



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name : Thiamethoxam Technical
Chemical Name : (EZ)-3-(2-chloro-1,3-thiazol-5-ylmethyl)-5-methyl-1,3,5-oxadiazinan-4-ylidene(nitro)amine
Chemical Formula : C₈H₁₀ClN₅O₃S
Molar Mass : 291.71
Use : Neonicotinoid Insecticide
Company : HPM Chemicals & Fertilizers Ltd.
Address : 209-219, Anupam Bhawan, Azadpur Commercial Complex, Azadpur, Delhi- 110033
Telephone : (011)-45071800, 899
Fax : (011)-27681800
Website : www.hpmindia.com
e-mail : info@hpmindia.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No | Concentration [%] |
|------------------------|-------------|-------------------|
| Thiamethoxam a.i. | 153719-23-4 | 97.0 |
| Impurities/By-products | ----- | 3.0 |

3. HAZARDS IDENTIFICATION

Symptoms of Acute Exposure:

Causes mild eye and skin irritation.

Hazardous Decomposition Products:

Can decompose at high temperatures forming toxic gases.

Physical Properties:

Appearance: Beige to brown granules

Odor: Musty

Unusual Fire, Explosion and Reactivity Hazards:

This product is a combustible powder and like all combustible powders can ignite, burn and form explosive mixtures with air if not handled correctly. Mixtures of powder in air with flammable solvent vapors should be avoided. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

4. FIRST AID MEASURES

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 doctor for further treatment advice.



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Ingestion: If swallowed: Call doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a doctor. Do not give anything by mouth to an unconscious person.

Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15- 20 minutes. Call doctor for treatment advice.

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 doctor for treatment advice.

Notes to Physician: There is no specific antidote if this product is ingested. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Fire Hazard: This product is a combustible powder and like all combustible powders can ignite, burn and form explosive mixtures with air if not handled correctly. Mixtures of powder in air with flammable solvent vapors should be avoided. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In Case of Fire: Use dry chemical, foam or CO2 extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the 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. If water is used to fight fire, dike and collect runoff.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full-face piece operated in the pressure demand or other positive pressure mode. Cool tank/container with water spray. Isolate area. Fight fire from maximum distance, use extreme caution as heat may decompose material and rupture containers. If area is exposed to fire and conditions permit, let fire burn itself out.

Sensitivity to explosion by mechanical impact : Low

Sensitivity to explosion by static discharge : Low

6. ACCIDENTAL RELEASE MEASURES

Personal cautions: 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.

Environmental cautions

EX: prevent the contamination of the floor and of beds of water.



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Spills: 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 in Protective Equipment Section. Sweep up material and place in a compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Handling: This product has minimum ignition energy between 30 and 100 mill joules. Mechanical sparks, open flames and certain hot surfaces can serve as ignition sources for this material. Eliminate the presence of mechanical sparks and other ignition sources where dust clouds of this material could form. This product can energetically decompose at approximately 284°F (140°C). Do not store or process at temperatures above 158°F (70°C). Do not store near sources of heat including steam lines.

Storage: Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Applicable control measures, including engineering controls: This product is intended for use outdoors where engineering controls are not necessary. If necessary, ensure work areas have ventilation, containment, and procedures sufficient to maintain airborne levels below the TLV. Warehouses, production area, parking lots and waste holding facilities must have adequate containment to prevent environmental contamination. Provide separate shower and eating facilities.

Inhalation: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. A NIOSH-certified combination air-purifying respirator with an N, P or R 95 or HE class filter and an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a pressure demand atmosphere-supplying respirator if there is any potential for uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate 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.



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Skin Contact: Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

Eye Contact: Where eye contact is likely, use chemical splash goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|-------------------------------------|---|-----------------------------------|
| Appearance | : | White |
| Formulation Type | : | Crystalline powder. |
| Odour | : | Musty |
| Boiling Point | : | Not Available |
| Melting Point (Technical) | : | Not Available |
| Specific Gravity/Density | : | 0.47 g/cm ³ (20°C) |
| Ph | : | 9.4 (1% aqueous dispersion) |
| Auto ignition Temperature | : | No data available |
| Flash point | : | Non flammable |
| Vapor Pressure | : | 2 x 10 ⁻¹¹ mmHg (20°C) |
| Solubility in H₂O | : | 4.1 g/l @ 77°F (25°C) |

10. STABILITY AND REACTIVITY

| | | |
|--|---|---|
| Stability | : | Stable under normal use and storage conditions. |
| Hazardous Polymerization | : | Will not occur. |
| Conditions to avoid | : | None known. |
| Products to avoid | : | None known.; |
| Hazardous decomposition products: | | Can decompose at high temperatures forming toxic gases. |

11. TOXICOLOGICAL INFORMATION (TECHNICAL)

ACUTE TOXICITY:

| | |
|------------------------------|----------------------------|
| Oral LD 50: | > 5,000 mg/kg b.w.(rat) |
| Dermal LD50: | > 2 000 mg/kg (mice) |
| Inhalation LC50: | > 2.79 mg/l air - 4 hours |
| Skin Irritation: | Slightly Irritant (Rabbit) |
| Eye Irritation: | Sever Irritant (Rabbit) |
| Sensitization in guinea pig: | No skin sensitization |



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WHO Classification: Class III
Reproductive/Developmental Effects: Teratogenic: Developmental delays at maternally toxic doses.
Reproductive: None observed.
Chronic/Sub chronic Toxicity Studies: Chronic: Predominantly liver and kidney effects at high doses.
Acute: Transient clinical signs at high doses. No changes to nervous tissue.
Sub chronic: Not neurotoxic.

12. ECOLOGICAL INFORMATION (TECHNICAL)

Summary: Practically non-toxic to fish, invertebrates and birds. Highly toxic to bees.

Bees EC50: 0.024 ug/bee

Invertebrates (Water Flea) LC50/EC50: > 100 ppm

Fish (Trout) LC50/EC50: > 100 ppm

Fish (Bluegill) 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

Environmental Fate:

The information presented here is for the active ingredient, thiamethoxam. A thorough review of environmental information is not possible in this document. Not persistent in soil. Stable in water. Moderate mobility in soil. Floats in water (after 24 h).

13. DISPOSAL CONSIDERATIONS

Contaminated absorbents, surplus product (in diluted form), etc., should be buried in approved landfill. Comply with any local legislation applying to waste disposal. Processing, use or contamination of this product may change the waste management options. Dispose of container and unused contents in accordance with local requirements. Perforate empty container and do not use for any other purpose. Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

14. TRANSPORT INFORMATION

Dot Classification : Not regulated by DOT

B/L Freight Classification: Insecticides, NOIBN, o/t poison



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Shipping information such as shipping classification:

TRANSPORTATION OF DANGEROUS GOODS CLASSIFICATION -ROAD/RAIL Not Regulated

Comments

International Transportation (Water): Not regulated.

15. REGULATORY INFORMATION

WHMIS classification for product:

Exempt

Other regulations; restrictions and prohibitions

RCRA Hazardous Waste Classification (40 CFR 261): Not Applicable

EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes:

Acute Health Hazard

Chronic Health

Hazard

Section 313 Toxic Chemicals:

Not Applicable

16. OTHER INFORMATION

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are resented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS. Accordingly, no guarantee or warrantee expressed or implied is made by HPM Chemicals & Fertilizers Ltd., as to the results to be obtained based upon the user's use of the information, nor does HPM Chemicals & Fertilizers Ltd., assume any liability arising out of user's use of the information.

Prepared by: HPM Chemicals & Fertilizers Ltd., Safety Division