

SECTION 1 - PRODUCT & COMPANY IDENTIFICATION

ARYSTA LifeScience South Africa (Pty) Ltd
Co. Reg. No.: 2009/019713/07
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Substance: Imidacloprid
Product Name: **TERMINEX 350 SC**
Product Use: Insecticide
Creation Date: November 2005
Revision Date: September 14

24 Hr Emergency Number: 082 911

In case of Poisoning:

Poison Information Centre 011-2541911
Tygerberg Hospital: (021) 931 6129
Poison Emergency Enquiries (021) 689 5227

In case of Spillage:

HAZMAT: 0800 147 112

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Common Name: Imidacloprid
Chemical Name: 1-[(6-chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine
Chemical family: Chloronicotinyl

Use: Systemic insecticide with translaminar activity and with contact and stomach action. Acts as an antagonist by binding to postsynaptic nicotinic receptors in the insect central nervous system..

Formulation: Imidacloprid 350 g/l
Suspension Concentrate

Hazardous ingredients of toxicological concern:

<u>Inert:</u>	<u>CAS no</u>	<u>concern:</u>	<u>% present:</u>
imidacloprid	138261-41-3	Harmful, Environmentally Hazardous Substance	> 35 %

Other ingredients, including Emulsifiers, antifungal agents and water

Symbol: Xn, N
Indication of Danger: Harmful, Environmentally Hazardous Substance

RISK-PHRASE(S) R20/R22, R 50/53

SECTION 3 - HAZARD IDENTIFICATION**Inhalation:**

Inhalation may cause irritation of nasal passages. Harmful if inhaled. Do not breathe vapours or spray mist.

Ingestion:

Harmful if swallowed. Do not take internally.

Skin Contact:

Harmful if absorbed through skin. Avoid contact with skin and clothing.

Eye Contact:

May cause mild irritation to eyes. Do not get into eyes.

Chronic Exposure:

This product or its components may have target organ effects.

Potential Environmental Effect:

Highly toxic to aquatic invertebrates. Highly toxic to birds.

SECTION 4 - FIRST AID MEASURES AND PRECAUTIONS**Inhalation:**

First, remove victim to fresh air or uncontaminated area and keep him quiet and reassured.

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Skin contact:

Remove contaminated clothing. Wash skin with soap and water. Get medical attention if irritation persists. If signs of intoxication (poisoning) occur, get medical attention immediately.

Eye contact:

Hold eyelids open and flush with copious amounts of water for 15 minutes. Call a physician if irritation persists or develops after flushing.

Ingestion:

Administer artificial respiration or closed chest cardiac massage if necessary. Do not apply direct mouth to mouth respiration. Never give anything by mouth to an unconscious person. Immediately take the patient to the nearest physician. Do not induce vomiting.

Note to Physician: There is no antidote. Treat symptomatically. In case of poisoning, it is also requested that the manufacturer or vendor be notified.

SECTION 5 - FIRE-FIGHTING MEASURES**Fire hazard and explosion hazard:**

Not Flammable. No fire hazard.

Extinguishing agents:

Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray as a fog can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Do not use direct jet of water. Contain water used for fire-fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Fire fighting:

Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away. If it can be done safely, remove intact containers from the fire. Otherwise, use water spray to cool them. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of fire control water or other extinguishing agent and spillage safely later. Do not release contaminated water into the environment.

Personal protective equipment:

Fire-fighters and others that may be exposed should wear full protective impervious clothing, including gloves and eye protection, and self-contained breathing apparatus. Contact with the fumes and vapours should be avoided by staying upwind.

Clean all clothing before re-use. Severely contaminated clothing cannot be adequately decontaminated, and must be disposed as a hazardous waste. Shower with soap and water after contact with this product.

SECTION 6 - ACCIDENTAL RELEASE MEASURES (SPILLAGE)**Personal precautions:**

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:

Keep spectators away and upwind. Remove all sources of flames and sparks. Do not touch spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals.

For spills: Soak up with absorptive material such as damp earth or sand or other suitable non-combustible absorbent material. Place the material into a clean, dry container and cover for subsequent disposal. 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.

Label drums with its content and dispose it in accordance with local regulations.

SECTION 7 - HANDLING AND STORAGE REQUIREMENTS**Handling:**

Keep out of reach children. Repeated exposure may cause allergic disorders.

Avoid contact with eyes and skin. Wash hands after use. After each day's use, wash gloves, face shield and contaminated clothing.

Storage:

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Do not transport or store below 5 °C.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

Comply with occupational safety, environmental, fire, and other applicable regulations.

PERSONAL PROTECTIVE EQUIPMENT:**Engineering control measures:****MATERIAL SAFETY DATA SHEET**

It is essential to provide adequate ventilation. Ensure that control systems are properly designed and maintained. Only spark-resistant equipment should be used. Comply with occupational safety, environmental, fire and other applicable regulations.

Respirator:

It is usually safe to use the product without a respirator. Where exposure through inhalation may occur when handling and/or when preparing the spray mixture, 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, boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing.

