1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name: TALSTAR® PL GRANULAR INSECTICIDE

Other means of identification

Product Code(s): 1686-A

Synonyms

BIFENTHRIN: (2-methyl[1,1'-biphenyl]-3-yl)methyl
(1R,3R)-rel-3-[(1Z)-2-chloro-3,3,3-trifluoro-1-propenyl]-2,2-dimethylcyclopropanecarboxylate
(CAS name); 2-methyl-3-phenylbenzyl
(1RS)-cis-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate
(IUPAC name)

Active Ingredient(s): Bifenthrin

Chemical Family: Pyrethroid Pesticide

Recommended use of the chemical and restrictions on use.

Recommended Use: Insecticide, Miticide

Restrictions on Use: Use as recommended by the label.

Supplier Address

FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104
(215) 299-6000 (General Information)
msdsinfo@fmc.com (E-Mail General Information)

Emergency telephone number

Medical Emergencies:
1 800 / 331-3148 (U.S.A. & Canada)
1 651 / 632-6793 (All Other Countries - Collect)

For leak, fire, spill or accident emergencies, call:
1 800 / 424-9300 (CHEMTREC - U.S.A.)
1 703 / 741-5970 (CHEMTREC - International)
1 703 / 527-3887 (CHEMTREC - Alternate)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Carcinogenicity</th>
<th>Category 1A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 1</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Category 1</td>
</tr>
</tbody>
</table>
GHS Label elements, including precautionary statements

**Danger**

**Hazard Statements**
H350 - May cause cancer  
H370 - Causes damage to organs  
H372 - Causes damage to organs through prolonged or repeated exposure

**Precautionary Statements - Prevention**
P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P281 - Use personal protective equipment as required  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product

**Precautionary Statements - Response**
P308 + P311 - If exposed or concerned: Call a POISON CENTER or doctor

**Precautionary Statements - Storage**
P405 - Store locked up

**Precautionary Statements - Disposal**
P501 - Dispose of contents/container according to label directions

**Hazards not otherwise classified (HNOC)**
No hazards not otherwise classified were identified.

**Other Information**
Very toxic to aquatic life with long lasting effects.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical Family**
Pyrethroid Pesticide.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline silica, quartz</td>
<td>14808-60-7</td>
<td>&gt;80</td>
</tr>
<tr>
<td>Bifenthrin</td>
<td>82657-04-3</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Synonyms are provided in Section 1.

### 4. FIRST AID MEASURES

**Eye Contact**
Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
Skin Contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.

Inhalation: Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Central nervous system effects. This product is a pyrethroid. If large amounts have been ingested, milk, cream, and other digestible fats and oils may increase absorption and so should be avoided.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use CO₂, dry chemical, or foam.

Specific Hazards Arising from the Chemical: Powdered material may form explosive dust-air mixtures.

Explosion data: No information available.

Sensitivity to Mechanical Impact: No information available.

Sensitivity to Static Discharge: No information available.

Protective equipment and precautions for firefighters: As in any fire, wear self-contained breathing apparatus and full protective gear. Isolate fire area. Evaluate upwind.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Isolate and post spill area. Remove all sources of ignition. Ventilate the area. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.

Other: For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 “Product and Company Identification” above.

Environmental Precautions: Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains. Keep out of waterways.

Methods for Containment: Use a wet sweeping compound or water to prevent dust formation.

Methods for cleaning up: Sweep up and shovel into suitable containers for disposal. Clean and neutralize spill area, tools, and equipment by washing with water and soap. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. Dispose of waste as indicated in Section 13.

7. HANDLING AND STORAGE

Handling: Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

Storage: Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Store in original container.

Incompatible products: None known

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:
Appropriate engineering controls

Engineering measures
Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection
If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin and Body Protection
Wear long-sleeved shirt, long pants, socks, and shoes.

Hand Protection
Use protective gloves made of chemical materials such as nitrile or neoprene. Wash the outside of gloves with soap and water before reuse. Check regularly for leaks.

Respiratory Protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures
Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Remove and wash contaminated clothing before re-use. Launder work clothing separately from regular household laundry.

General information
If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

| 9. PHYSICAL AND CHEMICAL PROPERTIES |

Information on basic physical and chemical properties

Appearance | Granules
Physical State | Solid
Color | Cream to tan
Odor | Slight Musty
Odor threshold | No information available
pH | 6.8-7.1
Melting point/freezing point | Not applicable
Boiling Point/Range | No information available
Flash point | Not applicable
Evaporation Rate | No information available
Flammability (solid, gas) | No information available
Flammability Limit in Air
  Upper flammability limit: | No information available
  Lower flammability limit: | No information available
Vapor pressure | No information available
Vapor density | No information available
Relative density | 1.39 lb/ft³
Specific gravity | No information available
Water solubility | No information available
Solubility in other solvents | No information available
Partition coefficient | No information available
Autoignition temperature | No information available
10. STABILITY AND REACTIVITY

Reactivity
None under normal use conditions

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Excessive heat. Keep away from open flames, hot surfaces and sources of ignition.

Incompatible materials
None known.

Hazardous Decomposition Products
Carbon oxides (COx), Hydrogen chloride, Hydrogen fluoride.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral
> 5000 mg/kg (rat)

LD50 Dermal
> 2000 mg/kg (rabbit)

LC50 Inhalation
No information available

Serious eye damage/eye irritation
Non-irritating. Product dust may cause mechanical eye irritation.

Skin corrosion/irritation
Non-irritating.

