

# Material Safety Data Sheet

## TALSTAR® S INSECTICIDE

SDS #: 6320-A  
Revision Date: 2011-11-10  
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

<b>Product name</b>	TALSTAR® S INSECTICIDE
<b>Formula code</b>	6320
<b>Active Ingredient(s)</b>	Bifenthrin
<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>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) +1 (651) 632-6793 (All Other Countries - Collect) For leak, fire, spill or accident emergencies, call: +1 800.424.9300 (CHEMTREC - U.S.A.) +1 703.527.3887 (CHEMTREC - Collect - All Other Countries)

### 2. Hazards identification

<b>Appearance</b>	Clear light yellow liquid
<b>Physical State</b>	liquid
<b>Odor</b>	aromatic
<b>Physical or Chemical Hazards</b>	Keep away from heat, sparks, and open flame.
<b>Flammable properties</b>	Combustible Liquid
<b>Potential health effects</b> <b>Principle Routes of Exposure</b> <b>Acute effects</b>	Eye contact, Skin contact, Inhalation, Ingestion.
<b>Eyes</b>	Irritating to eyes.
<b>Skin</b>	May cause sensitization by skin contact.
<b>Inhalation</b>	Harmful by inhalation. May cause drowsiness and dizziness. May cause irritation of respiratory tract.
<b>Ingestion</b>	Harmful if swallowed. Potential for aspiration if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause drowsiness and dizziness.
<b>Chronic effects</b>	Chronic exposure to aromatic hydrocarbons may cause headaches, dizziness, loss of sensations or feelings (such as numbness), and liver and kidney damage.

### 3. Composition/information on ingredients

#### Hazardous ingredients

Chemical Name	CAS-No	Weight %
Naphtha (petroleum), heavy aromatic	64742-94-5	70-80
Bifenthrin	82657-04-3	11
1-hexanol	111-27-3	5-10

### 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	Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not induce vomiting or give anything by mouth to an unconscious person.
Notes to physician	Contains petroleum distillate. Vomiting may cause aspiration pneumonia. 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** Combustible Liquid

**Flash Point** 74 °C / 165 °F  
**Method** Tag Closed Cup

#### 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** 2

Stability 0  
 Special Hazards -

**6. Accidental release measures**

**Personal precautions** Isolate and post spill area. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.

**Environmental precautions** Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.

**Methods for cleaning up** 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.

**Other** For further clean-up instructions call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

**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 only.

**8. Exposure controls/personal protection**

Exposure guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Occupational exposure controls

**Engineering measures** 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.

Personal protective equipment

**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

**Respiratory protection** For dust, splash, mist or spray exposures wear a filtering mask.

**Eye/face protection** For dust, splash, mist or spray exposure, wear chemical protective goggles or a face-shield.

**Skin and body protection** Wear long-sleeved shirt, long pants, socks, shoes, and gloves.

**Hand protection** 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>	Clear light yellow liquid
<b>Color</b>	Clear light yellow
<b>Physical State</b>	liquid
<b>Odor</b>	aromatic
<b>pH</b>	5 (1% solution)
<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>	74 °C / 165 °F Tag Closed Cup
<b>Evaporation rate</b>	not applicable
<b>Autoignition Temperature</b>	not applicable
<b>Flammable properties</b>	Combustible Liquid
<b>Vapor pressure</b>	not applicable
<b>Vapor density</b>	No information available
<b>Density</b>	0.9 g/cm <sup>3</sup> @ 20°C
<b>Water solubility</b>	Emulsifies
<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****Acute toxicity**

There is no data available for this product. Data presented is for similar product. 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>	Irritating to eyes (rabbit).
<b>Skin contact</b>	Non-irritating during normal use (rabbit)
<b>Ingestion</b>	Vomiting after ingestion of this product may cause aspiration of aromatic hydrocarbons into the lungs, which may result in fatal pulmonary edema. Large doses of bifenthrin ingested by laboratory animals produced signs of toxicity including convulsions, tremors and bloody nasal discharge.
<b>Inhalation</b>	Inhalation of aromatic hydrocarbon vapors may cause dizziness, disturbances in vision, drowsiness, respiratory irritation, and eye, skin and mucous membrane irritation.
<b>LD50 Dermal</b>	> 2,000 mg/kg (rabbit)
<b>LD50 Oral</b>	520 mg/kg (rat)
<b>LC50 Inhalation:</b>	4.95 mg/L 4 hr (rat)

