

Section 1 – Identification of The Material and Supplier

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Chemical Nature: Multi active ingredient insecticidal seed treatment.
Trade name: **TriPlus Insecticidal Seed Treatment.**
APVMA Code: Not registered – experimental insecticide.
Product use: Insecticidal seed treatment for cotton as per the label.
Creation date: 11 July 2017
This version issued: July 2017

Section 2 – Hazards Identification**Statement of Hazardous nature**

This product is classified as: Hazardous according to Safe Work Australia (SWA).
Not subjected to the ADG code when transported in Australia by Road or Rail in packages 500 kg (L) or less; or in IBC's (refer to SP AU01). However if transported by Air or Sea, this provision does not apply. Then the product is classed as Dangerous (Class 9 Environmentally Hazardous) by IATA and IMDG respectively. See details below and in Section 14 of this SDS.

Globally Harmonised System (GHS) classification of the substance/mixture:

Acute Toxicity – Oral – Hazard Category 4.

Hazardous to the Aquatic Environment – Long term hazard: Hazard Category 2.

Signal Word: WARNING.

Hazard Statements:

- H302 Harmful if swallowed.
- H410 Toxic to Aquatic life with long lasting effects.

Precautionary statements:*Prevention:*

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P264 Wash hands, arms and face thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P281 Use personal protective equipment as required.

Response:

- P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if feel unwell.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention:
- P330 Rinse mouth.

Storage:

- P405 Store locked up.

Disposal:

- P501 Dispose of contents/container in accordance with national regulations

Pictograms:**Emergency Overview**

Physical Description & Colour: White to beige liquid suspension.

Odour: Slight odour.

Major Health Hazards: Product is harmful if swallowed. Thiodicarb is an anti-cholinesterase compound. Symptoms of acute exposure to cholinesterase-inhibiting compounds may include the following: numbness, tingling sensations, incoordination, headache, dizziness, tremor, nausea, abdominal cramps, sweating, blurred vision, difficulty breathing or respiratory depression, and slow heartbeat. Very high doses may result in unconsciousness, incontinence, and convulsions or fatality.

Section 3 – Composition/Information on Ingredients

Ingredients:

CHEMICAL	CAS NUMBER	PROPORTION
Imidacloprid	138261-41-3	350 g/L
Thiodicarb	59669-26-0	250 g/L
Fipronil	120068-37-3	50 g/L
Other ingredients determined not to be hazardous		Balance

Section 4 – First Aid measures

- Ingestion:** Do not induce vomiting. Seek medical advice and show this label or container. If swallowed, activated charcoal may be advised. Give atropine if instructed.
- Eye contact:** Immediately hold eyes open and flood with copious quantities of clean water until chemical is removed. Eyelids to be held open. Remove contact lenses after the initial flushing and continue flushing until chemical is removed. If effects occur and persist, seek medical advice.
- Skin contact:** Remove contaminated clothing. Wash skin with plenty of soap and water. Contaminated clothing should be laundered before reuse.
- Inhalation:** Remove from exposure and observe until recovered. If effects persist, seek medical advice.

Section 5 – Fire Fighting Measures

Specific Hazard: Generally considered a low risk due to the water content, but once the water has evaporated the product is combustible.

Extinguishing media: Not flammable. No risk of explosion if involved in a fire. Extinguish fire using media suited to burning material. If containers are ruptured contain all runoff.

Hazards from combustion products: Product will decompose when burnt and will emit toxic and noxious fumes. Eruption of containers is possible if confined at high temperatures. Intact containers exposed to excessive heat should be cooled with water to reduce drum pressure.

Precautions for fire-fighters and special protective equipment: Isolate fire area. Evacuate downwind residents. Wear full protective clothing and self-contained breathing apparatus. DO NOT breathe smoke or vapours generated.

