

**SAFETY DATA SHEET
GARDEN DEFENDER**

SECTION 1 - PRODUCT & COMPANY IDENTIFICATION

Substance: imidachloprid
Product Name: **GARDEN DEFENDER**
Product Use: Insecticide
Creation Date: April 2024

Registration holder / Registrasiehouer:

PROTEK, a division of / a divisie van
PE-BEE AGRI (PTY) LTD / (EDMS) BPK
Co. Reg. No./Mpy. Reg. Nr.: 2005/036308/07
P.O. Box/Posbus 72, Heidelberg, 1438
Tel: (011) 812 9800 or/of
0861 PROTEK (0861 77 68 35)
www.protek.co.za

Emergency telephone number

24 HR EMERGENCY NUMBERS

Griffon Poison Information Centre +27 82 446 8946
24 Hr Transport / Spill emergency no: (Hazcall24) +27 86 044 4411

SECTION 2 - HAZARD IDENTIFICATION

Hazardous Nature:

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects

Acute Toxicity (Oral) 4 H302 Harmful if swallowed

Hazard Statements

H302 Harmful if swallowed.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P330 Rinse mouth.

P391 Collect spillage.

P501 Dispose of contents/container in accordance with local/regional/national regulations

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Special labelling of certain mixtures: None known.

Other hazards: None known.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture:

Mixture Ingredients:

Substance name (IUPAC)	CAS –No.	Concentration % By weight	Classification
Imidacloprid (Active Ingredient)	138261-41-3	35%	Aquatic Chronic 1 Acute Tox 4
Alkylphenol polyethylene phosphate, sodium salts	9004-82-4	>10%	Aquatic Chronic 1
Mono Ethylene Glycol	8061-52-70	>5%	Aquatic Chronic 4

For full text of H statements see section 16

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8.

SECTION 4 - FIRST AID MEASURES

Symptoms of human poisoning:

In severe cases of poisoning the patient may experience an apathetic state, depressed muscular tone, respiratory disturbances and trembling and muscular cramps.

If swallowed: If swallowed, immediately contact a poison control centre, doctor or nearest hospital for treatment advice. Rinse mouth with water. Do not give anything by mouth to an unconscious person. Do not induce vomiting unless directed by a physician or a poison control centre. If spontaneous vomiting occur, avoid contamination of respiratory passages.

If in eyes: Hold eye open and rinse slowly and gently with water for 15 – 20 minutes. After the first 5 minutes check for and remove contact lenses. Call a Poison Information Centre or doctor for treatment advice.

If on skin or clothing: Remove contaminated clothing. Rinse skin immediately with plenty of water and soap for 15 – 20 minutes. If available wash with polyethyleneglycol 400 and rinse with water. Wash clothing thoroughly before re-use.

If inhaled: Move patient to fresh air and keep at rest. Call a doctor immediately.

Notes to Physician: Treatment should include elementary aid, decontamination and symptomatic treatment. Monitor the respiratory and cardiac functions. Gastric lavage is not normally required. If more than a mouthful of Ideaal 600 FS has been ingested, administer activated charcoal and sodium sulphate.

Medical Condition Likely to be aggravated by Exposure: None known.

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SECTION 5 - FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Water spray or fog, foam, dry chemical or carbon dioxide.

Specific Hazards Arising from the Chemical:

Hazardous combustion products include oxides of carbon, hydrogen chloride and other pyrolysis products. Product is combustible.

Containers close to fire should be removed only if safe to do so. Use water spray to cool fire exposed containers.

Prevent run-off from fire fighting entering drains or water courses.

HAZCHEM Code: •3Z

Special Protective Equipment and Precautions for Fire Fighters:

When fighting a major fire wear self-contained breathing apparatus and protective equipment.

SECTION 6 - ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Personal Precautions: Avoid contact with eyes and skin. Ventilate area of spill or leak, especially in contained areas.

Protective equipment: Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

Emergency procedures: Alert firefighting personnel, evacuate unprotected personnel and animals.

Environmental Precautions: Prevent spilled product from entering sewers, waterways or ground water. This product is classified to be toxic to aquatic organisms with long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into water courses should be reported immediately to the police and the Department of Water/Environmental Affairs.

Methods and Materials for Containment: Contain spilled product by diking area with sand, earth or lime.

Methods and Materials for Clean-up: Cover contained spill with an inert absorbent material such as sand, earth or other appropriate non-combustible material. Vacuum, scoop, or sweep up material and place the material into a clean, dry, sealable container. Label containers with the contents and dispose of according to local regulations. Do not place spilled material back in original container. Do not re-use spilled material. Collect washings and add to the drums already collected. Do not flush spilled material or washings into drains or waterways. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. Add the solution to the drums already collected. Open burning or dumping of this material is prohibited. See section 13 for disposal considerations.

SECTION 7 - HANDLING AND STORAGE REQUIREMENTS

Handling:

Precautions for safe handling: Avoid contact with eyes and skin. Harmful if swallowed. Ensure adequate ventilation during handling and use. Do not handle broken containers without protective equipment. Immediately clean up spills that occur during handling. Keep containers tightly closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4.

