



SAFETY DATA SHEET

EMERGENCY CALL: 1-800-424-9300 (CHEMTREC)

1. IDENTIFICATION

PRODUCT NAME: Tivado
DESCRIPTION: Suspension concentrate insecticide
EPA Reg. No.: 91234-392
COMPANY IDENTIFICATION: Atticus, LLC
940 NW Cary Parkway, Suite 200
Cary, NC 27513

2. HAZARD IDENTIFICATION



WARNING

May cause an allergic skin reaction (H317)
Suspected of damaging fertility or the unborn child (H361)
May cause respiratory irritation (H335)
Toxic to aquatic life with long lasting effects (H401+H411)

HAZARD CLASSIFICATION

Health Hazards

Skin Sensitization
Reproductive toxicity
Specific Target Organ Toxicity – Single Exposure

Physical Hazards

None

Environmental Hazards

Hazardous to the aquatic environment, short-term (acute)
Hazardous to the aquatic environment, long-term (chronic)

HAZARDS NOT REQUIRING CLASSIFICATION

None

PRECAUTIONARY STATEMENTS

Obtain, read and follow all safety instructions before use. Avoid breathing mist/vapors/spray. Use only outdoors or with adequate ventilation. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing. (P203+P261+P271+P272+P280)

IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical help. Specific treatment see Section 4 of this document. Take off contaminated clothing and wash it before reuse. (P302+P352+P333+P317+P321+P362+P364)

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help if you feel unwell. (P304+P340+P319)

IF EXPOSED or concerned, get medical advice. (P318)

Store in a well-ventilated place. Keep container tightly closed. Store locked up. (P403+P233+P405)

Avoid release to the environment. (P273)

Collect spillage. (P391)

Dispose of contents / container in accordance with local regulations. Refer to the product label for specific disposal instructions. (P501)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Common Name	Chemical Name	CAS #	Composition
Spirotetramat	Carbonic acid, cis-3-(2,5-dimethylphenyl)-8-methoxy-2-oxo-1-azaspiro[4.5]dec-3-en-4-yl ethyl ester	203313-25-1	22.4%

NOTE: Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at **1-844-685-9173** for emergency medical treatment information. For chemical emergency: spill, leak, fire, exposure, or accident, call CHEMTREC day or night. Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted).

IF ON SKIN OR CLOTHING: 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.

IF SWALLOWED: 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: No specific antidote is available. Treat the patient symptomatically.

5. FIREFIGHTING MEASURES

Flash Point: >96 °C (204.8°F)

Flammable Limits (LFL-UFL): Not determined

Fire and Explosion Hazards: Not determined

Extinguishing Medium: Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Fire Fighting Equipment: Firefighters should be equipped with NIOSH approved self-contained positive pressure breathing apparatus and full bunker gear.

Fire Fighting Instructions: Evacuate area of all unnecessary personnel and fight fire from a safe distance upwind. Contain contaminated water / firefighting water; do not allow to enter drains or waterways. Use foam or dry chemical fire extinguishing systems to prevent environmental damage from excessive water runoff. Decontaminate firefighting gear and personal protective equipment before reuse.

Hazardous Combustion Products: In the event of fire, the following may be released: Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x)

NFPA Ratings: Health – 2 / Flammability – 1 / Reactivity – 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Isolate area and keep unnecessary and unprotected personnel from entering. Wear suitable personal protective clothing and equipment as described in Section 8 of this document.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Spill Cleanup: Dike spill using suitable absorbent or impervious materials such as sand or clay. Collect and contain contaminated absorbent and place in an appropriate container for disposal. Pump any free liquid into an appropriate closed container and decontaminate tools and equipment following cleanup. Collect washings for disposal.

7. HANDLING AND STORAGE

Handling: Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

Storage: Store in a tightly closed container in a cool, dry place. Store in original container and out of reach of children, preferably in a locked storage area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Spirotetramat	203313-25-1	1.4 mg/m ³ (SK-SEN)		OES*

*OES: "Occupational Exposure Standard"

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash station and a safety shower.

Protective Clothing: Applicators and other handlers must wear long-sleeved shirt and long pants, chemical resistant gloves made of barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, polyvinyl chloride (PVC) ≥ 14 mils, or Viton ≥ 14 mils, and shoes plus socks.

General: Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	white suspension liquid
Odor:	odorless
Melting/freezing point:	Not determined
Boiling point/Boiling range:	Not determined
Flammability:	Not determined
Flammability limits (upper/lower):	Not determined
Flash point:	>96°C (>204.8°F)
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
pH:	5.42
Viscosity:	335.32 mm ² /s at 20±0.1°C 242.15 mm ² /s at 40±0.1°C
Solubility:	Not determined
Partition coefficient:	Not determined
Vapor pressure:	Not determined
Bulk Density:	1.0699 g/mL
Relative vapor density:	Not determined
Particle characteristics:	Not determined

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Extremes of temperature and direct sunlight/freezing.

CHEMICAL STABILITY: Stable under normal use and storage conditions.

INCOMPATIBILITY WITH OTHER MATERIALS: None known.

