

MATERIAL SAFETY DATA SHEET

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1. PRODUCT IDENTIFICATION

Product name: Thiamethoxam 250 g/L SC

Chemical Name (IUPAC):

(EZ)-3-(2-chloro-1,3-thiazol-5-ylmethyl)-5-methyl-1,3,5-oxadiazinan-4-ylidene(nitro)amine

Chemicals Class: Neonicotinoid Insecticide

CAS No.: 153719-23-4

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS No	Conc.
Thiamethoxam	153719-23-4	250 g/L
Other non hazardous ingredients	secret	up to 1000 g/L

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

3. HAZARDS IDENTIFICATION

Symptoms of Acute Exposure

May cause mild eye and skin irritation. Toxic if ingested in large quantity.

Hazardous Decomposition Products

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

4. FIRST AID MEASURES

Ingestion

If swallowed, call a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not give anything by mouth to an unconscious person.

Eye Contact

If in eyes, hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin Contact

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.

Inhalation

If inhaled, move person to fresh air. If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth to mouth if possible. Call a poison control center or doctor for treatment advice.

Notes to Physician

There is no specific antidote. If a large amount has been swallowed and emesis has been inadequate, lavage stomach. Treat Symptomatically.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

Flash point: > 100°C.

Flammable Limits in air: Not applicable

Autoignition Temperature: Not Available

Flammability: Not Flammable

Hazardous combustion products

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Conditions under which flammability could occur

Keep fire exposed containers cool by spraying with water.

Extinguishing media

Use foam, carbon dioxide, dry powder, halon extinguishant or water fog or mist, (avoid u water jet).

Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential person area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. Contain run-off water with, for example, temporary earth barriers.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Make sure all personnel involved in the spill cleanup follow good industrial hygiene practices. A small spill can be handled routinely. Wear suitable protective clothing and eye protection to prevent skin and eye contact. Use adequate ventilation and wear an air-supplied respirator to prevent inhalation.

Procedures for dealing with release or spill

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Sections 7 and 8. Pump or scoop large amounts of liquid into a disposable container. Absorb remaining liquid or smaller spills with clay, sand or vermiculite. Scoop or sweep up material and place into a disposal container. Wash area with detergent and water. Pick

up wash liquid with additional absorbent and place into compatible disposal container. On soils, skim off the upper contaminated layer and collect for disposal. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition. Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

7. HANDLING AND STORAGE

Handling practices

KEEP OUT OF REACH OF CHILDREN and animals. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. After work, rinse gloves and remove protective equipment. Wash hands thoroughly with soap and water after handling, and before eating, tobacco use, drinking, or using the toilet. Wash contaminated clothing before re-use and separate from household laundry. Keep containers closed when not in use. Keep product, wash or rinse water, and contaminated materials out of water, away from crops, and away from access by people, animals and birds.

Appropriate storage practices/requirements

Store in original container only in a well-ventilated, cool, dry, secure area. Protect from heat, sparks and flame. Do not expose sealed containers to temperatures above 40 °C and prevent product from freezing. Keep separate from other products to prevent cross contamination. Rotate stock. Clean up spilled material immediately.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingestion

Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact

Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Skin Contact

Avoid contact with skin or clothing. Skin contact should be minimized by wearing protective clothing including gloves.

Inhalation

A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Beige to brown liquid
Odor:	Aromatic
Melting point:	Not Available
Boiling point:	Not Available
Density:	0.53 g/ml (Tap density)
pH:	5-7 (1% aqueous dispersion)
Solubility:	Soluble in water(4.1 g/l at 25°C, Thiamethoxam)
Vapor Pressure:	2 X 10 ⁻¹¹ mm Hg at 20°C

10. STABILITY AND REACTIVITY

Stability:	Stable under normal use and storage conditions
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	None known.
Materials to Avoid:	None known.
Hazardous Decomposition Products:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Ingestion	Oral (LD50 Rat)	>5000 mg/kg body weight
Dermal	Dermal (LD50 Rabbit)	> 2000 mg/kg body weight
Inhalation	Inhalation (LC50 Rat)	> 2.67 mg/L air----4 hours
Eye Contact	Mildly Irritating (Rabbit)	
Skin Contact	Slightly Irritation (Rabbit)	
Skin Sensitization	This product was not a skin sensitizer in animals(Guinea Pig)	

Toxicity of Technical

Reproductive/Developmental Effects

Development: Not teratogenic. Developmental delays at maternally toxic doses.

Reproductive: No biologically important reproductive effects. Minor tests effects at high doses with no effect on reproduction.

Chronic/Carcinogenicity

Subchronic: Predominantly liver and kidney effects at high doses. Not neurotoxic.

Chronic: Predominantly liver and kidney effects at high doses.

Acute: Transient clinical signs at high doses. No changes to nervous tissue.

Carcinogenicity

Liver tumors at high doses noted in mice that are not relevant to humans. No treatment-related tumors in rats.

Other Toxicity Information

None

12. ECOLOGICAL INFORMATION

Summary of Effects

The active ingredient, thiamethoxam, is slightly to practically non-toxic to fish, birds and aquatic invertebrates (water flea) but is highly toxic to the honeybee and one species of aquatic invertebrate (chironomid). However, exposure and risk to non-target species to thiamethoxam is minimal and acceptable based on the low application rates and application methodologies

Eco-Acute Toxicity

Bees LC50/EC50 0.024 µg/bee

Invertebrates (*Daphnia magna*) 48-hour LC50/EC50 >100 ppm

Invertebrates (Chironomid) 48-hour LC50/EC50 0.035 ppm

Fish (Rainbow Trout) 96-hour LC50/EC50 > 100 ppm

Fish (Bluegill) 96-hour LC50/EC50 > 114 ppm

Birds (8-day dietary - Bobwhite Quail) LC50/EC50 > 5,200 ppm

Birds (8-day dietary - Mallard Duck) LC50/EC50 > 5,200 ppm

Bobwhite Oral LD50 1,552 mg/kg

Mallard Oral LD50 576 mg/kg

Eco-Chronic Toxicity

Fish (Fathead minnow) Early Life NOEC > 20 mg/L

Invertebrate (*Daphnia magna*) Life Cycle NOEC > 100 mg/L

Invertebrate (Chironomid) Life Cycle NOEC 0.010 mg/L

Mallard Reproduction NOEC 300 ppm

Bobwhite Reproduction NOEC 900 ppm

Environmental Fate

The active ingredient, thiamethoxam, has a low bioaccumulation potential, low mobility, and moderate persistence in soil and water. The dissipation half-life in soil is 48 - 239 days. The main route of degradation is by microbial degradation and formation of bound residues.

13. DISPOSAL CONSIDERATIONS

Disposal

Do not reuse empty containers. Empty container retains product residue. Triple rinse, or equivalent, empty container, return rinse water to dilution mixture, and dispose of dilution mixture as a hazardous waste if it cannot be disposed of by use according to label instructions. Dispose of empty containers in accordance with local regulations. Consult provincial environment ministry for advice on waste disposal. Industrial/commercial waste may be handled at licensed facilities only. Waste shipments must be securely packaged and properly labelled. Only licensed carriers may be used, and proper documents must accompany the shipment.

14. TRANSPORT INFORMATION

Hazard class or division: N/A

Identification numbers: N/A

Packing Group: N/A

15. REGULATORY INFORMATION

N/A

16. OTHER INFORMATION

N/A