SECTION 1: Identification

1.1. Identification

Product form: Mixtures
Trade name: Zoecon Duplex-G
Synonyms: EPA Reg. No.: 89459-93, RF2230 D-Granules

1.2. Recommended use and restrictions on use

Recommended use: Insect growth regulator.
Restrictions on use: Keep out of reach of children, Avoid contact with eyes, skin or clothing, Avoid breathing dust.

1.3. Supplier

Central Garden & Pet Company
1501 E. Woodfield Road, Suite 200W
Schaumburg, IL 60173 - United States
www.altosid.com

1.4. Emergency telephone number

Emergency number: 1-888-248-7763
1-800-424-9300 - CHEMTREC
1-703-527-3887 - CHEMTREC - Outside North America - Collect Calls Accepted

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification
Skin sensitization Category 1: May cause an allergic skin reaction
Carcinogenicity Category 1A: May cause cancer
Specific target organ toxicity (repeated exposure) Category 1: Causes damage to organs through prolonged or repeated exposure

2.2. GHS Label elements, including precautionary statements

GHS-US labeling
Hazard pictograms (GHS-US): ☢️ ☠️
GHS07 GHS08

Signal word (GHS-US): Danger
Hazard statements (GHS-US): May cause an allergic skin reaction
May cause cancer
Causes damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US): Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash hands, forearms and face thoroughly after handling
Do not eat, drink or smoke when using this product
Contaminated work clothing must not be allowed out of the workplace
Wear protective gloves/protective clothing/eye protection/face protection
If on skin: Wash with plenty of soap and water
If exposed or concerned: Get medical advice/attention
Get medical advice/attention if you feel unwell
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
Store locked up
Dispose of contents/container to in accordance with local/regional/national/international regulations
2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification:

The finished product is not considered carcinogenic because of the product’s physical form. The Hazard Statement "May Cause Cancer" is presented because a component of this product contains naturally occurring crystalline silica (quartz) which is classified as carcinogenic to humans if inhaled. Respiratory exposure to silica dust from the finished product is not expected to occur under normal conditions of use due to the manner in which the constituents are bound. The crystalline silica in the finished product is unlikely to pose personal exposure via inhalation in light of studies conducted that indicate there is minimal liberation of particulates from the product during extreme handling or transport.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacillus thuringiensis</td>
<td>(CAS No) 88038-71-1</td>
<td>5.35</td>
</tr>
<tr>
<td>(s)-Methoprene</td>
<td>(CAS No) 65733-16-6</td>
<td>1.6</td>
</tr>
</tbody>
</table>
| Silica, crystalline - quartz               | (CAS No) 14808-60-7 | 50  - 64%
| Perlite                                   | (CAS No) 93763-70-3 | 15.95|
| Titanium dioxide                          | (CAS No) 13463-67-7 | 0.45|
| Alumina                                   | (CAS No) 1344-28-1  | 0 - 12.2|
| Iron oxide                                | (CAS No) 1309-37-1  | 0 - 1.3|
| Silica, amorphous, precipitated and gel   | (CAS No) 112926-00-8 | 2.38|
| Other ingredients                         | (CAS No) N/A        | Balance|

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

First-aid measures after skin contact: IF ON SKIN: Wash with plenty of soap and water. Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice and attention.

First-aid measures after ingestion: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Call a poison center or a doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting unless directed to do so by medical personnel.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/injuries after skin contact: May cause an allergic skin reaction in individuals with a sensitivity to the bacteria mixture which includes the bacillus spp. strain of bacteria.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


Unsuitable extinguishing media: Avoid heavy hose streams.

5.2. Specific hazards arising from the chemical

Reactivity: The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures: Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Sweep or scoop spills, dispose of any unusable material in approved landfill. Use appropriate PPE.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Ensure good ventilation of the work station. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Provide local exhaust or general room ventilation. Wear personal protective equipment. Avoid contact with skin and eyes.

Hygiene measures: Separate working clothes from town clothes. Launder separately. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container tightly closed. Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Material</th>
<th>ACGIH TWA (mg/m³)</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
<th>US IDLH (mg/m³)</th>
<th>NIOSH REL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, crystalline - quartz (14808-60-7)</td>
<td>0.025 mg/m³ (respirable particulate matter)</td>
<td>50 µg/m³</td>
<td>50 mg/m³ (respirable dust)</td>
<td>0.05 mg/m³ (respirable dust)</td>
</tr>
<tr>
<td>Perlite (93763-70-3)</td>
<td></td>
<td>10 mg/m³ (total dust)</td>
<td>5 mg/m³ (respirable dust)</td>
<td></td>
</tr>
<tr>
<td>Titanium dioxide (13463-67-7)</td>
<td></td>
<td>10 mg/m³</td>
<td>15 mg/m³ (total dust)</td>
<td>5000 mg/m³</td>
</tr>
<tr>
<td>Aluminum oxide (Al2O3) (1344-28-1)</td>
<td></td>
<td>15 mg/m³ (total dust)</td>
<td>5 mg/m³ (respirable fraction)</td>
<td></td>
</tr>
<tr>
<td>Iron oxide (1309-37-1)</td>
<td></td>
<td>5 mg/m³ (respirable particulate matter)</td>
<td>10 mg/m³ (fume)</td>
<td>15 mg/m³ (total dust)</td>
</tr>
</tbody>
</table>
8.2. Appropriate engineering controls

Appropriate engineering controls: Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Environmental exposure controls: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
If prolonged exposure is anticipated, it is recommended for handlers to wear appropriate clothing to prevent skin contact.

