

MATERIAL SAFETY DATA SHEET

TALSTAR® XTRA GRANULAR INSECTICIDE



MSDS Ref. No.: 100000015797

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This document has been prepared to meet the requirements of the 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

PRODUCT NAME: TALSTAR® XTRA GRANULAR INSECTICIDE

PRODUCT CODE: 6390

ACTIVE INGREDIENT(S): Zeta-cypermethrin (F2700)*; Bifenthrin**

CHEMICAL FAMILY: Pyrethroid Pesticide

MOLECULAR FORMULA: C₂₃H₂₂ClF₃O₂ (bifenthrin); C₂₂H₁₉Cl₂NO₃ (zeta-cypermethrin)

SYNONYMS: FMC 233570; Cyclopropanecarboxylic acid, cis-(+)-3-(2,2-dichloroethenyl)-2,2-dimethyl-, (S)-cyano(3-phenoxyphenyl)methyl ester, AND Cyclopropanecarboxylic acid, trans-(+)-3-(2,2-dichloroethenyl)-2,2-dimethyl-, (S)-cyano(3-phenoxyphenyl)methyl ester)*;

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**

ALTERNATE PRODUCT NAME(S): F6132 G

GENERAL USE: Insecticide

MANUFACTURER

FMC CORPORATION
Agricultural Products Group
1735 Market Street
Philadelphia, PA 19103
(215) 299-6000 (General Information)
msdsinfo@fmc.com (Email - General Information)

EMERGENCY TELEPHONE NUMBERS

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

For leak, fire, spill, or accident emergencies, call:
(800) 424-9300 (CHEMTREC - U.S.A. & Canada)
(703) 527-3887 (CHEMTREC - Collect - All Other Countries)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

- Granular solid
- Product is non-combustible.
- Cancer Hazard - Can cause cancer
- Prolonged, repeated exposure to respirable crystalline silica can cause silicosis or possibly cancer. See section 11 for additional details.
- May cause sensitization by skin contact.
- Highly toxic to fish and aquatic organisms. Keep out of drains and water courses.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt. %	EC No.	EC Class
Zeta-cypermethrin (F2700)	52315-07-8	0.05	257-842-9	Xn-Xi-N; R20/22-43-50/53
Bifenthrin	82657-04-3	0.2	None	T, Xn, Xi, N; R25-20-43-50/53
Silica, amorphous	112926-00-8	1 - 3	601-214-2	Not classified
Silica, quartz	14808-60-7	>94	238-878-4	Not classified in Annex I

COMMENTS: Cas 14808-60-7: The supplier has self-classified this chemical as R48/20-40/20.

4. FIRST AID MEASURES

EYES: Flush with large quantities of water for at least 15 minutes, lifting the upper and lower eyelids intermittently. If wearing contact lenses, remove after the first five minutes and continue flushing with water. If irritation occurs and persists, get medical attention.

SKIN: Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

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 to an unconscious person.

INHALATION: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.

NOTES TO MEDICAL DOCTOR: This product has low oral, dermal and inhalation toxicity. It is mildly irritating to the eyes and skin. It is sensitizing to the skin. Treatment is controlled removal of exposure followed by symptomatic and supportive care.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Will not burn. Extinguish fire using agents suitable for nearby fires.

FIRE / EXPLOSION HAZARDS: Product is non-combustible.

FIRE FIGHTING PROCEDURES: Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke, gases or vapors generated.

6. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: Isolate and post spill area. Wear protective clothing and personal protective equipment as prescribed in Section 8, "Exposure Controls/Personal Protection". Keep unprotected persons and animals out of the area.

Keep material out of lakes, streams, ponds and sewer drains. Dike to confine spill and absorb with a non-combustible absorbent such as clay, sand or soil. Vacuum, shovel or pump waste into a drum and label contents for disposal.

To clean and neutralize contaminated area, scrub area with a solution of detergent (e.g. commercial product such as SuperSoap™, Tide®, Spic and Span®, or other high pH detergent) and water. Let solution sit for 5 minutes. Use a stiff brush to scrub affected area. Repeat if necessary to remove visible staining. Additional decontamination can be made by applying bleach (Clorox® or equivalent) to affected area.

Absorb wash-liquid as noted above, remove visibly contaminated soil and place into recovery / disposal container (plastic, open-top steel drum or equivalent). Place all clean-up material in a container, seal and dispose of in accordance with the method outlined in Section 13 "Disposal Considerations" below.

