

SECTION 1 - PRODUCT & COMPANY IDENTIFICATION

ARYSTA LifeScience South Africa (Pty) Ltd
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Product Name: **THIAMEX 25 WG**
Product Use: Insecticide
Creation Date: July 2012
Revision Date: July 2019

24 Hr Emergency Number:

In case of Poisoning:

Poisons Helpline: 0861 555 777

In case of Spillage:

Spill Tech Oil & Chemical Pollution Control 086 100 0366 / 083 253 6618

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Common name: thiamethoxam
Chemical Name: 3-(2-chloro-1,3-thiazol-5-methyl-1,3,5-oxadiazinan-4-ylidene(nitro)amine (IUPAC)
CAS No.: 153719-23-4
Chemical Family: neonicotinoid
Chemical Formula: C₈H₁₀ClN₅O₃S
Molecular weight: 291.7
Use: Systemic insecticide with contact and stomach action. Rapidly taken up into the plant and transported acropetally in the xylem. Agonist of the nicotinic acetylcholine receptor, affecting the synapses in the insect central nervous system.
Formulation: 250 g/kg WG
Water Dispersible Granule

Hazardous ingredients of toxicological concern:

<u>Inert:</u>	<u>concern:</u>	<u>% present:</u>
thiamethoxam	harmful	± 25 %
Starch	mild irritant	± 60 %
Diatomaceous earth	mild irritant	± 5 %
Dispersing & wetting agent	mild irritant	± 3 %

Symbol: Xi
Indication of danger: Irritant
Risk-Phrases: R20/22, R36/37/38

SECTION 3 - HAZARD IDENTIFICATION

The product may be harmful.

Skin: May cause mild skin irritation due to inerts.

Eye: May cause moderate eye irritation due to inerts.

Inhalation: May be harmful by inhalation. May cause irritation of the nose, throat and respiratory tract.

Swallowed: May be harmful if swallowed. Overexpose to the product may cause irritation of the gastrointestinal tract.

Other effects: Thiamethoxam has relatively low acute and chronic toxicity in mammals. There was no evidence of carcinogenicity, neurotoxicity, mutagenicity and/or endocrine disruption.

SECTION 4 - FIRST AID MEASURES AND PRECAUTIONS

No poisoning due to this product has been recorded.

Inhalation:

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If irritation has developed, remove the source of contamination or move victim to fresh air. The patient should be kept under observation and obtain medical attention if irritation persists.

Skin contact:

Remove contaminated clothing, shoes and leather goods. Wash skin gently and thoroughly with clean, cold water and non-abrasive soap. Obtain medical attention if irritation persists.

Eye contact:

Immediately flush eyes with copious amounts of clean, cold water for at least 15 to 20 minutes, holding the eyelid(s) open. Obtain medical attention if irritation persists.

Ingestion:

Do not induce vomiting. Do not give anything by mouth to an unconscious person. Obtain medical attention immediately and make the container, or label or Safety Data Sheet available.

Advice on treatment:

No specific antidote is available. Treat symptomatically and supportively.

SECTION 5 - FIRE-FIGHTING MEASURES

Flash point: NOT FLAMMABLE. Combustible.

Avoid mixtures of powders in air with flammable substance vapours.

Hazardous products of decomposition:

Fire may produce irritating or toxic fumes and mists or other gases generated by thermal decomposition or combustion.

Extinguishing agents:

Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Fire-fighting:

Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.

Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind.

Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal.

Dike fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways.

Do not use high volume water jet, due to contamination risk. Contain water used for fire-fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Personal protective equipment:

Fire may produce irritating or toxic fumes and gases, or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

SECTION 6 - ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Personal precautions:

Avoid contact with skin and eyes. Do not inhale fumes or vapours. For personal protection see Section 8.

Environmental precautions:

Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

Occupational spill:

Do not touch spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals. Prevent dust cloud. Prevent product from entering sewers, water systems, basements or confined areas. Thoroughly wash body areas, which come into contact with the product.

