

Safety Data Sheet (SDS) Tirado

According to UN GHS 8th Ed
Revision Date: 05/09/2022

First print date: 01/06/2018
Version: 1.1

SECTION 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING

Product identifier:

Identification as on the label/Trade name: Tirado

Common Name: Imidacloprid 600g/ℓ Flowable Seed Dressing

Relevant identification uses of the substance and uses advised against:

Identified uses: Insecticide

Uses advised against: Use only as directed.

Details of the supplier of the Safety Data Sheet:

Enviro Bio-Chem (Pty) Ltd, 44 Kerk Street,
Lichtenburg, North West, South Africa, 2740

Details of the Registration Holder:

Erintrade t/a RT Chemicals 44 Kerk Street,
Lichtenburg, North West, South Africa, 2740

Contact Details:

Telephone: +27 87 231 7261

Fax: 086 541 7948

Website: www.envirobiochem.co.za

Emergency telephone numbers:

24 Hour Emergency Number: Bateleur: +27 83 123 3911

Griffon Poison Information Centre: +27 82 446 8946

Poisons Information Helpline: 0861 555 777

Tygerberg Hospital: +27 21 931 6129

SECTION 2. HAZARD IDENTIFICATION

Classification of the substances or mixture

The mixture is classified according to Regulation (EC) No 1272/2008 EU-GHS/CLP

Hazard classes/Hazard categories	Hazard statement
Acute toxicity oral (Category 4)	H302
Toxic to reproduction (Category 2)	H361
Aquatic Toxicity Acute (Category 1)	H400
Aquatic Toxicity Chronic (Category 1)	H410

For full text of H statements see section 16

The most important adverse effects

The most important adverse physicochemical effects: None known

The most important adverse human health effects: Harmful if swallowed. Suspected of damaging fertility or unborn child.

Label elements



Hazard pictograms:

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Signal Word: Warning

Hazard Statements:

H302	Harmful if swallowed
H361	Suspected of damaging fertility or unborn child
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary Statements:

P102	Keep out of reach of children
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood
P264	Wash hands, forearms, and face 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 or doctor/physician if you feel unwell.
P330	Rinse mouth.
P318	If exposed or concerned, get medical advice.
P405	Store locked up
P391	Collect spillage
P501	Dispose of contents/container in accordance with local/regional/ national regulations

Other hazards: None known

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

Ingredients:

Substance name (IUPAC)	CAS Number.	Concentration % by weight	Classification EC1272/2008
Imidacloprid	105827-78-9	60%	Acute Toxicity Oral (Category 3) H301 Aquatic Acute (Category 1) H400 Aquatic Chronic (Category 1) H410
NMO	7529-22-8	< 3%	Flammable solid (Category 1) H228 Oxidizable solid (Category 2) H272 Reproductive Toxicity (Category 2) H361
Benzoic acid	65-85-0	< 1%	Skin Irritation (Category 2) H315 Eye damage (Category 1) H318 STOT RE (Category 1) H372 Lungs

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

Description of first aid measures:

In case of inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

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In case of skin contact: In case of contact, Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. Obtain medical attention if irritation persists.

In case of eye contact: Flush eyes with clean water for at least 15 – 20 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention immediately.

In case of ingestion Seek medical attention or call a poison control centre for treatment advice. Do not induce vomiting unless instructed to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person

Most important symptoms and effects, both acute and delayed:

Ingestions: May be harmful if swallowed. Suspected of damaging unborn child.

Skin contact: None known

Eye contact: Causes serious eye irritation

Symptoms of Human Poisoning: Systemic symptoms include apathetic state, depressed muscular tone, respiratory disturbances, and trembling. Muscular cramps are also possible in severe cases of poisoning

Indication of any immediate medical attention and special treatment needed:

Advice to Physician: Absorption promoting agents such as alcoholic beverages and milk causes contraindications. Oils and fats are of no particular use, as the active ingredient has low lipo-solubility.

The active ingredient, imidacloprid belongs to the chemical group, chloronicotinyl or neonicotinoid. Therapeutic measures include basic acid, decontamination, and symptomatic treatment.

