SAFETY DATA SHEET

PRODUCT NAME **Imtrade TITLE® 100 ST Plant Growth Regulator**

APVMA Product Code: 92640

1 - IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name	**IMTRADE AUSTRALIA PTY LTD**
Address	17 Ocean Street, Kwinana, Western Australia, AUSTRALIA, 6167
Telephone	1800 171 799
Fax	1800 171 788
Emergency	In a Transport Emergency Dial 000 – Police or Fire Brigade
Web site	http://www.imtrade.com.au
Product Use:	Plant growth regulator for use as described on the product label.
Creation Date:	**July, 2022**
This version issued:	**First issue: July, 2022** and is valid for 5 years from this date.

Poisons Information Centre: Phone 13 1126 from anywhere in Australia

Product type: Soluble effervescent tablets containing triclopyr.

SECTION 2 - HAZARDS IDENTIFICATION

Statement of Hazardous Nature

SUSMP Classification: S6

ADG Classification: Class 9: Miscellaneous Dangerous Goods.

UN Number: 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains TRICLOPYR)

GHS Signal word: WARNING

Acute Toxicity Oral - Category 4
Skin Sensitisation - Category 1
Serious Eye Damage/Eye Irritation - Category 2/2a
Specific Target Organ Toxicity - Repeated Exposure - Category 2
Hazardous to Aquatic Environment Short Term/Chronic - Category 1

HAZARD STATEMENTS:

H302: Harmful if swallowed.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H373: May cause damage to organs through prolonged or repeated exposure.
H410: Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:

PREVENTION

P232: Protect from moisture.
P260: Do not breathe dusts.
P262: Do not get in eyes, on skin, or on clothing.
P264: Wash contacted areas thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P272: Contaminated work clothing should not be allowed out of the workplace.
P280: Wear protective gloves, protective clothing and eye or face protection.

RESPONSE

P314: Get medical advice or attention if you feel unwell.
P363: Wash contaminated clothing before reuse.
P301+P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313: If skin irritation or rash occurs: Get medical advice.
P337+P313: If eye irritation persists: Get medical advice or attention.
P370+P378: In case of fire: Use carbon dioxide, dry chemical, foam, to extinguish.

STORAGE

P405: Store locked up.
P410: Protect from sunlight.
P402+P404: Store in a dry place. Store in a closed container.
P403+P235: Store in a well-ventilated place. Keep cool.

DISPOSAL

P501: Dispose of contents and containers as specified on the registered label.

Emergency Overview

Physical Description & Colour: Off-white to brown tablets.
Odour: No data.
Major Health Hazards: The oral LD_{50} of Triclopyr in rats ranges from 630 to 729 mg/kg , and is over 2000 mg/kg for various amine and ester formulated products. The dermal LD_{50} for the technical material in rabbits is greater than 2000 mg/kg, and greater than 4000 mg/kg for the formulations. Inhalation of Triclopyr did not affect rats, but inhalation of some of the formulations did cause nasal irritation. These data indicate Triclopyr is harmful. May cause an allergic skin reaction, causes serious eye irritation, may cause damage to organs through prolonged or repeated exposure. This product is a cumulative poison. Minor exposures over a period of time may lead to serious health problems.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS No	Conc, %	TWA (mg/m^3)	STEL (mg/m^3)
Triclopyr	55335-06-3	~10	not set	not set
Other non hazardous ingredients	secret	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

SECTION 4 - FIRST AID MEASURES

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

Inhalation: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.
Skin Contact: Gently brush away excess particles. If sensitising symptoms are experienced, remove victim from area and allow to breathe fresh air. If irritation persists, call a doctor or poisons information centre.
Eye Contact: Quickly and gently brush particles from eyes. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.
Ingestion: If swallowed, do NOT induce vomiting. Immediately contact a Poisons Information Centre, or call a doctor. Wash mouth with water. If vomiting occurs naturally, lay patient on side, in recovery position as there is a chance that vomitus may enter airways causing harm to lungs.