For spills: Use a clean shovel and place the material into compatible disposal container and cover for subsequent disposal. For large spills, cover powder spill with plastic sheet or tarpaulin to minimize spreading. In situations where product comes in contact with water, contain contaminated water for later disposal. Prevent material from spreading by damming in with absorptive material. Do not flush spilled material into drains. Keep spectators away and upwind.

Sweep up the material and place in compatible disposal container.

Clean area with hard water detergent, collect the wash liquid with additional absorbent and place into compatible disposal container.

Label the disposal containers with its content and dispose it in accordance with local regulations.

Open burning or dumping of this material is prohibited.

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SECTION 7 - HANDLING AND STORAGE REQUIREMENTS

Handling:

Moderate irritant to eyes. May be harmful if swallowed. Mild irritant to skin. Avoid contact with eyes and skin, and inhalation of dust and vapour. Eliminate sparks, open flames and certain hot surfaces where dust clouds of this material could form. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the pesticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Storage:

Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original labelled container in isolated, dry, cool and well-ventilated area. Not to be stored next to foodstuffs and water supplies. Do not store near sources of heating. Local regulations should be complied with.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

PERSONAL PROTECTIVE EQUIPMENT:

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

Respirator:

It is usually safe to use the product without respirator. Where exposure through inhalation may occur when handling and or using the product, wear a face mask. If the product is used in dusty or confined conditions or spillage and fire conditions a respirator suitable for protection from dusts and mists of pesticides is adequate.

Clothing:

Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

Gloves:

Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

Eye protection:

The use of safety goggles or a face shield is recommended.

Emergency eye wash: Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light brown to beige water dispersible granules.
Odor:	Musty
Flammability:	Not flammable.
Combustible:	Combustible.
Solubility:	dispersible in water.
Density:	0.47 g/cm ³ at 20°C
pH:	9.4 (1% aqueous dispersion)
Corrosive:	non-corrosive

SECTION 10 - STABILITY AND REACTIVITY

Stability:

The product is stable for 2 years, when stored under normal storage conditions at normal temperatures, in original container and tightly closed. Avoid extreme heating conditions, as vapours can be released which can be ignited.

Conditions and Materials to Avoid:

Keep the product in a cool, dry place, preferably at below 30 °C. Protect from sunlight, open flame and sources of heat. Avoid contact with oxidizing agents, strong acids and bases. Not corrosive.

Hazardous decomposition products:

Fire may produce irritating or toxic fumes and other mists or other products of combustion

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SECTION 11 - TOXICOLOGICAL INFORMATION

Acute oral LD₅₀ rats:

Thiamethoxam technical: 1563 mg/kg
Formulation calculated: > 2000 mg/kg

Acute dermal LD₅₀ rats:

Thiamethoxam technical: > 2000 mg/kg
Formulation calculated: > 2800 mg/kg

Inhalation:

Thiamethoxam technical: LC₅₀ (4hours): > 3.72 mg/l

Formulation: may be harmful, may cause irritation to nose, throat and respiratory tract.

Acute skin irritation: Thiamethoxam technical is a non-irritant. Formulation may cause mild irritation due to inerts.

Acute eye irritation: Thiamethoxam technical is a non-irritant. Formulation may cause moderate irritation due to inerts.

Dermal sensitization: Not expected to be a skin sensitizer.

Reproductivity: In a 2-generation reproduction study in rats, parental bwts and food consumption were decreased. Reproductive parameters were not affected by treatment with thiamethoxam. Effects on offspring were secondary to parental toxicity. The NOAEL for systemic toxicity in parental animals and for offspring toxicity was 30 ppm (equivalent to 1.3 to 6.4 mg/kg/day).

Mutagenicity: Studies show that thiamethoxam is not genotoxic.

Teratogenicity: In rat and rabbit teratology studies with thiamethoxam there was no evidence of teratogenicity.

Carcinogenicity: The proposed carcinogenic classification for thiamethoxam is as a Group C carcinogen. A NOAEL for liver tumors in mice was established at 20 ppm (2.63 mg/kg/day). No evidence of carcinogenicity was observed in rats.

