

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Name : Zoecon Duplex-G
 Synonyms : 100528485, 100528486, 100545586, 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
 1501 E. Woodfield Road, Suite 200W
 Schaumburg, IL 60173 - United States
 www.altosid.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.
 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 in accordance with local/regional/national/international regulations.

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2.3. Other hazards which do not result in classification

Other hazards which do not result in 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

Name	Product identifier	%
Bacillus thuringiensis ssp. israelensis	(CAS-No.) 68038-71-1	5.35
(s)-Methoprene Technical	(CAS-No.) 65733-16-6	1.6
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
Aluminum oxide	(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
Non-hazardous and/or does not meet criteria for classification	(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/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.

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 : Water spray. Dry powder. Foam.

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.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Wear appropriate personal protective equipment, avoid direct contact. Avoid contact with skin, eyes and clothing.

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 wash away into sewer. Avoid release to the environment. Stay upwind. Use grounded electrical/mechanical equipment. Wear appropriate personal protective equipment, avoid direct contact.

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

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)
Perlite (93763-70-3)		
ACGIH	ACGIH OEL TWA	10 mg/m ³ total dust, 3 mg/m ³ respirable dust
OSHA	OSHA PEL TWA [1]	15 mg/m ³ total dust, 5 mg/m ³ respirable dust
NIOSH	NIOSH REL TWA	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
Titanium dioxide (13463-67-7)		
ACGIH	ACGIH OEL TWA	10 mg/m ³

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Titanium dioxide (13463-67-7)		
ACGIH	Remark (ACGIH)	LRT irr; A4 (Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure)
OSHA	OSHA PEL TWA [1]	15 mg/m ³ (total dust)
IDLH	IDLH	5000 mg/m ³
Aluminum oxide (1344-28-1)		
OSHA	OSHA PEL TWA [1]	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Iron oxide (1309-37-1)		
ACGIH	ACGIH OEL TWA	5 mg/m ³ (respirable particulate matter)
ACGIH	Remark (ACGIH)	Pneumoconiosis
OSHA	OSHA PEL TWA [1]	10 mg/m ³ (fume) 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
IDLH	IDLH	2500 mg/m ³ (dust and fume)
NIOSH	NIOSH REL TWA	5 mg/m ³ (dust and fume)
Silica, amorphous, precipitated and gel (112926-00-8)		
OSHA	OSHA PEL TWA [1]	Mineral Dusts: 20 mppcf TWA; (80)/(% SiO ₂) mg/m ³
OSHA	Remark (OSHA)	(3) See Table Z-3.

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:

Wear long sleeved shirt, long pants, socks and shoes

Respiratory protection:

Mixers/loaders and applicators not in enclosed cabs must wear a NIOSH-approved particulate respirator with any N, P or R filter with NIOSH approval number prefix TC-84A; or a NIOSH-approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C.



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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Light beige to gray granules
Color	: Light beige to gray
Odor	: No data available
Odor threshold	: No data available
pH	: 5.33 1% in water
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	: No data available
Relative density	: Not applicable
Bulk density	: 0.931 g/cm ³
Solubility	: Insoluble in water
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 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

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LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 5000 mg/kg

Silica, crystalline - quartz (14808-60-7)

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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

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 : 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*.

Eye

- Acute : May cause mild eye irritation.

Ingestion

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

- 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 and does not cause birth defects.

SECTION 12: Ecological information

12.1. Toxicity

(s)-Methoprene Technical (65733-16-6)	
LC50 Acute fish 1	0.76 mg/l (Exposure time: 96hr <i>Oncorhynchus mykiss</i>)
LC50 Acute fish 2	> 0.37 mg/l (Exposure time: 96h - Blue gill)
LC50 Acute crustacea 1	0.11 mg/l (Exposure time: 96h - Mysid shrimp)
LC50 Acute crustacea 2	0.36 mg/l (Exposure time: 48h <i>Daphnia</i>)
NOEC Chronic fish 1	0.048 mg/l (Fathead minnow)
NOEC Chronic crustacea 1	0.014 mg/l (Mysid shrimp)

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12.2. Persistence and degradability

(s)-Methoprene Technical (65733-16-6)

Persistence and degradability

(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.

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

(s)-Methoprene Technical (65733-16-6)

Mobility in soil

Rapidly metabolized in soil under both aerobic and anaerobic conditions (half-life 10-14 days).

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
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

Titanium dioxide (13463-67-7)

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

Aluminum oxide (1344-28-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting

1 % (fibrous forms)

Iron oxide (1309-37-1)

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

EPA Labelling

EPA Registration Number

89459-93

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.

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FIFRA Hazard statements	Caution
FIFRA Precautionary statements	KEEP OUT OF REACH OF CHILDREN.
FIFRA Hazards to Humans and Domestic Animals	Causes moderate eye irritation. Avoid contact with eyes or clothing. Due to the size and abrasiveness of the granule, use protective eyewear and clothing (e.g., waterproof gloves) to minimize exposure during loading and handling. 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.
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, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
FIFRA Environmental hazards	Do not contaminate water when disposing of equipment washwater or rinsate.

15.2. US State regulations

No additional information available

SECTION 16: Other information

Issue date : 27 March 2017
Revision date : 25 March 2022

Indication of changes:

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

SDS US (GHS HazCom 2012) - CGP

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