

**Material Safety Data Sheet**  
**TALSTAR® NURSERY GRANULAR INSECTICIDE**

SDS #: 1684-A  
Revision Date: 2011-08-18  
Version 2



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This MSDS has been prepared to meet U.S. OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Workplace Hazardous Materials Information System (WHMIS) requirements.

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## 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	TALSTAR® NURSERY GRANULAR INSECTICIDE
<b>Formula code</b>	1684
<b>Active Ingredient(s)</b>	Bifenthrin
<b>Alternate Commercial Name</b>	Talstar® T&O Granular
<b>Synonyms</b>	FMC 54800; (2-methyl[1,1'-biphenyl]-3-yl)methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate; IUPAC: 2-methylbiphenyl-3-ylmethyl (Z)-(1RS)-cis-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate.
<b>Chemical Family</b>	Pyrethroid Pesticide
<b>Recommended use</b>	Insecticide Miticide
<b>Manufacturer</b> FMC Corporation Agricultural Products Group 1735 Market Street Philadelphia, PA 19103 General Information: Phone: (215) 299-6000 E-Mail: msdsinfo@fmc.com	<b><u>Emergency telephone number</u></b>  For leak, fire, spill or accident emergencies, call: +1 800.424.9300 (CHEMTREC - U.S.A.) +1 703.527.3887 (CHEMTREC - Collect - All Other Countries) Medical Emergencies: (800) 331-3148 (U.S.A. & Canada) +1 (651) 632-6793 (All Other Countries - Collect)

## 2. Hazards identification

<b><u>Appearance</u></b>	Light tan to tan granules
<b><u>Physical State</u></b>	Solid
<b><u>Odor</u></b>	aromatic, slight musty
<b><u>Physical or Chemical Hazards</u></b>	.
<b>Flammable properties</b>	Powdered material may form explosive dust-air mixtures
<b><u>Potential health effects</u></b> <b>Principle Routes of Exposure</b> <b>Acute effects</b>	Skin contact, Eye contact, Inhalation. Ingestion.
<b>Eyes</b>	May cause slight irritation.
<b>Skin</b>	May cause sensitization by skin contact.
<b>Inhalation</b>	May cause irritation of respiratory tract.

**Ingestion**  
**Chronic effects** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.  
Prolonged exposure may cause chronic effects. See Section 11 for additional Toxicological Information.

**Environmental hazard** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 3. Composition/information on ingredients

#### Hazardous ingredients

Chemical Name	CAS-No	Weight %
crystalline silica, quartz	14808-60-7	90-100
Bifenthrin	82657-04-3	0.2

### 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 treatment advice.

**Inhalation** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by 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 induce vomiting or give anything by mouth to an unconscious person.

**Notes to physician** This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

### 5. Fire-fighting measures

**Flammable properties** Powdered material may form explosive dust-air mixtures

**Flash Point** not applicable

**Special hazards arising from the substance or mixture**

**Sensitivity to Mechanical Impact** not applicable

**Sensitivity to Static Discharge** not applicable

#### Extinguishing media

**Suitable extinguishing media** Use CO<sub>2</sub>, dry chemical, or foam.

#### Advice for fire-fighters

**Protective equipment and precautions for firefighters** As in any fire, wear self-contained breathing apparatus and full protective gear.

#### NFPA

<b>Health Hazard</b>	1
<b>Flammability</b>	1
<b>Stability</b>	0
<b>Special Hazards</b>	-

## 6. Accidental release measures

<b>Personal precautions</b>	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.
<b>Environmental precautions</b>	Keep people and animals away from and upwind of spill/leak, Keep material out of lakes, streams, ponds, and sewer drains
<b>Methods for containment</b>	Use a wet sweeping compound or water to prevent dust formation.
<b>Methods for cleaning up</b>	Sweep up and shovel into suitable containers for disposal. Clean and neutralize spill area, tools and equipment by washing with bleach 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.
<b>Other</b>	For further clean-up instructions call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

## 7. Handling and storage

<b>Handling</b>	Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.
<b>Storage</b>	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 only.

## 8. Exposure controls/personal protection

### Exposure guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico
crystalline silica, quartz 14808-60-7	TWA: 0.025 mg/m <sup>3</sup>		IDLH: 50 mg/m <sup>3</sup> TWA: 0.05 mg/m <sup>3</sup>	Mexico: TWA 0.1 mg/m <sup>3</sup>

Chemical Name	British Columbia	Quebec	Ontario TWAEV	Alberta
crystalline silica, quartz 14808-60-7	TWA: 0.025 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.10 mg/m <sup>3</sup>	TWA: 0.025 mg/m <sup>3</sup>

### Occupational exposure controls

<b>Engineering measures</b>	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.
<b>Personal protective equipment</b>	
<b>General Information</b>	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.
<b>Respiratory protection</b>	For dust, splash, mist or spray exposures wear a filtering mask.
<b>Eye/face protection</b>	For dust, splash, mist or spray exposure, wear chemical protective goggles or a face-shield.
<b>Skin and body protection</b>	Wear long-sleeved shirt, long pants, socks, shoes, and gloves.
<b>Hand protection</b>	Protective gloves