Section 6 – Accidental Release Measures

Emergency procedures: In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. In the case of spillage, stop leak if safe to do so, and contain spill. Prevent spillage entering drains or watercourses. Contain and absorb spilled material with absorbent material such as sand, clay, cat litter or material such as vermiculite. Collect recoverable product for use as labelled on the product. Vacuum, shovel or pump contaminated spilled material into an approved container and dispose of waste as per the requirements of Local or State Waste Management Authorities. Keep out animals and unprotected persons.

Material and methods for containment and cleanup procedures: Decontaminate spill area with hydrated lime scattered over the spill prior to rinsing off with water. To clean spill area, tools and equipment, wash with a solution of soap, water and acetic acid/vinegar. Follow this with a neutralisation step of washing the area with a bleach or caustic soda ash solution. Finally, wash with a strong soap and water solution. Absorb, as above, any excess liquid and add both solutions to the drums of waste already collected.

After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Thoroughly launder protective clothing before storage or re-use.

Section 7 – Handling and Storage

Precautions for Safe Handling: Keep out of reach of children. Harmful if swallowed. Repeated exposure may cause allergic disorders. When opening the container and using the product, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow length PVC gloves. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash gloves.

Conditions for Safe Storage: Store in tightly closed original container in a cool, dry well-ventilated area out of direct sunlight when not in use. This product is a Schedule 6 Poison (S6) and must be stored, transported and sold in accordance with the relevant Health Department regulations. Not classified as a Dangerous Good. Do not store for prolonged periods in direct sunlight.

Section 8 – Exposure Controls and Personal Protection

Exposure Guidelines:

Exposure guidelines have not been established for this product by Safe Work Australia.

Biological Limit Values:

No biological limit allocated.

Engineering controls:

Use in ventilated areas adequate to keep exposure below the TWA. Keep containers closed when not in use.

Personal Protective Equipment (PPE):

When opening the container and preparing the spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow length PVC gloves. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use wash gloves.

Section 9 – Physical and Chemical Properties

Appearance:	White to beige liquid suspension.
Odour:	Slight odour.
Boiling point:	No data.
Freezing point:	No data.
Specific Gravity:	1.2 g/L.
Solubility in Water:	Emulsifies in water.
pH:	6.5 – 7.5.
Vapour pressure:	No data available.
Flammability:	Not flammable.
Flashpoint (°C):	Not flammable.
Poisons Schedule:	This product is a Schedule 6 (S6) poison.
Formulation:	Suspension Concentrate (SC).

Section 10 – Stability and Reactivity

Chemical Stability: Product is considered stable in ambient conditions for a period of at least 2 years after manufacture. This product is unlikely to spontaneously decompose.

Some settling might occur, and containers should be agitated at least once every 12 months to resuspend any sediment.

Conditions to avoid: Do not store for prolonged periods in direct sunlight. Avoid strong oxidising agents. No specified conditions.

Incompatible materials: Keep away from strong oxidizing agents.

Hazardous decomposition products: Heating / combustion will generate oxides of carbon and nitrogen, and other irritant and toxic fumes.

Hazardous reactions: Not known to polymerise.

Section 11 – Toxicological Information

Information presented is our best judgement based on similar products and/or individual components. As with all products for which limited data is available, caution must be exercised through the use of protective equipment and handling procedures to minimise exposure.

Swallowed: TriPlus LD₅₀ (rat) greater than 300 and less than 500 mg/kg. Harmful if swallowed.

Eye: TriPlus is not an eye irritant. May cause transient redness of the eyes.

Skin: Not a skin irritant. Prolonged skin contact is unlikely to result in absorption of harmful amounts, the TriPlus dermal LD₅₀ (rat) is > 2000 mg/kg. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals. TriPlus is not a sensitiser.

Inhaled: No adverse effects are anticipated from single exposure to vapour. Mist may cause irritation of upper respiratory tract (nose and throat). TriPlus LC₅₀ > 1.58 mg/L/4 hours (maximum attainable concentration).

Long Term Exposure:

Imidacloprid:

Mutagenicity: Imidacloprid was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Carcinogenicity: Imidacloprid was not carcinogenic in lifetime feeding studies in rats and mice.

