

Material Safety Data Sheet
TALSTAR® PL GRANULAR INSECTICIDE

SDS #: 1686-A
Revision Date: 2011-09-22
Version 1



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

| | |
|--|---|
| Product name | TALSTAR® PL GRANULAR INSECTICIDE |
| Formula code | 1686 |
| Active Ingredient(s) | Bifenthrin |
| Synonyms | 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. |
| Chemical Family | Pyrethroid Pesticide |
| Recommended use | Insecticide Miticide |
| Manufacturer FMC Corporation Agricultural Products Group 1735 Market Street Philadelphia, PA 19103 General Information: Phone: (215) 299-6000 E-Mail: msdsinfo@fmc.com | Emergency telephone number 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

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

Chronic effects 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 | >95 |
| 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 CO₂, 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

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|-----------------|---|
| Health Hazard | 1 |
| Flammability | 1 |
| Stability | 0 |
| Special Hazards | - |

6. Accidental release measures

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| Personal precautions | In case of spill, avoid contact. Isolate area and keep out animals and unprotected persons. |
| Environmental precautions | Try to prevent the material from entering drains or water courses. |
| Methods for containment | Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. |
| Methods for cleaning up | Take up mechanically and collect in suitable container for disposal. Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust. |
| Other | For further clean-up instructions call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above. |

7. Handling and storage

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| 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 only. |

8. Exposure controls/personal protectionExposure guidelines

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

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

Occupational exposure controls

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|-----------------------------|--|
| 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. |
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Personal protective equipment

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| 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. |
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| Respiratory protection | For dust, splash, mist or spray exposures wear a filtering mask. |
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| Eye/face protection | For dust, splash, mist or spray exposure, wear chemical protective goggles or a face-shield. |
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| Skin and body protection | Wear long-sleeved shirt, long pants, socks, shoes, and gloves. |
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| Hand protection | Protective gloves |
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| 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. |
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9. Physical and chemical properties

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

10. Stability and reactivity

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|---|---|
| Stability | Stable |
| Conditions to avoid | Excessive heat. Keep away from open flames, hot surfaces and sources of ignition. |
| Hazardous decomposition products | Carbon oxides, Hydrogen chloride, Hydrogen fluoride |
| Hazardous polymerization | 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.

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

Chronic Toxicity - Other Ingredient(s)

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|-------------------------|--|
| Chronic Toxicity | Prolonged exposure may cause chronic effects. See Section 11 for additional Toxicological Information. |
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|-------------------------------|---|
| 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.
Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Bifenthrin), 9, PGIII

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
Description Environmentally hazardous substance, solid, n.o.s. (Bifenthrin), UN3077, 9, PGIII

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
Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Bifenthrin), 9, PGIII

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 ³ |

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: 2011-09-22
 Reason for revision: (M)SDS sections updated.

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End of Material Safety Data Sheet