SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: Renounce 20 WP Insecticide  
Chemical Name:  
Common Name:  
MSDS Number: R000045903  
Chemical Family:  
Chemical Formulation:  
EPA Registration No.: 264-784  
Product Use: For control of certain insects on listed field crops, vegetables, and tree and vine crops.

Bayer CropScience  
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 1-866-99BAYER (1-866-992-2937)

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS No.</th>
<th>Concentration % by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyfluthrin Technical</td>
<td>68359-37-5</td>
<td>19.0000 - 21.0000</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)</td>
<td>14808-60-7</td>
<td>1.0000 - 7.0000</td>
</tr>
</tbody>
</table>

SECTION 3. HAZARDS IDENTIFICATION

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

Emergency Overview: Caution! Harmful if swallowed, inhaled or absorbed through the skin. Irritating to eyes. Keep out of reach of children and domestic animals. Avoid breathing dust or spray mist.

Physical State: Solid Powder

Odor: Aromatic

Appearance: Tan

Routes of Exposure: Inhalation, Skin Absorption, Eye contact, Skin contact

Immediate Effects

Eye: Wear protective eyewear. Do not get in eyes. Mild eye irritation
Material Safety Data Sheet

Renounce 20 WP Insecticide

Skin MILD SKIN IRRITANT. MAY CAUSE A TRANSIENT, LOCALIZED PARESTHESIA, CHARACTERIZED BY TINGLING, BURNING OR NUMBNESS SENSATION IN SOME INDIVIDUALS.

Ingestion HARMFUL IF SWALLOWED.

Inhalation IRRITATION OF MUCOUS MEMBRANES. AVOID BREATHING DUST OR SPRAY MIST. MIST MAY CAUSE IRRITATION INVOLVING THE NOSE, THROAT AND UPPER RESPIRATORY TRACT DURING THE END USE OF THE PRODUCT SUCH AS DURING A SPRAY APPLICATION.

Chronic or Delayed Long-Term

This product is not listed as a carcinogen by ACGIH, NTP, IARC or OSHA. However, it may contain crystalline silica (quartz), a substance which has been listed as a carcinogen by ACGIH, NTP and IARC. Crystalline silica is a naturally-occurring mineral component of many sands and clays. Although the carcinogenic potential of crystalline silica in humans is controversial, it must be considered if it is inhaled under excessive exposure conditions. The respirable portion of the silica that may be contained in this product, however, is small, such that excessive inhalation exposure during anticipated conditions of use is unlikely.

Medical Conditions Aggravated by Exposure

No specific medical conditions are known which may be aggravated by exposure to this product. As with all materials which can cause upper respiratory tract irritation, persons with a history of asthma, emphysema, or hyperreactive airways disease may be more susceptible to overexposure. Pulmonary and respiratory diseases may be aggravated by exposure to respirable crystalline silica.

SECTION 4. FIRST AID MEASURES

General

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.

Skin

Take off all contaminated clothing immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a poison control center or doctor for treatment advice.

Ingestion

Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Do not give anything by mouth to an unconscious or convulsing person.

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 poison control center or doctor for treatment advice.

Notes to Physician

Treatment

TREAT SYMPTOMATICALLY. THERE IS NO ANTIDOTE. PUBLISHED DATA INDICATE VITAMIN E ACETATE CAN PREVENT AND/OR MITIGATE SYMPTOMS OF PARESTHESIA (SKIN IRRITATION) CAUSED BY SYNTHETIC PYRETHRIDS.
SECTION 5. FIRE FIGHTING MEASURES

Flash Point  
Not applicable

Autoignition  
Not combustible.

Suitable Extinguishing Media  
Water, Dry chemical

Fire Fighting Instructions  
Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Stay upwind if possible.

SECTION 6. ACCIDENTAL RELEASE MEASURES

General and Disposal  
Isolate hazard area. Wear appropriate gear for the situation. See Personal Protection information in Section 8. Sweep up and shovel into suitable containers for disposal. Do not allow spilt product to enter soil or waterways. Do not enter confined spaces unless adequately ventilated.

Clean contaminated floors and objects thoroughly with water and detergent, observing environmental regulations. Decontaminate tools and equipment following cleanup.

SECTION 7. HANDLING AND STORAGE

Handling Procedures  
Wash with soap and water after handling. Avoid breathing dust.