Reproduction: Imidacloprid caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Imidacloprid is related to parental toxicity.

Developmental toxicity: Imidacloprid caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Imidacloprid are related to maternal toxicity.

Fipronil:

In studies with laboratory animals, Fipronil Technical did not cause mutagenic, carcinogenic or reproductive effects.

Specific target organ: Fipronil produces clinical signs of neurotoxicity (single exposure). Repeated exposure produces effects on the liver and thyroid.

Thiodicarb:

Thiodicarb was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests. *Carcinogenicity:* Thiodicarb caused at high dose levels an increased incidence of tumours in the following organ(s): liver, testes. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans. Thiodicarb caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Thiodicarb is related to parental toxicity. Thiodicarb caused developmental toxicity only at dose levels toxic to the dams. Thiodicarb caused a reduced pup survival. The developmental effects seen with Thiodicarb are related to maternal toxicity.

Section 12 – Ecological Information

Environmental Toxicology: No information is available for the product. The following information refers to the active ingredient imidacloprid. Toxic to upland game birds (Bobwhite quail LD₅₀ 152 mg/kg). Toxic to fish and aquatic species - Rainbow trout LD₅₀ = 211 mg/L and Golden orfe LD₅₀ = 237 mg/L. Toxic to *Daphnia magna* LC₅₀ (48 hour) = 85 mg/L. Toxic to bees when used as a spray, but when used as a seed treatment it has been shown to be safe to bees. DO NOT contaminate streams, rivers or water courses.

The following information refers to the active ingredient Fipronil: Fipronil is highly toxic to fish and aquatic arthropods with LC₅₀ values ranging from 246 µg/L to 0.77 µg/L. Care should be taken to avoid contamination of the aquatic environment. Fipronil is only toxic to both waterfowl and upland game birds with LC₅₀ values range from 11.3 mg/kg to 31 mg/kg. Do not contaminate sewers, drains, dams, creeks or any other waterways with product or the used container.

The following information refers to the active ingredient Thiodicarb: Low toxicity to birds with Mallard Duck and bobwhite quail LC₅₀ > 5620 mg/kg. Moderate toxicity to fish with Bluegill sunfish 96 hr LC₅₀ = 1.4 mg/L and Rainbow trout 96 hr LC₅₀ > 3.3 mg/L. Toxic to aquatic invertebrates 48 hr LC₅₀ = 0.027 mg/L. Moderate toxicity to aquatic plants 72 hr LC₅₀ > 18 mg/L. Toxic to bees.

Environmental Fate: No information is available for the product. The following information refers to the active ingredient, Imidacloprid. Imidacloprid has medium absorption to soil with a half-life of 48-190 days. The hydrolysis half-life of Imidacloprid can range from 33 - 44 days at pH 7 and 25°C. The aqueous photolysis half-life is less than 3 hours. Imidacloprid has a photolysis half-life of 39 days at the soil surface, with a range of 26.5 - 229 days when incorporated into the soil. Persistence in soil allows for continual availability for uptake by plant roots. The combination of low K_{oc} between 132 - 310 and high water solubility of 514 ppm suggests a potential to leach to ground water.

The active ingredient Fipronil, degrades at a moderate rate in agricultural soils (t_{1/2} = 122 to 128 days). Fipronil degrades

on soil surfaces by ultraviolet radiation and rapidly in water when exposed to UV light to form fipronil-desulfinyl. Under these conditions, fipronil has a half-life of 34 days in loamy soil and 4 to 12 hours in water. Fipronil is stable to hydrolysis at pH 5 and pH 7. However, it degrades in alkaline conditions direct proportion to increasing pH values. Fipronil accumulates in fish with a bioconcentration factor of 321 for whole fish, 164 for edible tissue, and 575 for non-edible tissue. Fish eliminated fipronil completely 14 days after being transferred to clean water. Low mobility in soil and is not expected to leach into groundwater $K_{oc} = 427-1248$ in sandy loam.