Sensitization
Non-sensitizer

Chemical name | LD50 Oral | LD50 Dermal | LC50 Inhalation
--- | --- | --- | ---
Bifenthrin (82657-04-3) | 55 mg/kg (rat) | > 2000 mg/kg (rat) | 0.8 mg/L (female, rat) 4 h

Information on toxicological effects

Symptoms
Large doses of bifenthrin ingested by laboratory animals produced signs of toxicity including convulsions, tremors and bloody nasal discharge.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity
Chronic exposure to silica dust may increase the risk of developing pneumoconiosis or silicosis, chronic diseases affecting the lungs, characterized by labored breathing, cough, reduction of work capacity, reduction of lung capacity, heart enlargement and failure

Mutagenicity
Bifenthrin: Not genotoxic in laboratory studies.

Carcinogenicity
Bifenthrin: Weak treatment-related response for liver adenocarcinomas and benign bladder tumors (lesion) in male mice. This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product. However, if granules are pulverized or crushed into a fine, respirable powder, silica exposure via inhalation is probable.

Neurological effects
Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure.

Reproductive toxicity
Bifenthrin: No toxicity to reproduction in animal studies.

Developmental toxicity
Bifenthrin: Not teratogenic in animal studies.
STOT - single exposure  May cause damage to organs. See listed target organs below.
STOT - repeated exposure  May cause damage to organs through prolonged or repeated exposure. See listed target organs below.
Target organ effects  Bifenthrin: Central Nervous System.
Neurological effects  Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure.
Aspiration hazard  No information available.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline silica, quartz 14808-60-7</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
- **ACGIH (American Conference of Governmental Industrial Hygienists)**
  - A2 - Suspected Human Carcinogen
- **IARC (International Agency for Research on Cancer)**
  - Group 1 - Carcinogenic to Humans
- **NTP (National Toxicology Program)**
  - Known - Known Carcinogen
- **OSHA (Occupational Safety and Health Administration of the US Department of Labor)**
  - X - Present

### 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

**Bifenthrin (82657-04-3)**

<table>
<thead>
<tr>
<th>Active Ingredient(s)</th>
<th>Duration</th>
<th>Species</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bifenthrin</td>
<td>96 h LC50</td>
<td>Fish</td>
<td>0.1</td>
<td>µg/L</td>
</tr>
<tr>
<td></td>
<td>72 h EC50</td>
<td>Algae</td>
<td>0.822</td>
<td>mg/L</td>
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<tr>
<td></td>
<td>48 h EC50</td>
<td>Crustacea</td>
<td>0.11</td>
<td>µg/L</td>
</tr>
<tr>
<td></td>
<td>21 d NOEC</td>
<td>Fish</td>
<td>0.012</td>
<td>µg/L</td>
</tr>
<tr>
<td></td>
<td>21 d NOEC</td>
<td>Crustacea</td>
<td>0.0013</td>
<td>µg/L</td>
</tr>
</tbody>
</table>

#### Persistence and degradability


#### Bioaccumulation

Bifenthrin: The substance has a potential for bioconcentration.

#### Mobility

Bifenthrin: Immobile. Not expected to reach groundwater.

### 13. DISPOSAL CONSIDERATIONS

#### Waste disposal methods

Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance. Proper personal protective equipment, as described in Sections 7 and 8, must be worn while handling materials for waste disposal.

#### Contaminated Packaging

Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

### 14. TRANSPORT INFORMATION

**DOT**

This material is not a hazardous material as defined by U.S. Department of Transportation at 49 CFR Parts 100 through 185.
15. REGULATORY INFORMATION

U.S. Federal Regulations

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bifenthrin - 82657-04-3</td>
<td>82657-04-3</td>
<td>0.2</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**SARA 311/312 Hazard Categories**
- Acute health hazard: Yes
- Chronic health hazard: Yes
- Fire hazard: No
- Sudden release of pressure hazard: No
- Reactive Hazard: No

**Clean Water Act**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

**FIFRA Information**
This chemical is a pesticide product registered by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

**CAUTION**
Harmful if absorbed through skin.
This pesticide is extremely toxic to fish and aquatic invertebrates.

**US State Regulations**

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline silica, quartz 14808-60-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Bifenthrin 82657-04-3</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**International Inventories**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>TSCA (United States)</th>
<th>DSL (Canada)</th>
<th>EINECS/ELINCS (Europe)</th>
<th>ENCS (Japan)</th>
<th>China (IECSC)</th>
<th>KECL (Korea)</th>
<th>PICCS (Philippines)</th>
<th>AICS (Australia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline silica, quartz 14808-60-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Bifenthrin 82657-04-3</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tr>
</tbody>
</table>

**Mexico - Grade**
Serious risk, Grade 3

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Carcinogen Status</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystalline silica, quartz</td>
<td>A2</td>
<td>Mexico: TWA 0.025 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Mexico - Pollutant Release and Transfer Register - Reporting Emissions for Fabrication, Process or Use - Threshold Quantities</th>
<th>Pollutant Release and Transfer Register - Reporting Emissions - Threshold Quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bifenthrin</td>
<td>100 2500 kg/yr</td>
<td>100 kg/yr</td>
</tr>
</tbody>
</table>

**CANADA**

**WHMIS Statement**
This product has been classified in accordance with the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

**WHMIS Hazard Class**
D2A - Very toxic materials
16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Severe</th>
<th>Serious</th>
<th>Moderate</th>
<th>Slight</th>
<th>Minimal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Special Hazards</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
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<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Flammability</td>
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<td></td>
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<tr>
<td>Physical hazard</td>
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<tr>
<td>Personal Protection</td>
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</tr>
</tbody>
</table>

*Indicates a chronic health hazard.

NFPA/HMIS Ratings Legend

Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Revision date: 2019-06-21
Reason for revision: SDS sections updated

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FMC Corporation

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End of Safety Data Sheet