HAZARDOUS DECOMPOSITION PRODUCTS: No decomposition products expected under normal conditions of use.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

Information presented below is from testing done on an identical or substantially similar product:

ORAL TOXICITY (rat LD₅₀): >2,000 mg/kg

DERMAL TOXICITY (rat LD₅₀): >4,000 mg/kg

INHALATION TOXICITY (rat LC₅₀): >3.0 mg/L (liquid aerosol 4-hours). Highest attainable concentration. No deaths

EYE IRRITATION: Minimally Irritating (Rabbit)

SKIN IRRITATION: No skin irritation (Rabbit)

SKIN SENSITIZATION: Skin sensitizing (Guinea Pig)

CARCINOGENICITY:

EPA: Not likely to be carcinogenic to humans (spirotetramet)

ACGIH: Not Listed **NTP:** Not Listed

IARC: Not Listed **OSHA:** Not Listed

NEUROTOXICITY: Concern is low. The existing toxicological data-base indicates that spirotetramet is not a neurotoxic chemical.

REPRODUCTIVE TOXICITY: Spirotetramet caused male reproductive toxicity in the presence of general toxicity in the rat at very high experimental dose levels. There were no effects on male fertility in mice and dogs. The reproductive toxicity seen with Spirotetramet is due to an overwhelmed elimination capacity at high doses. The high dose levels needed for this effect cannot be achieved even in a worst case exposure scenario.

SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE: May cause respiratory irritation.

12. ECOLOGICAL INFORMATION

This pesticide is toxic to aquatic invertebrates and oysters and potentially toxic to honeybee larvae.

The following information is for the active ingredients, Spirotetramet:

AQUATIC TOXICITY

Rainbow Trout (96-hour LC₅₀): 2.54 mg/L; (NOAEC): 0.825 mg/L

Bluegill Sunfish (96-hour LC₅₀): 2.2 mg/L; (NOAEC): 0.5 mg/L

Sheepshead Minnow (96-hour LC₅₀): 1.96 mg/L; (NOAEC): 0.52 mg/L

Saltwater Mysid (96-hour LC₅₀): 5.5 mg/L; (NOAEC): < 0.73 mg/L

Eastern Oysters (48-hour EC₅₀): 0.85 mg/L; (NOAEC): 0.33 mg/L

Daphnia Magna (48-hour EC₅₀): >42.7 mg/L; (NOAEC): 20.3 mg/L

Chironomus riparius (28-days EC₅₀): 0.46 mg/L; (NOEC): 0.1 mg/L

Green Algae (NOAEC): 1.46 mg/L

Diatom (NOAEC): 0.124 mg/L

Duckweed (NOAEC): 1.54 mg/L

AVIAN TOXICITY

Bobwhite Quail (LD₅₀): >2000 mg ai/kg-bw

Bobwhite Quail (NOAEC): 1250 mg ai/kg-diet

Mallard Duck (LC₅₀): >6050 mg ai/kg-bw diet

Mallard Duck (NOAEC): >344 mg ai/kg- diet

OTHER TOXICITY

Honeybee (LD₅₀): >100 µg a.i./bee

13. DISPOSAL CONSIDERATIONS

PESTICIDE DISPOSAL: Pesticide spray mixture or rinsate that cannot be used should be disposed of in a landfill approved for pesticides. Improper disposal of excess pesticide spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by the use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Refer to the product label for specific container disposal instructions.

14. TRANSPORT INFORMATION

US-DOT: Not regulated

IMDG:

Shipped internationally by vessel: UN3082, Environmentally hazardous substance, liquid, N.O.S., (contains spirotetramet), 9, PG III, Marine Pollutant

IATA:

Shipped by air: UN3082, Environmentally hazardous substance, liquid, N.O.S., (contains spirotetramet), 9, PG III, Marine Pollutant

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.



Manufactured for:
Atticus, LLC
940 NW Cary Parkway, Suite 200
Cary, NC 27513

15. REGULATORY INFORMATION

FIFRA –

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. The following is the hazard information as required on the pesticide label:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Remove and wash contaminated clothing before reuse.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates and oysters. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark.

This product is potentially toxic to honey bee larva through residues in pollen and nectar, but not to adult honeybees. Exposure of adult bees to direct treatment or residues on blooming crops can lead to effects on honeybee larvae.

All pesticides are governed under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The regulatory information presented below is pertinent only when this product is handled outside of the normal use and application as a pesticide. This product is excluded from listing requirements under EPA/TSCA.

SARA Title III – Section 302 Extremely Hazardous Substances

Not listed

SARA Title III – Section 311/312 Hazard Categories

Immediate (Acute), Delayed (Chronic)

SARA Title III – Section 312 Threshold Planning Quantity

Not listed

SARA Title III – Section 313 Reportable Ingredients

Not listed

CERCLA Reportable Quantity (RQ) –

Not listed

CALIFORNIA PROP 65 STATUS –

This product does not contain any chemical known to the State of California to cause cancer or other reproductive harm.

CANADA –

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

16. OTHER INFORMATION

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

To the extent consistent with applicable law, neither Atticus, LLC nor Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ATTICUS, LLC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF ATTICUS, LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

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