

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Trade name : FourStar MBG Multi-Brood Granule  
 Synonyms : 100514310, 100519508, EPA Reg. No.: 85685-3

#### 1.2. Recommended use and restrictions on use

Recommended use : Multi-brood microbial insecticide.  
 Restrictions on use : Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption. Avoid contact with eyes, skin or clothing.

#### 1.3. Supplier

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

www.fourstarmicrobials.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 (lungs) 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.  
 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 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

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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

Other hazards not contributing to the classification : Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%
Bacillus sphaericus	(CAS-No.) 143447-72-7	3
Bacillus thuringiensis ssp. israelensis	(CAS-No.) 68038-71-1	3
Silica, crystalline - quartz	(CAS-No.) 14808-60-7	70 - 90

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.

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. 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. 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 inhalation : Inhalation may cause irritation (cough, short breathing, difficulty in breathing).

Symptoms/effects after skin contact : May cause an allergic skin reaction.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use extinguishing agent suitable for surrounding fire.

Unsuitable extinguishing media : Avoid heavy hose streams.

### 5.2. Specific hazards arising from the chemical

Fire hazard : Material is non-combustible and is not expected to pose a fire or explosion hazard.

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 : Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

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### 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. Avoid dust formation. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

Hygiene measures : 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 : Store locked up. Store in a well-ventilated place. Keep cool.

Incompatible materials : Strong oxidizers.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Silica, crystalline - quartz (14808-60-7)		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup> (respirable particulate matter)
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	50 µg/m <sup>3</sup>
IDLH	US IDLH (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup> (respirable dust)
NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup> (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.

Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Protective gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Tan to gray granule in water soluble pouch.

Color : Tan to gray

Odor : Mild

Odor threshold : No data available

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pH	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: 2100 kg/m3
Relative density	: 2.1
Solubility	: Slightly soluble
Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: Not explosive
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.

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

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

<b>Bacillus sphaericus (143447-72-7)</b>	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 2.04 mg/l/4h
<b>Bacillus thuringiensis ssp. israelensis (68038-71-1)</b>	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 2.04 mg/l/4h
<b>Silica, crystalline - quartz (14808-60-7)</b>	
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

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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

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 : May cause an allergic reaction in individuals with a sensitivity to *Bacillus thuringiensis* ssp. *israelensis* and/or *Bacillus sphaericus*.

#### Eye

Acute : May cause mild mechanical irritation.

#### Ingestion

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

#### 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.

## 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

UN number	Proper Shipping Name	Transport hazard class(es)	Packing group	Environmental hazards
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<b>DOT</b>	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable
<b>IMDG</b>	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable
<b>IATA</b>	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable

### 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).
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##### **Silica, crystalline - quartz (14808-60-7)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

##### **FIFRA Labelling**

EPA Registration Number	85685-3
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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	<b>Caution</b>
FIFRA Precautionary Statement	KEEP OUT OF REACH OF CHILDREN.
FIFRA Hazards to Humans and Domestic Animals	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.
FIFRA First Aid	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.
FIFRA Environmental Hazards	Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply to treated, finish drinking water reservoirs or drinking water receptacles when the water is intended for human consumption.

#### 15.2. US State regulations

No additional information available

### SECTION 16: Other information

Date of issue : 31 March 2014  
Revision date : 10 May 2018  
Supersedes : 14 August 2017

Indication of changes:

Revised Sec. 1 - added material numbers.

SDS US (GHS HazCom 2012) - CGP

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