Gloves:

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

Eye protection:

The use of safety goggles (full-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:	White to off-white suspension liquid.
Odour:	Slight characteristic.
Flash point:	Not applicable.
Specific gravity:	± 1,12 g/l
pH:	6 - 8
Solubility:	Insoluble, forms a suspension in water

SECTION 10 - STABILITY AND REACTIVITY

Storage Stability:

Stable for up to 2 years under normal warehouse and field conditions. Avoid contact with strong oxidizing agents. Avoid extreme heat.

Incompatibility:

Avoid acids, alkalis, strong oxidising agents.

Decomposition products:

In a fire, the product forms toxic fumes of hydrogen chloride, hydrogen cyanide, carbon monoxide and nitrogen oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

Oral LD₅₀:	rat: 2286 mg/kg
Dermal LD₅₀:	> 5714 mg/kg
Inhalation:	> 9.6mg/l.
Skin contact:	No skin irritation.
Skin sensitization:	Not a skin sensitizer (guinea pig)
Eye contact:	May irritate eyes.
Chronic toxicity:	Imidacloprid caused thyroid and/or liver effects in chronic dietary studies in rats and dogs.
Carcinogenicity:	Imidacloprid was not carcinogenic in studies in rats and mice.
Reproduction:	Imidacloprid was not a reproductive toxicant in a multi-generation study in rats.
Developmental toxicity:	Imidacloprid is not considered a primary developmental toxicant in rats and rabbits. Developmental effects were developmental toxicant in rats and rabbits.
Mutagenicity:	Imidacloprid was not mutagenic or genotoxic based on the overall weight of evidence in a battery of <i>in vitro</i> and <i>in vivo</i> tests.

SECTION 12 - ECOLOGICAL INFORMATION

Degradability:

The half-life of imidacloprid in soil is 48 to 190 days, depending on the amount of ground cover (it breaks down faster in soils with plant ground cover than in fallow soils). Imidacloprid is degraded stepwise to the primary metabolite 6-chloronicotinic acid, which eventually breaks down into carbon dioxide. There is generally not a high risk of groundwater contamination if used as directed. The chemical is moderately soluble, and has moderate binding affinity to organic materials in soils.

The half-life in water is much greater than 31 days at pH 5, 7 and 9.

Imidacloprid penetrates the plant, and moves from the stem to the tips of the plant. The most important steps were loss of the nitro group, hydroxylation at the imidazolidine ring, hydrolysis to 6-chloronicotinic acid and formation of conjugates.

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ECOTOXICOLOGY:**Birds: Toxic to birds.**

Oral LD ₅₀ :	Japanese quail:	31 mg/kg
	Bobwhite quail:	152 mg/kg

Risk of dietary exposure to birds via treated seeds was minimal.

Fish: Moderately toxic to fish.

LC ₅₀ (96 hours):	Golden orfe:	237 mg/ℓ
	Rainbow trout:	211 mg/ℓ

Daphnia: May be toxic to aquatic invertebrates.

LC ₅₀ (48 hours):	<i>Daphnia magna</i>	85 mg/ℓ
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K_{ow} logP = 0,57 at 21 °C.

Other aquatic organisms:

Extremely toxic to some species of crustacean, including *Hyalella azteca* and *Mysidopsis bahia*.

Bees: Highly toxic to bees, but not considered a hazard when used as a seed treatment.

Algae:

ErC ₅₀ (72 hours):	<i>Pseudokirchneriella subcapitata</i>	> 100 mg/ℓ
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Earthworms: LC ₅₀ :	<i>Eisenia foetida</i>	10.7 mg/kg dry soil.
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SECTION 13 - DISPOSAL CONSIDERATION**Pesticide and container disposal:**

Open dumping or burning of this pesticide is prohibited. 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.

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 to drain 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 rinsings 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. Destroy it by perforation and flattening and bury in an approved dump site. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

SECTION 14 - TRANSPORT INFORMATION

UN No.: 3082

Road Transport ADR/IRD:

Class:	9
Packing group:	III
Shipping name:	Environmentally hazardous substance, liquid, N.O.S. (Imidacloprid 350g/ℓ)

AIR IATA:

Class:	9
Packing group:	III
Shipping name:	Environmentally hazardous substance, liquid, N.O.S. (Imidacloprid 350g/ℓ)

Maritime Transport IMDG/IMO:

Class:	9
Packing group:	III
Shipping name:	Environmentally hazardous substance, liquid, N.O.S. (Imidacloprid 350g/ℓ)

SECTION 15 - REGULATORY INFORMATION

Symbol: Xn, N
Indication of danger: Harmful, Environmentally Hazardous Substance

Risk phrases:
R 20/22 Harmful by inhalation and if swallowed.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:
S 2 Keep out of the reach of children.
S 24/25 Avoid contact with skin and eyes.
S 60 This material and its container must be disposed of as hazardous waste.
S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

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SECTION 16 - OTHER INFORMATION**Packaging:**

Packed in 1 & 5 litre fluorinated plastic containers and labelled according to the South African regulations and guidelines.

Disclaimer:

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 non-standard uses of the product or 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.

Please read all labels carefully before using the product.

MATERIAL SAFETY DATA SHEET