been bridged from a similar formulation containing a similar percentage of the active ingredient, oxadiazon. The sensitization data, as well as, the non-acute information pertains to the technical-grade active ingredient.

Acute oral toxicity
rat: LD50: > 5,000 mg/kg

Acute dermal toxicity
rabbit: LD50: > 2,000 mg/kg

Acute inhalation toxicity
rat: LC50: > 0.5 mg/l
Exposure time: 4 h
Determined in the form of dust.
rat: LC50: > 2.0 mg/l
Exposure time: 1 h
Determined in the form of dust.
Extrapolated from the 4 hr LC50.

Skin irritation
rabbit: Moderate skin irritation.

Eye irritation
rabbit: Moderate eye irritation.

Sensitisation

guinea pig: Non-sensitizing.

Chronic toxicity

Oxadiazon caused liver effects in chronic studies in rats, mice and dogs.

Assessment Carcinogenicity

Oxadiazon has been shown to cause liver tumors in lifetime feeding studies in rats and mice.

ACGIH
Titanium dioxide 13463-67-7 Group A4
Naphthalene 91-20-3 Group A4

NTP
Naphthalene 91-20-3

IARC
Titanium dioxide 13463-67-7 Overall evaluation: 2B
Naphthalene 91-20-3 Overall evaluation: 2B
OSHA
None.

Reproductive toxicity

REPRODUCTION: Oxadiazon was not a primary reproductive toxicant in a multi-
geneneration reproduction study in rats. Reproductive effects were observed only
at doses that caused systemic toxicity in adult rats.

DEVELOPMENTAL TOXICITY: Oxadiazon was not a primary developmental
toxicant in rats and rabbits. Developmental effects were observed but were
considered secondary to maternal toxicity.

Neurotoxicity

Oxadiazon did not demonstrate the potential to cause neurotoxicity in standard
toxicity studies using laboratory animals.

Mutagenicity

Oxadiazon is not considered mutagenic or genotoxic based on the overall weight
of evidence in a battery of in vitro and in vivo tests.

SECTION 12. ECOLOGICAL INFORMATION

Environmental precautions

Do not allow to get into surface water, drains and ground water. Do not
contaminate surface or ground water by cleaning equipment or disposal of
wastes, including equipment wash water. Apply this product as specified on the
label.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance
Pesticide, spray mixture or rinse water that cannot be used according to label
instructions may be disposed of on site or at an approved waste disposal facility.

Container Disposal
Do not re-use empty containers. Completely empty container into application
equipment, then dispose of empty container in a sanitary landfill, by incineration
or by other procedures approved by state/provincial and local authorities. If
burned, stay out of smoke.

RCRA Information
Characterization and proper disposal of this material as a special or hazardous
waste is dependent upon Federal, State and local laws and are the user's
responsibility. RCRA classification may apply.

SECTION 14. TRANSPORT INFORMATION

CFR
Not dangerous goods / not hazardous material

IMDG
UN-Number 3077
Class 9
Packaging group: III
Marine pollutant: Marine Pollutant
Description of the goods: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (OXADIAZON MIXTURE)

IATA
UN-Number: 3077
Class: 9
Packaging group: III
Description of the goods: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (OXADIAZON MIXTURE)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification: COMPOUNDS, TREE OR WEEDKILLING, N.O.I., other than poison; HAVING A DENSITY OF GREATER THAN 20 LBS. PER CUBIC FOOT

SECTION 15. REGULATORY INFORMATION

EPA Registration No.: 432-886

US Federal Regulations

TSCA list
Polyoxyethylene-(octylphenyl)-ether: 9036-19-5
Titanium dioxide: 13463-67-7
Naphthalene: 91-20-3

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
Naphthalene: 91-20-3

SARA Title III - Section 302 - Notification and Information
None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting
Oxadiazon: 19666-30-9 (1.0%)
Naphthalene: 91-20-3 (0.1%)

US States Regulatory Reporting

CA Prop65
This product contains a chemical known to the State of California to cause cancer.
Oxadiazon: 19666-30-9
Naphthalene: 91-20-3

This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients
Oxadiazon: 19666-30-9, NJ
Titanium dioxide: 13463-67-7, IL, MN, RI
Naphthalene: 91-20-3, CA, CT, IL, MN, NJ, PA, RI
Canadian Regulations

Canadian Domestic Substance List
- Polyoxethylene-(octylphenyl)-ether  9036-19-5
- Titanium dioxide  13463-67-7
- Naphthalene  91-20-3

Environmental

CERCLA
- Naphthalene  91-20-3

Clean Water Section 307 Priority Pollutants
None.

Safe Drinking Water Act Maximum Contaminant Levels
None.

International Regulations

European Inventory of Existing Commercial Substances (EINECS)
- Oxadiazon  19666-30-9
- Titanium dioxide  13463-67-7
- Naphthalene  91-20-3

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):
- Health - 2
- Flammability - 1
- Reactivity - 0
- Others - none

- Health - 2
- Flammability - 1
- Physical Hazard - 0
- PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: The following sections have been revised: Section 8: Exposure Controls / Personal Protection. Section 16: Other Information.

Revision Date: 09/07/2010

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