For further information on spill clean-up, waste disposal, or return of salvaged product, call the FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

7. HANDLING AND STORAGE

HANDLING AND STORAGE: Store in a cool, dry, well-ventilated place. Do not use or store near heat, open flame or hot surfaces. Store in original containers only. Keep out of reach of children and animals. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS

Chemical Name	ACGIH	OSHA	Supplier
Silica, amorphous		(TWA) (80/(% SiO ₂) mg/m ³)	
Silica, quartz	0.025 mg/m ³ (8-hour TWA) (respirable fraction)	(10/(% SiO ₂ + 2) mg/m ³ (8-hour TWA, respirable dust)) (30/(% SiO ₂ + 2) mg/m ³ (8-hour TWA, total dust))	

ENGINEERING CONTROLS: Use local exhaust at all process locations where dust may be emitted. Ventilate all transport vehicles prior to unloading.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Whenever airborne dust concentrations are high, appropriate protective eyewear, such as mono-goggles, should be worn to prevent eye contact.

RESPIRATORY: For dust exposure wear, as a minimum, a properly fitted half-face or full-face air-purifying particulate (dust/mist/fume) respirator (approved by U.S. NIOSH/MSHA, EU CEN or comparable certification organization). Respirator use and selection must be based on airborne concentrations.

PROTECTIVE CLOTHING: Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC suit. Leather items - such as shoes, belts and watchbands - that become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).

GLOVES: Wear chemical protective gloves made of materials such as nitrile. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

WORK HYGIENIC PRACTICES: 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 at the end of the workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR:	Not available
APPEARANCE:	Granular solid
DENSITY / WEIGHT PER VOLUME:	97.71 - 100.43 lb/ft ³
MELTING POINT:	Not available
MOLECULAR WEIGHT:	416.3 (zeta-cypermethrin) 422.9 (bifenthrin)
PERCENT VOLATILE:	Not applicable
pH:	~ 6.9
SOLUBILITY IN WATER:	Not available
VAPOR PRESSURE:	Not available
VISCOSITY:	Not applicable

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID:	Excessive heat and fire.
STABILITY:	Stable
POLYMERIZATION:	Will not occur
INCOMPATIBLE MATERIALS:	Avoid contact with strong oxidizing agents, fluorine, chlorine trifluoride, oxygen difluoride.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: Moderately irritating

SKIN EFFECTS: Slightly irritating

DERMAL LD₅₀: > 5,000 mg/kg

ORAL LD₅₀: 727 mg/kg

INHALATION LC₅₀: > 2.11 mg/l

SENSITIZATION: Skin sensitizer

ACUTE EFFECTS FROM OVEREXPOSURE: No data available for the product. This product has low oral, dermal and inhalation toxicity. It is mildly irritating to the eyes and skin. It is

sensitizing to the skin. Large doses of zeta-cypermethrin, ingested by laboratory animals, may produce signs of toxicity including tremors, incoordination, convulsions, staggered gait, and oral discharge. Experience to date indicates that contact with zeta-cypermethrin may produce skin sensations such as numbing, burning or tingling. These sensations are reversible and usually subside within 12 hours. 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 numbing, burning or tingling. These sensations are reversible and usually subside within 12 hours.

CHRONIC EFFECTS FROM OVEREXPOSURE: No data available for the product. In studies with laboratory animals, bifenthrin did not cause reproductive toxicity or teratogenicity. Tremors were associated with repeated exposure of laboratory animals to bifenthrin. In lifetime feeding studies conducted with laboratory animals, a slight increase in the incidence of urinary bladder tumors at the highest dose in male mice was considered to be an equivocal response, not evidence of a clear compound-related effect. The overall absence of genotoxicity has been demonstrated in mutagenicity tests with bifenthrin. In studies with laboratory animals, zeta-cypermethrin did not cause reproductive effects or teratogenicity in laboratory animals. An overall absence of genotoxicity has been demonstrated in tests of mutagenicity, DNA damage and chromosome aberrations.

CARCINOGENICITY:

Chemical Name	IARC	NTP	OSHA	Other
Silica, amorphous	3	Not listed	Not listed	(ACGIH) Not listed
Silica, quartz	1	Known Carcinogen	Not listed	(ACGIH) A2

12. ECOLOGICAL INFORMATION

Unless otherwise indicated, the data presented below are for the active ingredient(s).

