**SECTION 1: Identification**

**1.1. Identification**

Product form: Mixture

Trade name: FourStar CRG Multi-Brood Controlled Release Granule

Synonyms: EPA Reg. No.: 85685-2, 100514311, 100519509

**1.2. Recommended use and restrictions on use**

Recommended use: Multi-brood microbial insecticide.

Restrictions on use: Keep out of reach of children. Avoid contact with eyes, skin or clothing. Do NOT take internally.

**1.3. Supplier**

Fourstar Microbial Products, LLC
1501 E. Woodfield Road, Suite 200W
Schaumburg, IL 60173 - United States

www.centralmosquitocontrol.com

**1.4. Emergency telephone number**

Emergency number: 1-800-248-7763
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.
- Do not breathe 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 water.
- If skin irritation or rash occurs: Get medical advice/attention.
- If exposed or concerned: Get medical advice/attention.
- Get medical advice/attention if you feel unwell.
- Wash contaminated clothing before reuse.
- Store locked up.
- Dispose of contents/container to in accordance with local/regional/national/international regulations.

Supplemental information:
- 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.

2.3. Other hazards which do not result in classification

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 sphaericus</td>
<td>(CAS-No.) 143447-72-7</td>
<td>9</td>
</tr>
<tr>
<td>Bacillus thuringiensis ssp. israelensis</td>
<td>(CAS-No.) 68038-71-1</td>
<td>1</td>
</tr>
<tr>
<td>4-Aminobenzoic acid</td>
<td>(CAS-No.) 150-13-0</td>
<td>0.3</td>
</tr>
<tr>
<td>Silica, crystalline - quartz</td>
<td>(CAS-No.) 14808-60-7</td>
<td>68.79</td>
</tr>
<tr>
<td>Other ingredients</td>
<td>(CAS-No.) N/A</td>
<td></td>
</tr>
</tbody>
</table>

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. 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/effects after skin contact: May cause an allergic skin reaction in individuals with a sensitivity to the bacteria mixture which includes the bacillus ssp. strain of bacteria. May cause an allergic skin reaction in individuals with a sensitivity to 4-Aminobenzoic acid.
Chronic symptoms: Causes damage to lungs, silicosis through prolonged or repeated exposure via inhalation.

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
Firefighting instructions: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Do not allow fire fighting water to escape into waterways or sewers. Do not use direct stream of water. A direct stream of water may spread fire. Ventilate closed spaces before entering. Do not breathe gas/fumes/vapor/spray. Keep unauthorized personnel away.
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 eating, drinking or smoking 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

| 4-Aminobenzoic acid (150-13-0) | WEEL TWA (mg/m³) | 5 mg/m³ |
| Silica, crystalline - quartz (14808-60-7) | ACGIH TWA (mg/m³) | 0.025 mg/m³ (respirable particulate matter) |
| | OSHA PEL (TWA) (mg/m³) | 50 µg/m³ |
| | US IDLH (mg/m³) | 50 mg/m³ (respirable dust) |
| | NIOSH REL (TWA) (mg/m³) | 0.05 mg/m³ (respirable dust) |

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

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:
 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>Gray to sand colored granules</td>
</tr>
<tr>
<td>Color</td>
<td>Gray to sand</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</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>2.05</td>
</tr>
<tr>
<td>Bulk density</td>
<td>51.2 lbs/ft³</td>
</tr>
<tr>
<td>Solubility</td>
<td>Practically insoluble</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>
<tr>
<td>Oxidizing properties</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

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

Excessive heat.

