1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name: TALSTAR® PROFESSIONAL INSECTICIDE

Formula code: 50001318

Other means of identification

Product Code(s): 1349-A

Synonyms:
- BIFENTHRIN: (2-methyl[1,1'-biphenyl]-3-yl)methyl (1R,3R)-rel-3-[(1Z)-2-chloro-3,3,3-trifluoro-1-propenyl]-2,2-dimethylcyclopropanecarboxylate (CAS name); 2-methylbiphenyl-3-ylmethyl (Z)-(1RS,3RS)-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate (IUPAC name)

Active Ingredient(s): Bifenthrin

Chemical Family: Pyrethroid Pesticide

Recommended use of the chemical and restrictions on use

Recommended Use: Insecticide

Restrictions on Use: Use as recommended by the label.

Supplier Address:

FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104
(215) 299-6000 (General Information)
SDS-Info@fmc.com (E-Mail General Information)

Emergency telephone number

Medical Emergencies:
- 1 800 / 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 / 741-5970 (CHEMTREC - International)
- 1 703 / 527-3887 (CHEMTREC - Alternate)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)
TALSTAR® PROFESSIONAL INSECTICIDE

SDS #: 1349-A
Revision date: 2021-03-29
Version 1.1

| Acute toxicity - Oral                | Category 4 |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 |
| Carcinogenicity                      | Category 2 |
| Specific target organ toxicity (single exposure) | Category 1 |
| Specific target organ toxicity (repeated exposure) | Category 1 |

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Precautionary Statements - Prevention
P202 - Do not handle until all safety precautions have been read and understood
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response
P308 + P311 - If exposed or concerned: Call a POISON CENTER or doctor
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P312 - Call a POISON CENTER or doctor if you feel unwell
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
P330 - Rinse mouth

Precautionary Statements - Storage
P405 - Store locked up

Precautionary Statements - Disposal
P501 - Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
No hazards not otherwise classified were identified.

Other Information
Very toxic to aquatic life with long lasting effects.

3. COMPOSITION/INFORMATION ON INGREDIENTS
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 further treatment advice.

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

Central nervous system effects.

Indication of immediate medical attention and special treatment needed, if necessary
Treat symptomatically. 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

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Small Fire
Dry chemical. Carbon dioxide (CO2).

Large Fire
Water spray. Foam.

Unsuitable extinguishing media
Avoid heavy hose streams.

Specific Hazards Arising from the Chemical Explosion data
None known

Sensitivity to Mechanical Impact
No information available.

Sensitivity to Static Discharge
No information available.

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

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.

Other
For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 “Product and Company Identification” above.
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 Containment
Dike to prevent runoff. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up
Clean and neutralize spill area, tools and equipment by washing with 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.

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.

Packaging material
Must only be kept in original packaging.

Incompatible products
None known

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>British Columbia</th>
<th>Quebec</th>
<th>Ontario TWAEV</th>
<th>Alberta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>-</td>
<td>-</td>
<td>TWA: 10 mg/m³ aerosol only</td>
<td>-</td>
</tr>
<tr>
<td>(57-55-6)</td>
<td></td>
<td></td>
<td>TWA: 50 ppm aerosol and vapor</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA: 155 mg/m³ aerosol and vapor</td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls

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.

Individual protection measures, such as personal protective equipment

Eye/Face Protection
This product does not cause significant eye irritation or eye toxicity requiring special protection. Where there is significant potential for eye contact, wear chemical goggles and have eye flushing equipment available.

Skin and Body Protection
Wear long-sleeved shirt, long pants, socks, and shoes.

Hand Protection
Use protective gloves made of chemical materials such as nitrile or neoprene. Wash the outside of gloves with soap and water before reuse. Check regularly for leaks.

Respiratory Protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

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.

General information
If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Beige Liquid</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Beige</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>6.7</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Does not flash</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No information available</td>
</tr>
<tr>
<td>Upper flammability limit</td>
<td>No information available</td>
</tr>
<tr>
<td>Lower flammability limit</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Relative density</td>
<td>8.53 lb/gal</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.024 @ 20°C</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Soluble in water</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>No information available</td>
</tr>
<tr>
<td>Bulk density</td>
<td>8.53 lb/gal</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
None under normal use conditions

Chemical Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing

Hazardous polymerization
Hazardous polymerization does not occur

Conditions to avoid
Heat, flames and sparks

Incompatible materials
None known

Hazardous Decomposition Products
Carbon oxides (COx), Hydrogen chloride, Hydrogen fluoride, Chlorine, fluorine.