Treatment: Symptomatic (nicotine-like effects). Check blood pressure and pulse rate frequently, as bradycardia and hypotonia are possible. Provide supportive measures for respiratory function and cardiac action. Give artificial respiration if signs of paralysis appear. Additional therapeutic measures involve elimination of the substance from the body or acceleration of its excretion (gastric lavage, saline laxatives activated charcoal).

Antidote: There is no specific antidote for poisoning with this product

SECTION 5. FIRE FIGHTING MEASURES

Extinguisher media:

Suitable extinguisher media: Foam. Dry powder. Carbon dioxide. Water spray.

Unsuitable extinguishing media: Do not use high volume water jet, due to contamination risk.

Specific hazards arising from the mixture:

This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous decomposition products in case of fire: Refer to Section 10: Stability and Reactivity.

Advice for fire-fighters:

Avoid inhaling hazardous vapours. Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Use an approved/certified respirator or equivalent.

Contain fire control agents for later disposal according to Section 13.

Water can be used to cool unaffected containers.

SECTION 6. ACCIDENTAL RELEASE

Personal precautions, protective equipment, and emergency procedures:

Personal precautions: Avoid contact with eyes and skin. Wear approved respiratory protection, chemical resistant gloves, protective clothing and safety boots. Evacuate all non-essential personnel from affected area. Do not breathe vapours.

Ensure adequate ventilation.

For emergency responders: Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Use an approved/certified respirator or equivalent Avoid contact with eyes and skin. Do not

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breathe in fumes. Refer to section 8 for recommended personal protective equipment. Evacuate unnecessary personnel.

Environmental precautions:

Stop leak if without risk. Do not touch spilled material. Use a light water spray to reduce vapours.

Prevent entry into drains, watercourses, or confined areas; dike if needed.

If the product contaminates public water, inform appropriate authorities immediately in accordance with local regulations.

Dispose in a safe manner in accordance with local/national regulations.

Methods for containment and cleaning up:

For small spills Contain spilled material if possible. Collect in suitable and properly labelled containers. Absorb with materials such as: sand, earth, vermiculite, or diatomaceous earth

For large spills Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements, or confined areas. Contain and collect spillage with absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product

Reference to other sections:

See Section 1 for emergency contact information

See section 7 for information on safe handling.

See section 8 for information on personal protection equipment.

See section 13 for information on disposal.

SECTION 7. HANDLING AND STORAGE**Precautions for safe handling:**

Harmful if swallowed. Suspected of damaging fertility or unborn child. Avoid contact with skin and eyes. Ensure adequate ventilation during handling and use. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4.

Protective measures: Observe directions on label and instructions for use.

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

Conditions for safe storage, including incompatibilities:

Store locked up in the closed original packaging out of reach of children, unauthorised persons, and animals. Store in a dry, cool, well-ventilated area. Keep away from food, drink and animal feed. Avoid cross contamination with other pesticides and fertilisers.

Incompatible substances and mixtures: Refer to product label

Specific end uses:

Use as directed. Use original container.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Control parameters:**

Acceptable Daily Intake (ADI): No data available

Exposure Limits: No data available

Exposure control:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of

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workday. A Risk Assessment should be conducted before handling is to commence to determine specific exposure control.

Appropriate engineering controls: Use outdoors in a well-ventilated area. Provide exhaust ventilation or other engineering controls. Ensure that eyewashstations and safety showers are proximal to the work-station location.

Hygiene measures: Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Avoid contact with eyes. Wear a full-face shield when handling the product or spraying. The use of safety glasses with side shields (or goggles) are recommended if a face shield is not used.

Hand protection: Use chemical resistant gloves. Examples of preferred glove barrier materials include Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, Polyvinyl alcohol, Polyvinyl chloride.

Body protection: Appropriate impervious clothing is required to prevent skin contact with the product.

Respiratory protection: For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use a NIOSH approved air purifying respirator with cartridges/canisters approved for organic vapours.