Respiratory protection:
In case of inadequate ventilation wear respiratory protection

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Light beige to gray granules.</td>
</tr>
<tr>
<td>Color</td>
<td>Light beige to gray</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>5.33 1% in water</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Bulk density</td>
<td>0.931 g/cm³</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
</tbody>
</table>
Zoecon Duplex-G
Safety Data Sheet

Oxidizing properties: Not applicable

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use. Hazardous polymerization will not occur.

10.4. Conditions to avoid
No data available.

10.5. Incompatible materials
Strong acids. Strong oxidizing agents.

10.6. Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Zoecon Duplex-G
LD50 oral rat > 5000 mg/kg
LD50 dermal rat > 5000 mg/kg
pH 5.33 1% in water

Silica, crystalline - quartz (14808-60-7)
Listed on IARC (International Agency for Research on Cancer), Listed as carcinogen on NTP (National Toxicology Program)
IARC group 1 - Carcinogenic to Humans
National Toxicity Program (NTP) Status Known Human Carcinogens
In OSHA Hazard Communication Carcinogen list? Yes

Titanium dioxide (13463-67-7)
IARC group 2B - Possibly Carcinogenic to Humans
In OSHA Hazard Communication Carcinogen list? Yes

Iron oxide (1309-37-1)
IARC group 3 - Not Classifiable
Silica, amorphous, precipitated and gel (112926-00-8)
IARC group 3 - Not Classifiable

GHS-US Properties Classification
Acute toxicity Not classified
Skin corrosion/irritation Not classified
Serious eye damage/irritation Not classified
Respiratory or skin sensitization May cause an allergic skin reaction.
Germ cells mutagen Not classified
Carcinogenicity May cause cancer.
Reproductive toxicity Not classified
Specific target organ toxicant (single exposure) Not classified
Specific target organ toxicant (repeated exposure) Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard Not classified

Potential health effects
Inhalation

03/27/2017 EN (English US) 5/7
Chronic : Exposure to respirable crystalline silica is not expected during normal use of this product. However, prolonged overexposure to respirable crystalline silica may cause lung disease (silicosis).

Eye
Acute : May cause mild irritation.

Mutagenicity : (s)-Methoprene has been tested and found negative for mutagenicity potential.

Carcinogenicity : Crystalline silica (quartz) inhaled from occupational sources is classified as carcinogenic to humans, Titanium dioxide is classified as a possible carcinogen Group 2B by IARC. Exposure to respirable crystalline silica dust or titanium dioxide from the finished product is not expected to occur due to the manner in which the constituents are bound, thus the finished product is not considered carcinogenic under conditions of normal use.

Reproductive Effects : (s)-Methoprene is not a reproductive toxin.

SECTION 12: Ecological information

12.1. Toxicity

<table>
<thead>
<tr>
<th>(s)-Methoprene (65733-16-6)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>0.76 mg/l (Exposure time: 96h - Rainbow trout)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>&gt; 0.37 mg/l (Exposure time: 96h - Blue gill)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>0.36 mg/l (Exposure time: 48h - Daphnia magna)</td>
</tr>
<tr>
<td>EC50 other aquatic organisms 1</td>
<td>0.11 mg/l (Exposure time: 96h - Mysid shrimp)</td>
</tr>
<tr>
<td>NOEC chronic fish</td>
<td>0.048 mg/l (Fathead minnow)</td>
</tr>
<tr>
<td>NOEC chronic crustacea</td>
<td>0.014 mg/l (Mysid shrimp)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>(s)-Methoprene (65733-16-6)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>(s)-Methoprene degrades rapidly in sunlight, both in water and on inert surfaces. The pesticide also is metabolized rapidly in soil and does not leach. Thus, it should not persist in soil or contaminate ground water.</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>(s)-Methoprene (65733-16-6)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Kow</td>
<td>6.3</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

<table>
<thead>
<tr>
<th>(s)-Methoprene (65733-16-6)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility in soil</td>
<td>10-14 days, rapidly hydrolyzed in soil.</td>
</tr>
</tbody>
</table>

12.5. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not regulated

Transport by sea
Not regulated
Air transport
Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

<table>
<thead>
<tr>
<th>Substance</th>
<th>Inventory Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacillus thuringiensis ssp. israelensis (68038-71-1)</td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td>EPA TSCA Regulatory Flag</td>
<td>XU - XU - indicates a substance exempt from reporting under the Inventory Update Reporting Rule, i.e., Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(C)).</td>
</tr>
<tr>
<td>Silica, crystalline - quartz (14808-60-7)</td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td>Titanium dioxide (13463-67-7)</td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td>Aluminum oxide (Al2O3) (1344-28-1)</td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td></td>
<td>Listed on SARA Section 313 (Specific toxic chemical listings)</td>
</tr>
<tr>
<td></td>
<td>SARA Section 313 - Emission Reporting</td>
</tr>
<tr>
<td>Iron oxide (1309-37-1)</td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
</tbody>
</table>

15.2. US State regulations
No additional information available

SECTION 16: Other information

Date of issue : 27 March 2017
Revision date : 27 March 2017
Supersedes : 27 March 2017

SDS US (GHS HazCom 2012) - CGP

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