ENVIRONMENTAL DATA: Bifenthrin has moderate stability in the soil under aerobic conditions (half-life range from 65 - 125 days depending on soil type) and is stable at a wide range of pH values. Bifenthrin has a high Log Pow (6.6), a high affinity for organic matter, and is not mobile in soil. Therefore, there is little potential for movement into ground water. There is the potential for bifenthrin to bioconcentrate (BCF <2,000).

The physical and environmental properties, as well as the environmental toxicology of zeta-cypermethrin, are similar to cypermethrin. Unless otherwise indicated, the data presented below pertains to cypermethrin.

ECOTOXICOLOGICAL INFORMATION: Bifenthrin is highly toxic to fish and aquatic arthropods and LC₅₀ values range from 0.0038 to 17.8 µg/L. In general, the aquatic arthropods are the most sensitive species. Care should be taken to avoid contamination of the aquatic environment. Bifenthrin had no effect on mollusks at its limit of water solubility. Bifenthrin is only slightly toxic to both waterfowl and upland game birds (LD₅₀ values range from 1,800 mg/kg to >2,150 mg/kg).

Zeta-cypermethrin is considered highly toxic to fish and aquatic arthropods and has LC₅₀ values which range from 0.002 µg/L to 2.37 µg/L. These values are comparable to cypermethrin. Care should be taken to avoid contamination of the aquatic environment. Cypermethrin is slightly toxic to birds, and oral LD₅₀ values are greater than 10,248 mg/kg.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

EMPTY CONTAINER: Non-returnable containers that held this material should be cleaned, prior to disposal, by triple rinsing. Containers which held this material may be cleaned by being triple-rinsed, and recycled, with the rinsate being incinerated. Do not cut or weld metal containers. Vapors that form may create an explosion hazard.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

PACKAGING TYPE:	Non-Bulk
ADDITIONAL INFORMATION:	Material is not regulated for transport in the USA in non-bulk packaging.
PACKAGING TYPE:	Bulk
PROPER SHIPPING NAME:	Environmentally hazardous substance, solid, n.o.s.
TECHNICAL NAME(S):	Bifenthrin, Zeta-cypermethrin
PRIMARY HAZARD CLASS / DIVISION:	9
UN/NA NUMBER:	UN 3077
PACKING GROUP:	III
MARINE POLLUTANT:	Bifenthrin, Zeta-cypermethrin

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355, APPENDIX A):
Not applicable

SECTION 311 HAZARD CATEGORIES (40 CFR 370):

Delayed (Chronic) Health Hazard

SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):

This product does not contain any toxic chemicals subject to the reporting requirements of Section 313, Title III of the SARA (Superfund Amendments and Reauthorization Act) of 1986.

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

CERCLA DESIGNATION & REPORTABLE QUANTITIES (RQ) (40 CFR 302.4):

Not applicable

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA INVENTORY STATUS (40 CFR 710):

Not all components listed

FEDERAL INSECTICIDE FUNGICIDE RODENTICIDE ACT

U.S. EPA Signal Word: CAUTION

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):

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

Hazard Classification / Division: D2A

Domestic Substance List: Not all components listed

HAZARD AND RISK PHRASE DESCRIPTIONS:

EC Symbols:	T	(Toxic)
	Xn	(Harmful)
	Xi	(Irritant)
	N	(Dangerous for the environment)

EC Risk Phrases:	R20	(Harmful by inhalation.)
	R20/22	(Harmful by inhalation and if swallowed.)
	R25	(Toxic if swallowed.)
	R40	(Possible risks of irreversible effects.)
	R43	(May cause sensitization by skin contact.)
	R48/20	(Harmful: danger of serious damage to health by prolonged exposure through inhalation)
	R50/53	(Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.)

16. OTHER INFORMATION

NFPA

Health	1
Flammability	0
Reactivity	0
Special	None

No special requirements

NFPA (National Fire Protection Association)

Degree of Hazard Code:

- 4 = Extreme
- 3 = High
- 2 = Moderate
- 1 = Slight
- 0 = Insignificant

REVISION SUMMARY:

This MSDS replaces Revision #4, dated February 17, 2010.

Changes in information are as follows:

Section 1 (Product and Company Identification)

Section 14 (Transport Information)

Section 16 (Other Information)

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