The active ingredient Thiodicarb is readily biodegradable. Rapidly degraded in soils of various types under both aerobic and anaerobic conditions, by hydrolysis and photolysis. The primary degradation products are methomyl and methomyl oxime. DT_{50} in soil = 3 – 8 days depending on the soil type. Low bio-concentration factor = 6.3.

Section 13 – Disposal Considerations

Spills and Disposal: Keep material out of streams and sewers. Dispose of drummed wastes, including decontamination solution in accordance with the requirements of Local or State Waste Management Authorities. On site disposal of the concentrated product is not acceptable. Ideally the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).

Disposal of empty containers: Triple-rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots, in compliance with relevant local, state or territory government regulations. Do not burn empty containers or product.

Section 14 – Transport Information

Road & Rail Transport: This product is exempt from classification as a Dangerous Good in packs less than 3,000 kg or litres under the Australian Code for the Transport of Dangerous Goods by Road and Rail. For bulk shipments this product is a class 9, UN 3082 (3077). (See special provision AU01).

Marine and Air Transport: TriPlus Insecticidal Seed Treatment is classified as a Marine Pollutant according to International Maritime Dangerous Goods (IMDG) Code and the International Air Transport Association (IATA). If transporting by sea or air the following Dangerous Goods Classification applies:-

UN 3082, Class 9 (Miscellaneous Dangerous Goods), Packing Group III, Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Imidacloprid, Thiodicarb and Fipronil). Hazchem code •3Z. Hazard Identification Number (HIN) 90. Australian Standards Initial Emergency Response Guide No. 47.

Section 15 – Regulatory Information

Under the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP), this product is a Schedule 6 poison.

This product is classified as a Hazardous Substance under the criteria of Safe Work Australia. Xn: harmful.

This product is not classified as a Dangerous Good according to the ADG Code for packs less than 500 litres or in IBC's (SP AU01) (7th Ed).

This product is classified as a Dangerous Good according to International Maritime Dangerous Goods (IMDG) Code and the International Air Transport Association (IATA).

Requirements concerning special training:

Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

Section 16 – Other Information

Issue Date: 11 July 2017. Valid for 5 years till 11 July 2022. (First issue).

Key to abbreviations and acronyms used in this MSDS:

ADG Code:	Australian Dangerous Goods Code (for the transport of dangerous goods by Road and Rail).
Ataxia:	Inability to control the coordinate movements of the muscles.
Bradycardia:	Is a resting heart rate of under 60 beats per minute (adults).
Carcinogen:	An agent which is responsible for the formation of a cancer.

Clonic:	An abnormality in neuromuscular activity characterized by rapidly alternating muscular contraction and relaxation.
Endocrine:	Relating to or denoting glands which secrete hormones or other products directly into the blood.
Genotoxic:	Capable of causing damage to genetic material, such as DNA.
Haematopoietic:	Pertaining to the formation of blood or blood cells.
Hypotonia:	Decreased muscle tone and strength that results in floppiness.
K _{oc} :	Soil organic carbon-water partitioning coefficient
Lavage:	A general term referring to cleaning or rinsing.
LD ₅₀ :	Median Lethal Dose. A statistically derived single dose of a substance that can be expected to cause death in 50% of dosed animals.
Mutagenic:	Capable of inducing a genetic mutation in an organism.
Neurotoxicity:	An adverse change in the structure or function of the nervous system.
Oedema:	Accumulation of fluid in tissues.
PPE:	Personal protective equipment.
Teratogen:	An agent capable of causing abnormalities in a developing foetus.
TWA:	The Time Weighted Average airborne concentration over an eight-hour working day, for a five day working week over an entire working life.

References

1. "Search Hazardous Substances". Safe Work Australia HSIS website. (2017).
2. "Approved Criteria for Classifying Hazardous Substances" 3rd Ed. NOHSC Australia. [NOHSC:1008 (2004)]. October 2004.
3. Globally Harmonized System of Classification and Labelling of Chemicals (GHS). United Nations, 2009.
4. "Hazardous Chemicals Requiring Health Monitoring." Safe Work Australia website. (2013).

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

End MSDS