Storing Procedures  
Keep away from living quarters. Keep away from open flames, hot surfaces and sources of ignition. Store in an area that is away from food, feedstuffs, fertilizers and seed, away from the home or home garden. Store in an area that is dry and well-ventilated.

Min/Max Storage Temperatures  
No lower limit.  
60 day average not to exceed 120°F.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls  
Ensure adequate ventilation, especially in confined areas. Provide exhaust ventilation. Control airborne concentrations below the exposure guidelines. When handlers use closed systems, enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Eye/Face Protection  
Chemical resistant goggles must be worn.

Hand Protection  
Suitable chemical resistant gloves

Body Protection  
Long-sleeved shirt and long pants. Shoes plus socks.
Respiratory Protection
When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or Industry recommendations.

General Protection
Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water.

Exposure Limits

<table>
<thead>
<tr>
<th>Crystalline Silica (Quartz)</th>
<th>NIOSH REL</th>
<th>14808-60-7</th>
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</thead>
<tbody>
<tr>
<td>Form of Exposure</td>
<td>Respirable dust</td>
<td>0.05 mg/m3</td>
</tr>
<tr>
<td>OSHA Z1A TWA</td>
<td>Respirable dust</td>
<td>0.1 mg/m3</td>
</tr>
<tr>
<td>US CA OEL TWA PEL</td>
<td>Respirable dust</td>
<td>0.1 mg/m3</td>
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<tr>
<td>US CA OEL TWA PEL</td>
<td>Total dust</td>
<td>0.3 mg/m3</td>
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<tr>
<td>ACGIH TWA</td>
<td>Respirable fraction</td>
<td>0.05 mg/m3</td>
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<tr>
<td>OSHA Z1 PEL</td>
<td>Respirable fraction</td>
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<tr>
<td>OSHA Z1 PEL</td>
<td>Total dust</td>
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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
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<tr>
<th>Appearance</th>
<th>Tan</th>
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<tbody>
<tr>
<td>Physical State</td>
<td>Solid Powder</td>
</tr>
<tr>
<td>Odor</td>
<td>Aromatic</td>
</tr>
<tr>
<td>pH</td>
<td>9.2 (as aqueous solution)</td>
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<tr>
<td>Vapor Pressure</td>
<td>0.000248 µPa at 20 °C</td>
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<tr>
<td>Bulk Density</td>
<td>20 - 26 lbs / cu-ft</td>
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<tr>
<td>Water Solubility</td>
<td>No data available</td>
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</tbody>
</table>

SECTION 10. STABILITY AND REACTIVITY

| Chemical Stability | Stable under normal conditions. |
| Conditions to Avoid | Exposure to extreme heat. Exposure to moisture. |
| Incompatibility    | Methanol  
|                   | Alkali metals  
|                   | Alkaline earth metals  
|                   | Light and/or alkaline metals  
|                   | Bases |
Hazardous Polymerization (Conditions to Avoid)

Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on this product as formulated. The non-acute information pertains to the active ingredient, cyfluthrin.

Acute Oral Toxicity

Male Rat: LD50: 3,084 mg/kg
Female Rat: LD50: 1,733 mg/kg

Acute Dermal Toxicity

Male/Female Rabbit: LD50: > 2,000 mg/kg

Acute Inhalation Toxicity

Male/Female Rat: LC50: 4-hr exposure to dust: > 1.18 mg/l
Maximum attainable concentration.
(actual)

Male/Female Rat: 1-hr exposure to dust (extrapolated from 4-hr LC50): > 4.72 mg/l
(actual)

Skin Irritation

Rabbit: slight irritation

Eye Irritation

Rabbit: Mild eye irritation

Sensitization

Guinea pig: non-sensitizing

Subchronic Toxicity

In a 3-week dermal toxicity study in rats treated with cyfluthrin, effects observed included clinical signs of toxicity, as well as, topical and microscopic alterations in the treated tissue at the dose site.

In a 13-week inhalation study in rats exposed to cyfluthrin, effects included reduced body weight gains and non-specific behavioral disturbances at the mid- and high concentrations (0.71 and 4.5 mg/cu-m).

Chronic Toxicity

In chronic dietary studies in rats treated with cyfluthrin, compound-related effects included decreased body weight gains and slight changes in clinical chemistries.