General occupational hygiene: Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used.

Storage:

Conditions for safe storage: Keep out of reach of unauthorised persons, children and animals. Store in its original labelled container tightly closed, in an isolated, dry, cool and well-ventilated area. Do not store near heat, open flame, sources of ignition or hot surfaces. Avoid cross contamination with other pesticides and fertilisers.

Incompatible substances and mixtures: Product is incompatible with galvanized steel or unlined mild steel.

Packaging material: Plastic containers.

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.

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Respirator:

It is usually safe to use the product without a mask or respirator. If the product is used in dusty or confined conditions, a mask or respirator suitable for protection from dusts and mists of pesticides is adequate. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

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:

Wear safety goggles or face shield.

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: Off white, homogenous liquid (suspension)

Odour: Slight characteristic odour.

Flash point: > 110 °C Not flammable. Water based.

Specific gravity: 1,195 ± 0,15 (0,9 to 1,2) g/l

Solubility in water: Insoluble, forms a suspension in water.

pH: 4 to 7

Oxidizing properties: No oxidizing properties

SECTION 10 - STABILITY AND REACTIVITY

Possibility of Hazardous Reactions: Hazardous polymerisation will not occur.

Chemical Stability: Stable at ambient temperature and under normal conditions of storage and use.

Conditions to Avoid: Heat, sparks, open flames, hot surfaces and direct sunlight.

Incompatible Materials: Strong oxidising agents.

Hazardous Decomposition Products: Oxides of carbon, hydrogen chloride and other pyrolysis products.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute oral LD₅₀ rats: *Technical:* 450 mg/kg

Formulation calculated: 640 to 1100 mg/kg

Acute dermal LD₅₀ rabbits: *Technical:* > 5000 mg/kg

Formulation calculated: > 5000 mg/kg

Inhalation LC₅₀ rats: *Technical:* > 5323 mg/m³ (4hours), dust

Formulation: Harmful. May cause irritation of respiratory tract

Acute eye irritation: Mild irritant

Acute skin irritation: Mild irritant

Reproductivity:

A three generation study in rats, resulted in a NOEL of 100 ppm (equivalent to 8 mg/kg/day).

Teratogenicity:

A study in rats resulted in a NOEL of 30 mg/kg/day.

Mutagenicity:

Imidacloprid may be weakly mutagenic.

Carcinogenicity:

Imidacloprid is considered to be of minimal carcinogenic risk, and is thus categorized by EPA as a "Group E" carcinogen (evidence of noncarcinogenicity for humans). There were no carcinogenic effects in a 2-year carcinogenicity study in rats fed up to 1,800 ppm imidacloprid.

ADI: 0.06 mg/kg/day

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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.

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):	Daphnia magna	85 mg/l
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Kow logP = 0,57 at 21 °C.

Other aquatic organisms:

Extremely toxic to some species of crustacean, including *Hyaella 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.
		mg/kg

SECTION 13 - DISPOSAL CONSIDERATION

Pesticide disposal:

Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product that 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 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 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.

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SECTION 14 - TRANSPORT INFORMATION

UN Number	
ADG, IMDG, IATA	UN3082
Proper Shipping Name	
ADG, IMDG, IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (imidacloprid 350 sc)
Dangerous Goods Class	
ADG Class:	9
Subsidiary Risk:	
Packing Group:	
ADG, IMDG, IATA	III
Marine pollutant:	
EMS Number:	F-A,S-F
Hazchem Code:	•3Z
Special Provisions:	274, 331, 335, 375, AU01
Transport/Additional information:	Not subject to the ADG Code when transported by road or rail in packaging's that do not incorporate a receptacle exceeding 500 kg(L) or IBCs. (refer to SP AU01)
Limited Quantities:	5L
Packagings & IBCs - Packing Instruction:	P001, IBC03, LP01
Packagings & IBCs - Special Packing Provisions:	PP1
Portable Tanks & Bulk Containers - Instructions:	T4

SECTION 15 - REGULATORY INFORMATION

Safety, health and environmental regulations/legislation for the mixture:

Relevant information regarding authorization: Occupational Health and Safety Act 1993. Regulation for Hazardous Chemical Agents, 2021.UN Recommendations on the Transport of Dangerous Goods Model Regulations Rev. 21 (2019), Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Rev 9, 2021.

Relevant information regarding restrictions:

EU regulations: Regulation EC 1272/2008 [EU-GHS/CLP].

Other National regulations: National Road Traffic Act, 1996 (ACT NO. 93 of 1996).

SANS 10228:2012- The identification and classification of dangerous goods for transport by road and rail modes. National Environmental Management: Waste Act 59 of 2008.

Chemical Safety Assessment carried out? No

SECTION 16 - OTHER INFORMATION

Indication of changes:

All sections.

Relevant H statements (number and full text):

Aquatic chronic 1: Hazardous to the aquatic
Environment (Chronic 1)

H302: Harmful if swallowed.

H318: Causes serious eye damage.

Training instructions: No special training required. Read label of product.

Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Notice to readers:

Employers should use this information only as a supplement to other information gathered by them and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees.

This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.