11. TOXICOLOGICAL INFORMATION

Product Information

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 Oral</td>
<td>632 mg/kg (rat)</td>
</tr>
<tr>
<td>LD50 Dermal</td>
<td>&gt;2000 mg/kg (rabbit)</td>
</tr>
<tr>
<td>LC50 Inhalation (dust)</td>
<td>1.60 mg/L 4 hr (rat)</td>
</tr>
</tbody>
</table>
TALSTAR® PROFESSIONAL INSECTICIDE

SDS # :  1349-A  
Revision date:  2021-03-29  
Version  1.1

Serious eye damage/eye irritation  Practically non-irritating.
Skin corrosion/irritation  Non-irritating.
Sensitization  Non-sensitizing.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation (vapor)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bifenthrin</td>
<td>55 mg/kg ( rat )</td>
<td>&gt; 2000 mg/kg ( rat )</td>
<td>0.8 mg/L ( female, rat ) 4 h</td>
</tr>
<tr>
<td>(82657-04-3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propylene glycol</td>
<td>20000 mg/kg ( Rat )</td>
<td>20800 mg/kg ( Rabbit )</td>
<td></td>
</tr>
<tr>
<td>(57-55-6)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms  Large doses of bifenthrin ingested by laboratory animals produced signs of toxicity including convulsions, tremors and bloody nasal discharge.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity  Bifenthrin: Long-term exposure caused neurotoxicity (tremors and impaired gait) in the early exposure in animal studies, but tremors disappeared with continued exposure.

Mutagenicity  Bifenthrin: Not genotoxic in laboratory studies.

Carcinogenicity  Bifenthrin: Weak response, treatment related urinary bladder benign tumors (lesions) in male mice only at the highest dose tested.

Neurological effects  Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure.

Reproductive toxicity  Bifenthrin: No toxicity to reproduction in animal studies.

Developmental toxicity  Bifenthrin: Not teratogenic in animal studies.

STOT - single exposure  Causes damage to organs. See listed target organs below.

STOT - repeated exposure  Causes damage to organs through prolonged or repeated exposure. See listed target organs below.

Target organ effects  Bifenthrin: Central Nervous System.

Neurological effects  Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure.

Aspiration hazard  No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to daphnia and other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bifenthrin (82657-04-3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Ingredient(s)</td>
<td>Duration</td>
<td>Species</td>
<td>Value</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------</td>
<td>----------------</td>
<td>--------</td>
</tr>
<tr>
<td>14-day LC50</td>
<td></td>
<td>Eisenia fetida</td>
<td>&gt; 8</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td>Bobwhite quail</td>
<td>1800</td>
</tr>
<tr>
<td>96 h LC50</td>
<td></td>
<td>Salmo gairdneri</td>
<td>0.1</td>
</tr>
<tr>
<td>48 h EC50</td>
<td></td>
<td>Daphnia magna</td>
<td>0.11</td>
</tr>
<tr>
<td>21 d NOEC</td>
<td></td>
<td>Daphnia magna</td>
<td>0.00095</td>
</tr>
<tr>
<td>21 d NOEC</td>
<td></td>
<td>Pimephales promelas</td>
<td>1.86</td>
</tr>
<tr>
<td>30 d NOEC</td>
<td></td>
<td>Salmo gairdnen</td>
<td>0.012</td>
</tr>
</tbody>
</table>
Persistence and degradability

Bioaccumulation
Bifenthrin: The substance has a potential for bioconcentration.

Mobility
Bifenthrin: Immobile. Not expected to reach groundwater.

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. Proper personal protective equipment, as described in Sections 7 and 8, must be worn while handling materials for waste disposal.

Contaminated containers and packages
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 49 CFR Parts 100 through 185, unless shipped in bulk packaging. The classification below pertains to the shipment in bulk packaging ([>119 gal, liquid) or (882 lb, solid)].

UN/ID no: UN3082
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.(bifenthrin)
Hazard class: 9
Packing Group: III
Marine Pollutant: Bifenthrin.
Description: UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin), 9, III

TDG
Classification below is only applicable when shipped by vessel and is not applicable when shipped by road or rail only.

UN/ID no: UN3082
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.(bifenthrin)
Hazard class: 9
Packing Group: III
Marine Pollutant: Bifenthrin.
Description: UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin), 9, III

ICAO/IATA

UN/ID no: UN3082
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.(bifenthrin)
Hazard class: 9
Packing Group: III
Description: UN3082, Environmentally hazardous substance, liquid, n.o.s. (Bifenthrin), 9, III
Limited quantity: 30 kg G
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:

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bifenthrin - 82657-04-3</td>
<td>82657-04-3</td>
<td>7.9</td>
<td>1.0</td>
</tr>
</tbody>
</table>

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

Clean Water Act
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>1000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Hydroxide</td>
<td>1000 lb</td>
<td>454 kg</td>
</tr>
</tbody>
</table>

FIFRA INFORMATION
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION
Harmful if swallowed, inhaled or absorbed through skin.
This pesticide is extremely toxic to fish and aquatic invertebrates.

US State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals.
U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bifenthrin 82657-04-3</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propylene glycol 57-55-6</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

International Inventories

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>TSCA (United States)</th>
<th>DSL (Canada)</th>
<th>EINECS/ELINCS (Europe)</th>
<th>ENCS (Japan)</th>
<th>China (IECSC)</th>
<th>KECL (Korea)</th>
<th>PICCS (Philippines)</th>
<th>AICS (Australia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bifenthrin 82657-04-3</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propylene glycol 57-55-6</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

CANADA
Not applicable

16. OTHER INFORMATION

NFPA

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

HMIS

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2*</td>
<td>0</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

*Indicates a chronic health hazard.

NFPA/HMIS Ratings Legend

Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Revision date: 2021-03-29
Reason for revision: SDS sections updated.

Disclaimer

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Prepared By:

FMC Corporation