SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier
Trade name BAYER ADVANCED FIRE ANT KILLER READY-TO-USE DUST
Product code (UVP) 06479650
SDS Number 102000012235
EPA Registration No. 72155-32

Relevant identified uses of the substance or mixture and uses advised against
Use Insecticide
Restrictions on use See product label for restrictions.

Information on manufacturer
Bayer Environmental Science
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
United States

Emergency telephone no.
Emergency Telephone Number (24hr/ 7 days) 1-800-334-7577 (24 hours/day)
Product Information Telephone Number
SDS Information or Request SDSINFO.BCS-NA@bayer.com

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
Acute toxicity (Oral): Category 4

Signal word: Warning

Hazard statements
Harmful if swallowed.

Precautionary statements
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
Rinse mouth. Dispose of contents/container in accordance with local regulation.

Other hazards
No other hazards known.

SECTION 3: 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>Beta-Cyfluthrin</td>
<td>68359-37-5</td>
<td>0.5</td>
</tr>
<tr>
<td>Pyrogenic (fumed) amorphous silica</td>
<td>112945-52-5</td>
<td>1.0</td>
</tr>
<tr>
<td>Crystalline quartz (respirable)</td>
<td>14808-60-7</td>
<td>0.2</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

Description of first aid measures

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

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.

Skin contact
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.

Eye contact
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.

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.

Most important symptoms and effects, both acute and delayed

Symptoms
To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Treatment
Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.
SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable High volume water jet

Special hazards arising from the substance or mixture

Dangerous gases are evolved in the event of a fire.

Advice for firefighters

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Further information

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.

Flash point not applicable

Autoignition temperature no data available

Lower explosion limit not applicable

Upper explosion limit not applicable

Explosivity no data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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

Methods and materials for containment and cleaning up

Methods for cleaning up Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

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

Reference to other sections Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.
SECTION 7: HANDLING AND STORAGE

Precautions for safe handling
Advice on safe handling
Handle and open container in a manner as to prevent spillage.

Hygiene measures
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.

Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers
Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container and out of the reach of children, preferably in a locked storage area.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta-Cyfluthrin (Particulate.)</td>
<td>68359-37-5</td>
<td>5ug/m3 (AN ESL)</td>
<td>02 2013</td>
<td>TX ESL</td>
</tr>
<tr>
<td>Beta-Cyfluthrin (Particulate.)</td>
<td>68359-37-5</td>
<td>50ug/m3 (ST ESL)</td>
<td>02 2013</td>
<td>TX ESL</td>
</tr>
<tr>
<td>Beta-Cyfluthrin</td>
<td>68359-37-5</td>
<td>0.01 mg/m3 (TWA)</td>
<td></td>
<td>OES BCS*</td>
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<tr>
<td>Silica, amorphe (Particulate.)</td>
<td>7631-86-9</td>
<td>6 mg/m3 (REL)</td>
<td>2010</td>
<td>NIOSH</td>
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<tr>
<td>Silica, amorphe (Particulate.)</td>
<td>7631-86-9</td>
<td>2ug/m3 (AN ESL)</td>
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<td>TX ESL</td>
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<td>TX ESL</td>
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<tr>
<td>Silica, amorphe</td>
<td>7631-86-9</td>
<td>20millions of particles per cubic foot of air (TWA)</td>
<td>2000</td>
<td>Z3</td>
</tr>
<tr>
<td>Silica, amorphe</td>
<td>7631-86-9</td>
<td>0.8 mg/m3 (TWA)</td>
<td>2000</td>
<td>Z3</td>
</tr>
<tr>
<td>Crystalline quartz (respirable) (Respirable fraction.)</td>
<td>14808-60-7</td>
<td>0.025 mg/m3 (TWA)</td>
<td>02 2012</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Crystalline quartz (respirable) (Respirable dust.)</td>
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<td>0.05 mg/m3 (REL)</td>
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<td>NIOSH</td>
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<td>Crystalline quartz (respirable) (Respirable dust.)</td>
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<td>0.1 mg/m3 (TWA)</td>
<td>1989</td>
<td>OSHA Z1A</td>
</tr>
<tr>
<td>Crystalline quartz</td>
<td>14808-60-7</td>
<td>0.1 mg/m3</td>
<td>06 2008</td>
<td>TN OEL</td>
</tr>
<tr>
<td>Substance</td>
<td>CAS Number</td>
<td>Concentration</td>
<td>Date</td>
<td>Source</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------</td>
<td>---------------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>Crystalline quartz</td>
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<td>TX ESL</td>
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<tr>
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<tr>
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<td>US CA OEL</td>
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<tr>
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<td>08 2010</td>
<td>US CA OEL</td>
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<tr>
<td>Crystalline quartz</td>
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<td>2.4 millions of particles per cubic foot of air</td>
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</tr>
<tr>
<td>Crystalline quartz</td>
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<td>0.1 mg/m³</td>
<td>2000</td>
<td>Z3</td>
</tr>
<tr>
<td>Calcium sulfate</td>
<td>13397-24-5</td>
<td>10 mg/m³</td>
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<td>ACGIH</td>
</tr>
<tr>
<td>Calcium sulfate</td>
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<td>5 mg/m³</td>
<td>2010</td>
<td>NIOSH</td>
</tr>
<tr>
<td>Calcium sulfate</td>
<td>13397-24-5</td>
<td>15 mg/m³</td>
<td>02 2006</td>
<td>OSHA Z1</td>
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<tr>
<td>Calcium sulfate</td>
<td>13397-24-5</td>
<td>5 mg/m³</td>
<td>02 2006</td>
<td>OSHA Z1</td>
</tr>
<tr>
<td>Calcium sulfate</td>
<td>13397-24-5</td>
<td>15 mg/m³</td>
<td>1989</td>
<td>OSHA Z1A</td>
</tr>
<tr>
<td>Calcium sulfate</td>
<td>13397-24-5</td>
<td>5 mg/m³</td>
<td>1989</td>
<td>OSHA Z1A</td>
</tr>
<tr>
<td>Calcium sulfate</td>
<td>13397-24-5</td>
<td>15 mg/m³</td>
<td>06 2008</td>
<td>TN OEL</td>
</tr>
<tr>
<td>Calcium sulfate</td>
<td>13397-24-5</td>
<td>5 mg/m³</td>
<td>06 2008</td>
<td>TN OEL</td>
</tr>
<tr>
<td>Calcium sulfate</td>
<td>13397-24-5</td>
<td>5 ug/m³</td>
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<td>TX ESL</td>
</tr>
<tr>
<td>Calcium sulfate</td>
<td>13397-24-5</td>
<td>50 ug/m³</td>
<td>02 2013</td>
<td>TX ESL</td>
</tr>
</tbody>
</table>