In chronic dietary studies in dogs treated with cyfluthrin, compound-related effects were observed at the higher concentrations (>360 ppm). These effects included an increased incidence of vomiting, decreased body weights, soft feces and clinical neurological symptoms.

Assessment Carcinogenicity

In oncongenicity studies in rats and mice, cyfluthrin was not considered carcinogenic in either species.

ACGIH

Crystalline Silica (Quartz) 14808-60-7 Group A2

NTP

Crystalline Silica (Quartz) 14808-60-7

IARC

Crystalline Silica (Quartz) 14808-60-7
REPRODUCTIVE TOXICOLOGY: In reproduction studies in rats treated with cyfluthrin, reproductive effects occurred in conjunction with parental toxicity. These effects included reductions in viability, lactation, litter size, feed consumption and body weights. In addition, coarse tremors were observed in offspring at higher concentrations (ca. 125 ppm).

DEVELOPMENTAL TOXICITY: In developmental toxicology studies in rats treated with cyfluthrin, there were no embryotoxic or teratogenic effects via the oral route of exposure. When rats were exposed to cyfluthrin via inhalation, embryotoxic effects occurred in conjunction with maternal toxicity. In rabbits treated orally with cyfluthrin, there was an increased incidence of post-implantation losses at maternally toxic dose levels.

Neurotoxicity

In neurotoxicity studies with cyfluthrin, minimal nerve damage occurred in rats and hens treated by oral gavage. In dermal and inhalation studies, which are more relevant to field exposure, there was no evidence of delayed neurotoxicity in hens treated with cyfluthrin.

In a special investigative inhalation study with cyfluthrin in neonatal mice, effects observed included clinical signs of toxicity, mortality and neurobehavioral effects indicative of treatment-related hyperactivity. There were no correlating morphological changes in neural tissues in mice at 4 months of age.

Mutagenicity

Numerous in vitro and in vivo mutagenicity studies have been conducted on cyfluthrin, all of which are negative.

SECTION 12. ECOLOGICAL INFORMATION

Environmental Precautions

This pesticide is toxic to fish and aquatic organisms. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark outside of a treated rice field. Drift and runoff from treated areas may be hazardous to fish/aquatic organisms in adjacent sites. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product only as specified on the label.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply it or allow it to drift to crops or weeds on which bees are actively foraging.
SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance
Keep away from food, drink and animal feeding stuffs. Do not re-use empty containers. Pesticide Disposal: Do not contaminate water, food, or feed by disposal. Pesticide, spray mixture or rinse water that cannot be used according to label instructions maybe disposed of at an approved waste facility. Pesticide wastes are acutely toxic hazardous.

Packaging that cannot be cleaned should be disposed of as product waste. Uncontrolled disposal or recycling of this packaging is not permitted and can be dangerous.

RCRA Classification
Not Regulated under this Statute

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:
Not regulated for Domestic Surface Transportation

SECTION 15. REGULATORY INFORMATION

EPA Registration No. 264-784

US Federal Regulations
TSCA list
Crystalline Silica (Quartz) 14808-60-7

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
None

SARA Title III - section 302 - notification and information
None

SARA Title III - section 313 - toxic chemical release reporting
Cyfluthrin Technical 68359-37-5 1.0%

US States Regulatory Reporting
CA Prop65
This product contains a chemical known to the state of California to cause cancer. Crystalline Silica (Quartz) 14808-60-7

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

US State right-to-know ingredients
Crystalline Silica (Quartz) 14808-60-7 IL, MA, MN, PA

Canadian Regulations
Canadian Domestic Substance List
Crystalline Silica (Quartz) 14808-60-7

Environmental
CERCLA
None
Clean Water Section 307 Priority Pollutants
Material Safety Data Sheet

Renounce 20 WP Insecticide

None

Safe Drinking Water Act Maximum Contaminant Levels
None

International Regulations

EU Classification
None

European Inventory of Existing Commercial Substances (EINECS)
Cyfluthrin Technical  68359-37-5
Crystalline Silica (Quartz)  14808-60-7

SECTION 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
<th>Others</th>
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<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>None</td>
</tr>
</tbody>
</table>

Reason to Issue: Revise format; update data in Section 15.

Approval Date: 08/31/2004

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