Environmental exposure controls: Prevent product from entry into sewers and water courses

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Liquid suspension
Colour	Dark Blue
Odour	Slight characteristic
Odour threshold	No data available
pH	4.0 – 7.0
Melting point / freezing point (°C)	No data available
Boiling point (°C)	No data available
Flash point (°C)	No data available
Evaporation rate	No data available
Flammability	Non flammable
Upper /lower flammability limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Specific Gravity (20°C) g/ml	No data available
Water solubility (g/l) at 20°C	Miscible
Suspensibility	≥ 85%
Partition coefficient : n-octanol/water	No data available
Auto-ignition temperature (°C)	No data available
Decomposition temperature (°C)	No data available
Viscosity, cps	No data available
Explosive properties	Non-explosive
Oxidising properties	No data available
Explosive limits	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity: None known

Chemical stability: Stable under normal storage conditions for 2 years. Avoid excessive heat sources. Store at low

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temperature conditions, preferably below 30 °C and not for prolonged periods in direct sunlight.

Possibility of hazardous reactions: None known

Conditions to avoid: Extreme heat or exposure to flames.

Incompatible materials: None under normal conditions.

Hazardous decomposition products: Decomposition products may include toxic and irritant fumes

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicokinetics, metabolism and distribution: No data available

Information on toxicological effects:

Assessment of acute toxicity:

The product has not been tested. The data reported is for the main ingredients in the mixture.

Imidacloprid CAS No. 105827-78-9	
Acute toxicity:	
Acute Oral LD50 (rat-female)	410 mg/kg
Acute Dermal LD50 (rabbit):	>5000 mg/kg
Acute Inhalation LC50 - 4 h (rat)	> 5.3 mg/l
Skin irritation/ corrosion	Not a skin irritant
Eye damage / irritation	Not an eye irritant
Respiratory or skin sensitization	Not a skin sensitiser
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
Specific Target Organ Toxicity STOT single exposure	No data available
Specific Target Organ Toxicity STOT repeated exposure	No data available
Aspiration hazard	No data available

Additional Information:

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Dispersant CAS No. 7529-22-8	
Acute toxicity:	
Acute Oral LD50 (rat)	9200 mg/kg
Acute Dermal LD50 (rabbit)	8000 mg/kg
Acute Inhalation LC50 - 6 h (rat)	No data available
Skin irritation/ corrosion (rabbit)	Not a skin irritation
Eye damage / irritation	Not an eye irritation
Respiratory or skin sensitization	Not a skin sensitiser
Germ cell mutagenicity	
Test Type: In vitro mammalian cell gene mutation test	
Test system: mouse lymphoma cells	
Metabolic activation: with and without metabolic activation	
Method: OECD Test Guideline 476	
Result: negative	
Carcinogenicity	No data available
Reproductive toxicity	Suspected of damaging fertility or the unborn child
Specific Target Organ Toxicity STOT single exposure	No data available
Specific Target Organ Toxicity STOT repeated exposure	No data available

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Aspiration hazard	No data available
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Additional Information:

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Benzoic Acid CAS No. 65-85-0	
Acute toxicity:	
Acute Oral LD50 Mouse - male and female	2250 mg/kg
Acute Dermal LD50 (rabbit male and female):	>2000 mg/kg
Acute Inhalation LC50 - 4 h (rat – male and female)	12.2 mg/l
Skin irritation/ corrosion	Skin irritant
Eye damage / irritation	Serious eye damage
Respiratory or skin sensitization	Not a skin sensitizer
Germ cell mutagenicity Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster fibroblasts Metabolic activation: without metabolic activation Result: Positive results were obtained in some in vitro tests. Remarks: (ECHA) Test Type: Micronucleus test Test system: mouse lymphoma cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 487 Result: negative	
Carcinogenicity	No data available
Reproductive toxicity	No data available
Specific Target Organ Toxicity STOT single exposure	No data available
Specific Target Organ Toxicity STOT repeated exposure	Inhalation - Causes damage to organs through prolonged or repeated exposure. - Lungs
Aspiration hazard	No data available

Additional Information:

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated

SECTION 12. ECOLOGICAL INFORMATION

Imidacloprid CAS No. 105827-78-9	
Toxicity	
Birds Acute oral LD50 Dietary LC50 8 days	31 mg/kg Japanese quail; 152 mg/kg Bobwhite quail >5000 mg/kg diet Mallard ducks; 2225 mg/kg Bobwhite quail
Aquatic Toxicity Fish LC50 (96 hr) Aquatic Toxicity Daphnia LC50 (48 hr) Toxicity to algae – static test ErC50 (72h)	2378 mg/l Golden Orfe ; 211 mg/l, Rainbow trout 85 mg/l >100mg/l for green algae <i>P. subcapitata</i>
Toxicity to bees LD50 (contact)	Harmful to honeybees by direct contact, but no problems expected when exposure is avoided, that is, not sprayed into flowering crop or when used as a seed treatment.
Worms LC50	10.7 mg/kg dry soil <i>E. foetida</i>

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Persistence and 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
Bioaccumulation potential	No data available
Mobility in Soil	No data available
Result of PBT and vPvB assessment	No data available
Other adverse effects	Not determined

Dispersant CAS No. 7529-22-8-068-3	
Toxicity	
Aquatic Toxicity Fish LC ₅₀ (hr)	31.2 g/l
Aquatic Toxicity Daphnia EC ₅₀ (48 hr)	100 mg/l Daphnia magna (Water flea)
Algae EC ₅₀ (72h)	100 mg/l Pseudokirchneriella subcapitata
Persistence and degradability	Not readily biodegradable
Bioaccumulation potential	No data available
Mobility in soil	No data available

Benzoic Acid CAS No. 65-85-0	
Toxicity	
Aquatic Toxicity Fish Static LC ₅₀ (96 hr)	44.6 mg/l - Lepomis macrochirus
Aquatic Toxicity Daphnia LC ₅₀ (48 hr)	>100 mg/l Daphnia magna (Water flea)
Toxicity to algae – static test EC ₅₀ (72h)	>33.1 mg/l - Pseudokirchneriella subcapitata)
Toxicity to bacteria static test IC ₅₀ activated sludge (3h)	>1000 mg/l
Persistence and degradability Biodegradability-aerobic 10 days	89.5 % - biodegradable.
Bioaccumulation potential	No data available
Mobility in Soil	No data available
Result of PBT and vPvB assessment	No data available
Other adverse effects	No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Product:

Keep out of drains, sewers, ditches, and waterways. Open dumping or burning of this pesticide is prohibited.

Waste resulting from the use of this product cannot be re-used or reprocessed. Refer to container label for disposal information. Treat as hazardous waste and dispose of in accordance with local/ regional/ national/ international regulations.

Container:

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Refer to container label for disposal information. Emptied containers retain vapour and product residues.
Observe all labelled safeguards until container is cleaned, reconditioned, or destroyed. Rinse empty container three times with a volume of water equal to at least one tenth of that of the container. Pour rinse water into spray tank
Dispose of as hazardous waste. Do not contaminate water when disposing of rinse water. Dispose of using an approved waste disposal service provider.
Follow all local/ regional/ national/ international regulations.

SECTION 14. TRANSPORT INFORMATION

UN Number	3082
UN proper shipping name	Environmentally Hazardous, Liquid, N.O.S. (Imidacloprid 600 g/l)
Transport hazard class	9
Packaging group	III
Marine pollutant	Yes

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 8, 2019.

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.

Act 36 of 1947 of the Republic of South Africa. This product is registered under it is a violation of South African law to use this product in any manner inconsistent with its approved labelling. Read and follow all label directions

Chemical Safety Assessment carried out? No

SECTION 16. OTHER INFORMATION

Indication of changes:

Classification according to SANS 10234:2019, Regulation EC 1272/2008 [EU-GHS/CLP]
GHS aligned – all sections

Relevant H statements (number and full text) section 3:

H301-Toxic if swallowed

H228-Flammable solid

H272-May intensify fire; oxidizer

H315-Causes skin irritation

H318-Causes serious eye damage

H372-Causes damage to lungs through prolonged or repeated exposure

Eye irritation (Category 2): Causes serious eye irritation

Training instructions:

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Use as indicated on the label, special training may be required for application.

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.

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, and use of the product. It is not applicable to unusual or non-standard uses of the product, nor where instructions or recommendations are not followed.