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"
Exposure controls

Personal protective equipment
In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

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.

Hand protection Chemical resistant nitrile rubber gloves

Eye protection Safety glasses with side-shields

Skin and body protection Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures Do not allow children or pets to enter the treated area until granules have been watered into the soil and the grass or soil is dry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>white to light beige</td>
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<tr>
<td>Physical State</td>
<td>powder</td>
</tr>
<tr>
<td>Odor</td>
<td>weak earthy</td>
</tr>
<tr>
<td>Odour Threshold</td>
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</tr>
<tr>
<td>pH</td>
<td>7.8 - 8.2 at (25 °C) (as aqueous solution)</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>no data available</td>
</tr>
<tr>
<td>Bulk density</td>
<td>30 - 50 lb/ft³</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Water solubility</td>
<td>insoluble</td>
</tr>
<tr>
<td>Minimum Ignition Energy</td>
<td>no data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>not applicable</td>
</tr>
<tr>
<td>Viscosity</td>
<td>not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>not applicable</td>
</tr>
</tbody>
</table>
SECTION 10: STABILITY AND REACTIVITY

Reactivity
Thermal decomposition no data available
Chemical stability Stable under normal conditions.
Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.
Conditions to avoid no data available
Incompatible materials no data available
Hazardous decomposition products No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes Skin contact, Eye contact, Ingestion, Inhalation
Immediate Effects
Eye Causes eye irritation.
Skin May cause slight irritation.
Ingestion Harmful if swallowed.
Inhalation Harmful if inhaled.
Information on toxicological effects
Acute oral toxicity LD50 (male rat) 3,084 mg/kg
LD50 (female rat) 1,733 mg/kg
Acute inhalation toxicity LC50 (male/female combined rat) > 1.18 mg/l
Exposure time: 4 h
Determined in the form of dust.
LC50 (male/female combined rat) > 4.72 mg/l
Exposure time: 1 h
Determined in the form of dust.
Extrapolated from the 4 hr LC50.

**Acute dermal toxicity**
LD50 (male/female combined rat) > 2,000 mg/kg

**Skin irritation**
Slight irritation (rabbit)

**Eye irritation**
Mild eye irritation. (rabbit)

**Sensitisation**
Non-sensitizing. (guinea pig)

**Assessment repeated dose toxicity**
The toxic effects of Beta-Cyfluthrin are related to transient hyperactivity typical for pyrethroid neurotoxicity.

**Assessment mutagenicity**
Beta-Cyfluthrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment carcinogenicity**
Beta-Cyfluthrin was not carcinogenic in lifetime feeding studies in rats and mice.

