SAFETY DATA SHEET
Talstar Nursery Granular Insecticide

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name: Talstar Nursery Granular Insecticide

Other means of identification

Product Code(s): 1686-3-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)

| Carcinogenicity          | Category 1A
| Specific target organ toxicity (single exposure) | Category 1
| Specific target organ toxicity (repeated exposure) | Category 1
GHS Label elements, including precautionary statements

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**EMERGENCY OVERVIEW**

**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.

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**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.

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**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.
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
### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Granules</td>
</tr>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Color</td>
<td>Cream to tan</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight Musty</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>6.8-7.1</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>No information available</td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.39 lb/ft³</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>No information available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
</tr>
</tbody>
</table>
Talstar Nursery Granular Insecticide

Decomposition temperature  No information available
Viscosity, kinematic  No information available
Viscosity, dynamic  No information available
 Explosive properties  No information available
 Oxidizing properties  No information available
 Molecular weight  No information available
 Bulk density  50-53 lb/ft³

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bifenthrin</td>
<td>55 mg/kg (rat)</td>
<td>&gt; 2000 mg/kg (rabbit)</td>
<td>0.8 mg/L (female, rat) 4 h</td>
</tr>
</tbody>
</table>

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</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

<table>
<thead>
<tr>
<th>Bifenthrin (82657-04-3)</th>
<th>Duration</th>
<th>Species</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></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>
</tr>
<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>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydrotreated light paraffinic oil</td>
<td>96 h LC50: &gt; 5000 mg/L</td>
<td>48 h EC50: &gt; 1000 mg/L (Daphnia magna)</td>
<td></td>
</tr>
</tbody>
</table>

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
Talstar Nursery Granular Insecticide

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**

### International Inventories

<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></td>
<td>X</td>
</tr>
<tr>
<td>Bifenthrin 82657-04-3</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Mexico - Grade

<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 kg/yr, 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>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2*</td>
<td>0</td>
<td>0</td>
<td>X</td>
</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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End of Safety Data Sheet