10.5. Incompatible materials


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

<table>
<thead>
<tr>
<th>Compounds</th>
<th>LD50 oral rat</th>
<th>LD50 dermal rabbit</th>
<th>LC50 inhalation rat (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacillus sphaericus (143447-72-7)</td>
<td>&gt; 5000 mg/kg</td>
<td>&gt; 5000 mg/kg</td>
<td>&gt; 2.04 mg/l/4h</td>
</tr>
<tr>
<td>Bacillus thuringiensis ssp. israelensis (68038-71-1)</td>
<td>&gt; 5000 mg/kg</td>
<td>&gt; 5000 mg/kg</td>
<td>&gt; 2.04 mg/l/4h</td>
</tr>
<tr>
<td>4-Aminobenzoic acid (150-13-0)</td>
<td>&gt; 6 g/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silica, crystalline - quartz (14808-60-7)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- IARC group: 3 - Not classifiable
- 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

GHS-US Properties

<table>
<thead>
<tr>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity: Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation: Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation: Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitization: May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Germ cells mutagen: Not classified</td>
</tr>
<tr>
<td>Carcinogenicity: May cause cancer.</td>
</tr>
<tr>
<td>Reproductive toxicity: Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicant (single exposure): Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicant (repeated exposure): Causes damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>Aspiration hazard: Not classified</td>
</tr>
</tbody>
</table>

Potential health effects

Inhalation

- Acute: Exposure to respirable crystalline silica is not expected during the normal use of this product. However, acute silicosis can occur with exposures to very high concentrations of respirable crystalline silica over a very short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough and weight loss.
- 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).

Skin

- Acute: Exposure may cause mechanical irritation. May cause an allergic reaction in individuals with a sensitivity to Bacillus thuringiensis ssp. israelensis and/or Bacillus sphaericus. May cause an allergic skin reaction in individuals with a sensitivity to 4-Aminobenzoic acid.

Eye

- Acute: Exposure may cause mechanical eye irritation.

Ingestion

- Acute: Under normal conditions of use, no health effects are expected.

Mutagenicity

- Acute: Not classified.

Carcinogenicity

- Exposure to respirable crystalline silica dust 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

- Acute: Not classified.
SECTION 12: Ecological information

12.1. Toxicity
No additional information available

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

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

<table>
<thead>
<tr>
<th>UN number</th>
<th>Proper Shipping Name</th>
<th>Transport hazard class(es)</th>
<th>Packing group</th>
<th>Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
</tr>
<tr>
<td>IMDG</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
</tr>
<tr>
<td>IATA</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>Not regulated</td>
<td>No data available</td>
</tr>
</tbody>
</table>

SECTION 15: Regulatory information

15.1. US Federal regulations

**Bacillus thuringiensis ssp. israelensis (68038-71-1)**
Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag:
XU - XU - indicates a substance exempt from reporting under Chemical Data Reporting Rule (formerly the Inventory Update Reporting Rule), i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 711).

**4-Aminobenzoic acid (150-13-0)**
Listed on the United States TSCA (Toxic Substances Control Act) inventory

**Silica, crystalline - quartz (14808-60-7)**
Listed on the United States TSCA (Toxic Substances Control Act) inventory

**FIFRA Labelling**
EPA Registration Number: 85685-2
This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

FIFRA Signal word: Caution
FIFRA Precautionary Statement: KEEP OUT OF REACH OF CHILDREN.
FourStar CRG Multi-Brood Controlled Release Granule
Safety Data Sheet

<table>
<thead>
<tr>
<th>FIFRA Hazards to Humans and Domestic Animals</th>
<th>Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Mixers/loaders must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIFRA First Aid</td>
<td>If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible. Call poison control center or doctor for treatment advice. If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, and then continue rinsing eyes. Call poison control center or doctor for treatment advice. If on skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call poison control center or doctor for treatment advice.</td>
</tr>
<tr>
<td>FIFRA Environmental Hazards</td>
<td>Do not contaminate water when disposing or equipment washwaters or rinsate. Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.</td>
</tr>
</tbody>
</table>

15.2. US State regulations
No additional information available

**SECTION 16: Other information**

| Date of issue | 31 March 2014 |
| Revision date | 07 May 2018 |

Indication of changes:
SDS update.

SDS US (GHS HazCom 2012) - CGP

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.