

# Material Safety Data Sheet

## Talstar® XTRA Granular Insecticide Featuring Verge Granule Technology

SDS #: 6676-A  
Revision Date: 4233/2: /3:  
Version 4



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.

### 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	Talstar® XTRA Granular Insecticide Featuring Verge Granular Technology
<b>Active Ingredient(s)</b>	Bifenthrin, Zeta-cypermethrin
<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; FMC 233570; (+/-)- $\alpha$ -cyano(3-phenoxyphenyl)methyl (+/-) cis, trans-3-(2,2-dichloroethyl)-2,2-dimethylcyclopropanecarboxylate; IUPAC: (RS)- $\alpha$ -cyano-3-phenoxybenzyl (1RS)-cis-trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate; F2700
<b>Chemical Family</b>	Pyrethroid Pesticide
<b>Recommended use</b>	Insecticide
<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>Emergency telephone number</b>  Medical Emergencies: (800) 331-3148 (U.S.A. & Canada) (651) 632-6793 (All Other Countries - Collect) For leak, fire, spill or accident emergencies, call: +1 800 424-9300 (CHEMTREC - U.S.A.) +1 703 527-3887 (CHEMTREC - Collect - All Other Countries)

### 2. Hazards identification

<b>Appearance</b>	granules
<b>Physical State</b>	Solid
<b>Odor</b>	Mild detergent odor
<b>Physical or Chemical Hazards</b>	.
<b>Flammable properties</b>	Powdered material may form explosive dust-air mixtures
<b>Potential health effects</b> <b>Principle Routes of Exposure</b> <b>Acute effects</b>	Eye contact, Skin contact, Inhalation, Ingestion.
<b>Eyes</b>	Moderately irritating to the eyes.
<b>Skin</b>	May cause sensitization by skin contact. Substance may cause slight skin irritation.
<b>Inhalation</b>	May cause irritation of respiratory tract.

<b>Ingestion</b>	Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause central nervous system depression.
<b>Chronic effects</b>	Repeated or prolonged exposure may cause central nervous system effects.
<b>Environmental hazard</b>	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 %
bentonite	1302-78-9	80-90
crystalline silica, quartz	14808-60-7	5-10
Hexylene Glycol	107-41-5	1-5
1,1'-Biphenyl, bis(1-methylethyl)-	69009-90-1	1-5
Bifenthrin	82657-04-3	0.2
Zeta-cypermethrin	52315-07-8	0.05

### 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 a 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.
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

#### 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** Foam. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Water spray or fog.

#### Advice for fire-fighters

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

#### NFPA

Health Hazard	2
Flammability	1
Stability	0
Special Hazards	-

## 6. Accidental release measures

<b>Personal precautions</b>	Isolate and post spill 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 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
bentonite 1302-78-9	TWA: 1 mg/m <sup>3</sup>			
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>
Hexylene Glycol 107-41-5	Ceiling: 25 ppm		Ceiling: 25 ppm Ceiling: 125 mg/m <sup>3</sup>	Mexico: Ceiling 25 ppm Mexico: Ceiling 125 mg/m <sup>3</sup>

Chemical Name	British Columbia	Quebec	Ontario TWAEV	Alberta
bentonite 1302-78-9	TWA: 1.0 mg/m <sup>3</sup>		TWA: 1 mg/m <sup>3</sup>	
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>
Hexylene Glycol 107-41-5	Ceiling: 25 ppm	Ceiling: 25 ppm Ceiling: 121 mg/m <sup>3</sup>	CEV: 25 ppm	Ceiling: 25 ppm Ceiling: 121 mg/m <sup>3</sup>

### Occupational exposure controls

<b>Engineering measures</b>	Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.
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### Personal protective equipment

<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.
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<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, chemical-resistant gloves and headgear.
<b>Hand protection</b>	Protective gloves
<b>Hygiene measures</b>	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>	granules
<b>Color</b>	gray
<b>Physical State</b>	Solid
<b>Odor</b>	Mild detergent odor
<b>pH</b>	6.5 - 7.0
<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>	No information available
<b>Specific Gravity</b>	No information available
<b>Bulk density</b>	No information available
<b>Water solubility</b>	Dispersible in water
<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 under recommended storage conditions.
<b>Conditions to avoid</b>	Heat, flames and sparks
<b>Hazardous decomposition products</b>	Carbon oxides. Hydrogen chloride. Hydrogen fluoride.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur

## 11. Toxicological information

<b>Eye contact</b>	Moderately irritating to the eyes
<b>Skin contact</b>	May cause slight irritation
<b>LD50 Dermal</b>	> 5000 mg/kg (rabbit)

**LD50 Oral** 550 mg/kg (rat)  
**LC50 Inhalation:** > 2.11 mg/L (rat)

**Sensitization** This product produces skin sensitization (allergic reaction) in laboratory animals, and may produce similar effects in humans.

