

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Name : FourStar MBG Multi-Brood Granule
Synonyms : 100514310, 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

B2E Microbials, LLC, DBA FourStar Microbials, 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.
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 content and/or container in accordance with local, regional, national, and/or 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

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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 which do not result in 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 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 : Avoid contact with skin, eyes and clothing. Do not breathe dust. Ventilate spillage area.

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.

Emergency procedures : Do not scatter spilled material with high pressure water streams. Do NOT wash away into sewer. Avoid release to the environment. Evacuate unnecessary personnel. Stay upwind. Stop release. Ventilate area. Wear appropriate personal protective equipment, avoid direct contact.

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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. 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. Avoid extreme temperatures. Keep container tightly closed. Keep cool. Protect from sunlight.

Incompatible materials : Strong oxidizers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Silica, crystalline - quartz (14808-60-7)		
ACGIH	ACGIH OEL TWA	0.025 mg/m ³ : (respirable particulate matter)
OSHA	OSHA PEL TWA [1]	50 µg/m ³
IDLH	IDLH	50 mg/m ³ : (respirable dust)
NIOSH	NIOSH REL TWA	0.05 mg/m ³ : (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:

Mixers/loaders must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95



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

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Odor threshold	: No data available
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	: Non-flammable
Vapor pressure	: No data available
Relative vapor density at 20 °C	: 2100 kg/m3
Relative density	: 2.1
Solubility	: Slightly soluble
Partition coefficient n-octanol/water (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. Hazardous polymerization will not occur.

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

Bacillus sphaericus (143447-72-7)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 Inhalation - Rat	> 2.04 mg/l/4h
Bacillus thuringiensis ssp. israelensis (68038-71-1)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 Inhalation - Rat	> 2.04 mg/l/4h
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

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GHS-US Properties	Classification
Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	Not classified
Carcinogenicity	May cause cancer.
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (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.

- Mutagenicity** : 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** : Not classified.

SECTION 12: Ecological information

12.1. Toxicity

No data available

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Other adverse effects

No data 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
DOT	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable

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IMDG	Not regulated	Not regulated	Not regulated	Not regulated	Not applicable
IATA	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 the Chemical Data Reporting Rule, (40 CFR 711).
Silica, crystalline - quartz (14808-60-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA Labelling	
EPA Registration Number	85685-3
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 Hazard statements	Caution
FIFRA Precautionary statements	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

Issue date	: 31 March 2014
Revision date	: 18 January 2023
Supersedes	: 10 May 2018

Indication of changes:

Revised Sec. 1: Revised material number(s).

SDS US (GHS HazCom 2012) - CGP

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