Endocrine disruption: Thiamethoxam does not belong to a class of chemicals known or suspected of having adverse effects on the endocrine system. There is no evidence that thiamethoxam has any effect on endocrine function in developmental or reproduction studies. Furthermore, histological investigation of endocrine organs in chronic dog, rat and mouse studies did not indicate that the endocrine system is targeted by thiamethoxam.

ADI: 0.012 mg/kg b.w.

SECTION 12 - ECOLOGICAL INFORMATION

Mobility, Degradability & Accumulation:

Thiamethoxam is moderately mobile with Koc values in the range of 32.5 to 237 ml/g and has the potential to leach after heavy rainfall conditions. It has a medium potential for particle bound transport. DT₅₀ in soil 7 to 109 days. Photolysis accelerates degradation.

Thiamethoxam degrades moderately fast in water, with aqueous photolysis DT₅₀ of 2.7 days at pH 7. It is very persistent under aqueous hydrolysis conditions, although stable under acid conditions. Under more alkaline conditions, degradation is more rapid with DT₅₀ 11.5 days at pH 9.

Degradation in water sediment is moderately fast, DT₅₀ of 40 days. DT₅₀ in surface water is 7.9 to 39.5 days.

Metabolism in rats proceeds primarily via hydrolysis of the oxadiazine ring, followed by N-demethylation. The majority of the radioactive dose was absorbed and then excreted in the urine. Parent compound was the major residue in urine.

ECOTOXICOLOGY:

Practically non-toxic to the following:

Daphnia:	EC ₅₀ (48 hours):	<i>Daphnia magna</i> :	> 100 mg/l
Eastern oysters:	EC ₅₀ (96 hrs):		> 119 mg/l
Algae:	EC ₅₀ (96 hours):	Green algae:	> 100 mg/l
Earthworms:	LC ₅₀ (14 days):	<i>Eisenia foetida</i> :	> 1000 mg/kg
Birds:	Slightly toxic to birds.		
Oral LD ₅₀ :	Bobwhite quail:		1552 mg/kg
	Mallard ducks:		576 mg/kg
Fish:	Practically non-toxic to fish.		
LC ₅₀ (96 hours):	Rainbow trout:		> 100 mg/l
	Bluegill sunfish:		> 114 mg/l
	Sheepshead minnows:		> 111 mg/l
Bees:	Highly toxic to bees.		
	LD ₅₀ contact:		0.024 µg/bee
	LD ₅₀ oral:		0.005 µg/bee
OTHER:	Moderately toxic to shrimps.		
LC ₅₀ (96 hrs):	Mysid shrimps:		6.9 mg/l

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No bioaccumulation is expected

SECTION 13 - DISPOSAL CONSIDERATION

Pesticide disposal:

Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or reprocessed. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal.

Container disposal:

Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner. Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dump site. Prevent contamination of food, feedstuffs, drinking water and eating utensils. Comply with local legislation applying to waste disposal.

SECTION 14 - TRANSPORT INFORMATION

UN NUMBER: 3077

Road Transport ADR/ RID:

Class: 9

Packaging group: III

Shipping name: Environmentally hazardous substance, solid, N.O.S. (thiamethoxam 250 g/kg)

Maritime Transport IMDG / IMO:

Class: 9

Packaging group: III

Shipping name: Environmentally hazardous substance, solid, N.O.S. (thiamethoxam 250 g/kg)

Considered a marine pollutant.

SECTION 15 - REGULATORY INFORMATION

Symbol: F, N, Xi

Indication of danger:

Environmentally dangerous substance & Irritating substance. (Highly toxic to crustaceans).

Risk phrase(s):

R 21/22 Harmful in contact with skin and if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety phrases:

S 2 Keep out of the reach of children.

S 13 Keep away from food, drink and animal feeding stuffs.

S 20/21 When using do not eat, drink or smoke.

S 30 Do not empty into drains.

S 24/25 Avoid contact with skin and eyes.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

SECTION 16 - OTHER INFORMATION

Packaging:

Packed in 1, 5, 10, 15, 20, 25 and 50 kg plastic containers/bags and labelled according to South African regulations and guidelines.

Disclaimer:

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The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage use of the product. It is not applicable to unusual or nonstandard uses of the product nor where instructions or recommendations are not followed. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

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