### Chronic Toxicity - Active Ingredient(s)

**Chronic Toxicity** Repeated or prolonged exposure may cause central nervous system effects.

**Carcinogenicity** Bifenthrin: Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH). Did not show carcinogenic effects in animal experiments. Cypermethrin caused an increase in benign lung tumors in mice, but not in rats, and was negative for genotoxicity. EPA has classified zeta-cypermethrin as a possible human carcinogen based on this information, but does not regulate based on its low cancer risk.

**Mutagenicity** Bifenthrin, Zeta-cypermethrin: Not genotoxic.

**Reproductive toxicity** Zeta-cypermethrin: No toxicity to reproduction.

**Neurological Effects** Tremors were associated with chronic exposure of laboratory animals to bifenthrin, which may disappear with continued exposure. Cypermethrin is known to induce neuromuscular effects (i.e. gait abnormalities, tremors, reduced motor activity, changes in functional observation battery parameters and convulsions) in mammals, but does not generally induce neuropathologic lesions. These clinical signs occurred following an acute exposure and appeared to be transient in nature. Effects occurred via oral and inhalation exposure but not by the dermal exposure route

**Developmental Toxicity** Bifenthrin, Zeta-cypermethrin: 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
Hexylene Glycol					eyes, CNS, respiratory system, skin

## 12. Ecological information

**Marine pollutant** Zeta-cypermethrin  
**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

### **Zeta-cypermethrin (52315-07-8)**

Active Ingredient	Duration	Species	Value	Units
Zeta-cypermethrin	LC50	Aquatic organisms	0.005 - 0.15	µg/L

	LC50	Fish	0.07 - 2.37	µg/L
	LD50 Oral	Bobwhite quail	>2000	mg/kg
	LD50	Bee	0.0014 - 0.043	µg/bee

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
bentonite		LC50 8.0-19.0 g/L Salmo gairdneri 96 h LC50 19000 mg/L Oncorhynchus mykiss 96 h		
Hexylene Glycol		LC50 10500-11000 mg/L Pimephales promelas 96 h LC50 10000 mg/L Lepomis macrochirus 96 h LC50 8690 mg/L Pimephales promelas 96 h LC50 10700 mg/L Pimephales promelas 96 h		EC50 2700 - 3700 mg/L 48 h

### 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.

#### Zeta-cypermethrin (52315-07-8)

Active Ingredient	Type of Test	Result
Zeta-cypermethrin	Bioconcentration factor (BCF), Bluefill sunfish (Lepomis macrochirus)	443
	Half-life in soil	2 - 4 weeks
	log Pow	5
	Mobility in soil	Not expected to reach groundwater
	Stability in water	Hydrolysis unstable at pH 9, half life 20-29 days at pH 5 and 7.

Chemical Name	log Pow
Hexylene Glycol	<0.14

## 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

Not regulated for transportation if shipped in Non Bulk packaging. The classification below pertains to the shipment in Bulk packaging.

**Proper shipping name**  
**Hazard Class**

Environmentally hazardous substances, solid, n.o.s.  
9

UN/ID No UN3077  
 Packing group III  
 Marine pollutant Zeta-cypermethrin  
 Description UN3077 Environmentally hazardous substances, solid, n.o.s.(Bifenthrin, Zeta-cypermethrin), 9 PG III

**TDG**

Proper shipping name Environmentally hazardous substance, solid, n.o.s.  
 Hazard Class 9  
 UN/ID No UN3077  
 Packing group III  
 Marine pollutant Bifenthrin, Zeta-cypermethrin.  
 Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Bifenthrin, Zeta-cypermethrin), 9, PG III

**ICAO/IATA**

UN/ID No UN3077  
 Proper shipping name Environmentally hazardous substance, solid, n.o.s.  
 Hazard Class 9  
 Packing group III  
 Marine pollutant Bifenthrin, Zeta-cypermethrin  
 Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Bifenthrin, Zeta-cypermethrin), 9, PG III  
 Limited quantity 30 kg G

**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, Zeta-cypermethrin  
 Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Bifenthrin, Zeta-cypermethrin), 9, PG III

**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 yes  
 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.

## TSCA Inventory (United States of America)

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(d) - 716.120(a) - Health and Safety Reporting - List of Substances
1,1'-Biphenyl, bis(1-methylethyl)-	06/28/1984

**International Regulations****Mexico - Grade**

Moderate risk, Grade 2

Chemical Name	Carcinogen Status	Mexico
crystalline silica, quartz		Mexico: TWA 0.1 mg/m <sup>3</sup>
Hexylene Glycol		Mexico: Ceiling 25 ppm Mexico: Ceiling 125 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

D2B Toxic materials

**16. Other information**

Revision Date: 2011-07-08  
Reason for revision: Initial Release.

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**End of Material Safety Data Sheet**