**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.

**9. Physical and chemical properties**

<b>Appearance</b>	Light tan to tan granules
<b>Color</b>	Light tan to tan
<b>Physical State</b>	Solid
<b>Odor</b>	aromatic, slight musty
<b>pH</b>	
<b>Melting Point/Range</b>	No information available
<b>Freezing point</b>	No information available
<b>Boiling Point/Range</b>	not applicable
<b>Flash Point</b>	not applicable
<b>Evaporation rate</b>	not applicable
<b>Autoignition Temperature</b>	not applicable
<b>Flammable properties</b>	Powdered material may form explosive dust-air mixtures
<b>Vapor pressure</b>	not applicable
<b>Vapor density</b>	No information available
<b>Density</b>	1.39 g/mL
<b>Relative density</b>	No information available
<b>Water solubility</b>	No information available
<b>Percent volatile</b>	No information available
<b>Partition coefficient:</b>	not applicable
<b>Viscosity</b>	No information available
<b>Oxidizing properties</b>	not applicable

**10. Stability and reactivity**

<b>Stability</b>	Stable
<b>Conditions to avoid</b>	Excessive heat, Extreme risk of explosion by shock, friction, fire or other sources of ignition
<b>Hazardous decomposition products</b>	Carbon oxides, Hydrogen chloride, Hydrogen fluoride
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.

**11. Toxicological information****Acute toxicity**

Large doses of bifenthrin ingested by laboratory animals produced signs of toxicity including convulsions, tremors and bloody nasal discharge. Bifenthrin does not cause acute delayed neurotoxicity. Experience to date indicates that contact with bifenthrin may occasionally produce skin sensations such as rashes, numbing, burning or tingling. These sensations are reversible and usually subside within 12 hours.

<b>Eye contact</b>	Non-irritating. Product dust may cause mechanical eye irritation.
<b>Skin contact</b>	Non-irritating during normal use.
<b>Ingestion</b>	Harmful if swallowed.
<b>LD50 Dermal</b>	> 2,000 mg/kg (rabbit)
<b>LD50 Oral</b>	> 5,000 mg/kg (rat)
<b>LC50 Inhalation:</b>	No information available
<b>Sensitization</b>	Bifenthrin: May cause sensitization by skin contact.

**Chronic Toxicity - Other Ingredient(s)**

**Chronic Toxicity** Prolonged exposure may cause chronic effects. See Section 11 for additional Toxicological Information.

**Carcinogenicity** Bifenthrin: Did not show carcinogenic effects in animal experiments. 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

**Mutagenicity** Bifenthrin: Not genotoxic.

**Reproductive toxicity** Bifenthrin: No toxicity to reproduction.

**Neurological Effects** Tremors were associated with chronic exposure of laboratory animals to bifenthrin, which may disappear with continued exposure.

**Developmental Toxicity** Bifenthrin: Not teratogenic in animal studies

**Target Organ Effects** Bifenthrin: A slight increase in male mouse urinary bladder tumors at the highest dose was probably not of toxicological concern.

**Chronic Toxicity - Other Ingredient(s)** Repeated overexposure to crystalline silica for extended periods has caused acute silicosis.

Chemical Name	ACGIH	IARC	NTP	OSHA	NIOSH - Target Organs
crystalline silica, quartz	A2	1	Known	X	eyes, respiratory system

**12. Ecological information**

**Ecotoxicity**

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

Active Ingredient	Duration	Species	Value	Units
Bifenthrin	EC50	Aquatic organisms	0.11 - 0.57	µg/L
Bifenthrin	96 h LC50	Fish	0.1 - 2.0	µg/L
Bifenthrin	LD50 Oral	Bobwhite quail	>1800	mg/kg
Bifenthrin	LD50 Oral	Mallard duck	>2150	mg/kg
Bifenthrin	LD50	Bee	0.1	µg/bee

**Environmental Fate**

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

Active Ingredient	Type of Test	Result
Bifenthrin	Bioconcentration factor (BCF)	1709
Bifenthrin	Half-life in soil	~85 days
Bifenthrin	log Pow	6.6
Bifenthrin	Mobility in soil	Not expected to reach groundwater
Bifenthrin	Stability in water	Stable to hydrolysis over a wide range of pH values.

**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.

**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.

**Packaging Type**                                      Non-Bulk, Bulk

**TDG**

**Proper shipping name**                              Environmentally hazardous substance, solid, n.o. s.  
**Hazard Class**    9  
**UN/ID No**    UN3077  
**Packing group**    III  
**Marine pollutant**    Bifenthrin.

**ICAO/IATA**

**UN/ID No**    UN3077  
**Proper shipping name**                                      Environmentally hazardous substance, solid, n.o. s.  
**Hazard Class**    6.1  
**Packing group**    III  
**Marine pollutant**    Bifenthrin

**IMDG/IMO**

**Proper shipping name**                                      Environmentally hazardous substance, solid, n.o. s.  
**Hazard Class**    9  
**UN/ID No**    UN3077  
**Packing group**    III  
**EmS No.**    F-A, S-F  
**Marine pollutant**    Bifenthrin

**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

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Bifenthrin	82657-04-3	0.2	1.0

**SARA 311/312 Hazard Categories**

**Acute Health Hazard**                                      No  
**Chronic Health Hazard**                                      yes  
**Fire Hazard**    No  
**Sudden Release of Pressure Hazard**                      No  
**Reactive Hazard**    No

**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.

**International Regulations**

**Mexico - Grade**

Slight risk, Grade 1

Chemical Name	Carcinogen Status	Mexico
crystalline silica, quartz		Mexico: TWA 0.1 mg/m <sup>3</sup>

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**

D2A Very toxic materials



**16. Other information**

**Revision Date:** 2011-08-18  
**Reason for revision:** (M)SDS sections updated: 11, 15.

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**End of Material Safety Data Sheet**