**ACGIH**
Crystalline quartz (respirable) 14808-60-7 Group A2

**NTP**
Crystalline quartz (respirable) 14808-60-7 2000

**IARC**
Pyrogenic (fumed) amorphous silica 112945-52-5 Overall evaluation: 3
Crystalline quartz (respirable) 14808-60-7 Overall evaluation: 1

**OSHA**
None.

**Assessment toxicity to reproduction**
Beta-Cyfluthrin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Beta-Cyfluthrin is related to parental toxicity.

**Assessment developmental toxicity**
Beta-Cyfluthrin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Beta-Cyfluthrin are related to maternal toxicity.

**Further information**
Acute toxicity studies have been bridged from a similar formulation(s). The non-acute information pertains to the active ingredient(s).

---

**SECTION 12: ECOLOGICAL INFORMATION**
Toxicity to fish
LC50 (Oncorhynchus mykiss (rainbow trout)) 0.000068 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient beta-cyfluthrin.

Toxicity to aquatic invertebrates
EC50 (Daphnia magna (Water flea)) 0.00029 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient beta-cyfluthrin.

Toxicity to aquatic plants
IC50 (Desmodesmus subspicatus) > 0.01 mg/l
Growth rate; Exposure time: 72 h
The value mentioned relates to the active ingredient beta-cyfluthrin.
No acute toxicity was observed at its limit of water solubility.

Biodegradability
Beta-Cyfluthrin: ; not rapidly biodegradable

Koc
Beta-Cyfluthrin: Koc: 508 - 3179

Bioaccumulation
Beta-Cyfluthrin: Bioconcentration factor (BCF) 506; Does not bioaccumulate.

Mobility in soil
Beta-Cyfluthrin: Immobile in soil

Environmental precautions
Apply this product as specified on the label.
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.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods
Product
It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines.
Never place unused product down any indoor or outdoor drain.

Contaminated packaging
Do not re-use empty containers.
Place empty container in trash.
Follow advice on product label and/or leaflet.

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

49CFR
Not dangerous goods / not hazardous material

IMDG
UN number 3077
Bayer Environmental Science
SAFETY DATA SHEET

BAYER ADVANCED FIRE ANT KILLER READY-TO-USE
DUST
Version 3.0 / USA
Revision Date: 04/28/2015
Print Date: 06/22/2015

10/12

Class 9
Packaging group III
Marine pollutant YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(BETA-CYFLUTHRIN MIXTURE)

IATA
UN number 3077
Class 9
Packaging group III
Environm. Hazardous Mark YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(BETA-CYFLUTHRIN 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: INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 72155-32
US Federal Regulations
TSCA list
Crystalline quartz (respirable) 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
Beta-Cyfluthrin 68359-37-5 25,000lbs
US States Regulatory Reporting
CA Prop65
This product contains a chemical known to the State of California to cause cancer.
Crystalline quartz (respirable) 14808-60-7

US State Right-To-Know Ingredients
Beta-Cyfluthrin 68359-37-5 NJ, RI
Pyrogenic (fumed) amorphous silica 112945-52-5 CA, MN
Crystalline quartz (respirable) 14808-60-7 MN

Canadian Regulations
Canadian Domestic Substance List
Bayer Environmental Science
SAFETY DATA SHEET

Bayer Advanced Fire Ant Killer Ready-to-Use Dust

Crystalline quartz (respirable) 14808-60-7

Environmental
CERCLA
None.
Clean Water Section 307 Priority Pollutants
None.
Safe Drinking Water Act Maximum Contaminant Levels
None.

International Regulations
European Inventory of Existing Commercial Substances (EINECS)
Crystalline quartz (respirable) 14808-60-7

EPA/FIFRA Information:
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

Signal word: Caution!

Hazard statements:
Harmful by inhalation and if swallowed.
Causes eye irritation.
Avoid contact with skin, eyes and clothing.
Wash thoroughly with soap and water after handling.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms
49CFR Code of Federal Regulations, Title 49
ACGIH US. ACGIH Threshold Limit Values
CAS-Nr. Chemical Abstracts Service number
EINECS European inventory of existing commercial substances
ELINCS European list of notified chemical substances
IARC US. IARC Monographs on Occupational Exposures to Chemical Agents
IATA International Air Transport Association
IMDG International Maritime Dangerous Goods
N.O.S. Not otherwise specified
NTP US. National Toxicology Program (NTP) Report on Carcinogens
OECD Organization for Economic Co-operation and Development
TDG Transportation of Dangerous Goods
TWA Time weighted average
UN United Nations
WHO World health organisation
NFPA 704 (National Fire Protection Association):

- Health: 1
- Flammability: 0
- Instability: 1
- Others: none


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

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

Reason for Revision: Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)

Revision Date: 04/28/2015

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.