<b>Sensitization</b>	May cause sensitization by skin contact
<b><u>Chronic Toxicity - Other Ingredient(s)</u></b>	
<b>Chronic Toxicity</b>	Chronic exposure to aromatic hydrocarbons may cause headaches, dizziness, loss of sensations or feelings (such as numbness), and liver and kidney damage.
<b>Carcinogenicity</b>	Bifenthrin: Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH). Did not show carcinogenic effects in animal experiments. The petroleum distillates present in this product are highly refined and should not be considered carcinogenic.
<b>Mutagenicity</b>	Bifenthrin: Not genotoxic
<b>Neurological Effects</b>	Tremors were associated with chronic exposure of laboratory animals to bifenthrin, which may disappear with continued exposure.
<b>Developmental Toxicity</b>	Bifenthrin: Not teratogenic in animal studies.
<b>Target Organ Effects</b>	Bifenthrin: A slight increase in male mouse urinary bladder tumors at the highest dose was probably not of toxicological concern.

**ACGIH: (American Conference of Governmental Industrial Hygienists)**

A2 - Suspected Human Carcinogen

**IARC: (International Agency for Research on Cancer)**

Group 1 - Carcinogenic to Humans

**OSHA: (Occupational Safety & Health Administration)**

X - Present

**12. Ecological information**

**Ecotoxicity**

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

Active Ingredient(s)	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

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Naphtha (petroleum), heavy aromatic	2.5 mg/L EC50 72 h (Skeletonema costatum)	LC50 19 mg/L Pimephales promelas 96 h LC50 2.34 mg/L Oncorhynchus mykiss 96 h LC50 1740 mg/L Lepomis macrochirus 96 h LC50 45 mg/L Pimephales promelas 96 h LC50 41 mg/L Pimephales promelas 96 h		EC50 0.95 mg/L 48 h
1-hexanol		LC50 89.7-106 mg/L Pimephales promelas 96 h LC50 144 mg/L Brachydanio rerio 96 h		EC50 201 mg/L 24 h

**Environmental Fate**

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

Active Ingredient(s)	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.

Chemical Name	log Pow
Naphtha (petroleum), heavy aromatic	2.9 - 6.1
1-hexanol	2.03

**Bioaccumulation** Material will likely bioaccumulate in exposed species.

### 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 a Combustible liquid and is, therefore, not subject to the hazardous materials regulations when in non-bulk packages shipped within the USA per 49 CFR §173.150(f)(2).

**Packaging Type** Bulk.  
**Proper shipping name** Combustible liquid, n.o.s.  
**Hazard Class** Combustible liquid  
**UN/ID No** NA1993  
**Packing group** III  
**Description** NA1993, Combustible liquid, n.o.s. (Aromatic hydrocarbons), PG III

**TDG** The "Marine Pollutant" marking is only applicable when shipped by vessel, and is not applicable when shipped only by road or rail in Canada.  
**Proper shipping name** Environmentally hazardous substance, liquid, n.o.s.  
**Hazard Class** 9  
**UN/ID No** UN3082  
**Packing group** III  
**Marine pollutant** Bifenthrin.  
**Description** UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin, aromatic hydrocarbons), 9, PG III, Marine Pollutant

**ICAO/IATA**  
**UN/ID No** UN3082  
**Proper shipping name** Environmentally hazardous substance, liquid, n.o.s.  
**Hazard Class** 9  
**Packing group** III  
**Marine pollutant** Bifenthrin  
**Description** UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin, aromatic hydrocarbons), 9, PG III, Marine Pollutant

**IMDG/IMO**  
**Proper shipping name** Environmentally hazardous substance, liquid, n.o.s.

<b>Hazard Class</b>	9
<b>UN/ID No</b>	UN3082
<b>Packing group</b>	III
<b>EmS No.</b>	F-A, S-F
<b>Marine pollutant</b>	Bifenthrin
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin, aromatic hydrocarbons), 9, PG III, Marine Pollutant

## 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	11	1.0

#### SARA 311/312 Hazard Categories

<b>Acute Health Hazard</b>	yes
<b>Chronic Health Hazard</b>	yes
<b>Fire Hazard</b>	yes
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	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(a) - Chemical-Specific Reporting and Recordkeeping
Naphtha (petroleum), heavy aromatic	Partially exempt chemical substance termed Petroleum Process Stream

### International Regulations

#### Mexico - Grade

Moderate risk, Grade 2

#### 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

B3 Combustible liquid  
D2B Toxic materials



**16. Other information**

Revision Date: 2011-11-10  
Reason for revision: (M)SDS sections updated.

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**End of Material Safety Data Sheet**