SECTION 5 - FIRE FIGHTING MEASURES

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is little risk of an explosion from this product if commercial quantities are involved in a fire.
Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.
Extinguishing Media: In case of fire, use carbon dioxide, dry chemical, foam. Water fog or fine spray is the preferred medium for large fires. Try to contain spills, minimise spillage entering drains or water courses. Avoid the use of water.
Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is full fire kit and breathing apparatus.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective chemically resistant clothing including eye/face protection, gauntlets and self contained breathing apparatus. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC or Nitrile. Eye/face protective equipment should comprise, as a minimum, protective glasses and, preferably, goggles. If there is a significant chance that dusts are likely to build up in cleanup area, we recommend that you use a suitable dust mask. Otherwise, not normally necessary.
Stop leak if safe to do so, and contain spill. Because of the environmentally hazardous nature of this product, special care should be taken to restrict release to waterways or drains. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Consider vacuuming if appropriate. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

SECTION 7 - HANDLING AND STORAGE

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10. Take special care if handling this product over extended periods as it is a cumulative poison.
Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Check packaging - there may be further storage instructions on the label.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits TWA (mg/m^3) STEL (mg/m^3)
Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Triclopyr is set at 0.005mg/kg/day. The corresponding NOEL is set at 0.5mg/kg/day. ADI means Acceptable Daily Intake

NOEL means No-observable-effect-level. Data from Australian ADI List, March 2017.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.
Ventilation: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.
Eye Protection: Protective glasses or goggles must be worn when this product is being used. Failure to protect your eyes may lead to severe harm to them or to general health. Emergency eye wash facilities must also be available in an area close to where this product is being used.
Skin Protection: You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product for lengthy periods. See below for suitable material types.
Protective Material Types: We suggest that protective clothing be made from the following materials: rubber, PVC, nitrile.
Respirator: If there is a significant chance that dusts are likely to build up in the area where this product is being used, we recommend that you use a suitable dust mask.
Eyebaths or eyewash stations should, if practical, be provided near to where this product is being handled commercially.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES:

Physical Description & colour:	Off-white to brown tablets.
Odour:	No data.
Boiling Point:	Not applicable.
Flash point:	Not flammable.
Upper Flammability Limit:	No data.

Lower Flammability Limit:	No data.
Autoignition temperature:	No data.
Flammability Class:	No data.
Freezing/Melting Point:	Triclopyr decomposes at approx 290°C
Volatiles:	No data.
Vapour Pressure:	No data.
Vapour Density:	Not applicable.
Specific Gravity:	No data.
Water Solubility:	Soluble.
pH:	5-9
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	Not applicable.
Coeff Oil/water Distribution:	No data
Viscosity:	Not applicable.
Particle Characteristics:	Solid tablets.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: This product is unlikely to react or decompose under normal storage conditions during the indicated shelf life. However, if you have any doubts, contact the supplier for advice on shelf life properties. This product is in the form of effervescent tablets and is expected to generate significant quantities of gas and bubbles in contact with water, which may be an asphyxiation hazard in confined spaces. Once effervescence has occurred, the effervescent ingredients will be spent. This may affect the ability to use the product for its intended purpose.
Conditions to Avoid: Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.
Incompatibilities: water, strong acids, strong bases, strong oxidising agents.
Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. May form hydrogen chloride gas, other compounds of chlorine. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.
Polymerisation: This product will not undergo polymerisation reactions.

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity: An information profile for Triclopyr is available at http://extoxnet.orst.edu/pips/ghindex.html
Acute toxicity: The oral LD_{50} of Triclopyr in rats ranges from 630 to 729 mg/kg , and is over 2000 mg/kg for various amine and ester formulated products. Other oral LD_{50} values for Triclopyr are 550 mg/kg in the rabbit and 310 mg/kg in the guinea pig. Inhalation of Triclopyr did not affect rats, but inhalation of some of the formulations did cause nasal irritation. A similar result was seen when rabbit eyes were exposed. The technical material had only a slight effect on rabbit eyes, while some formulations caused significant eye irritation.
Chronic toxicity: Rats fed diets containing between 3 and 30 mg/kg/day of Triclopyr experienced no ill effects. Male rats fed much higher doses (100 mg/kg/day) had decreased liver and body weight and increased kidney weight. Male mice also showed reduced liver weight but at 60 mg/kg/day. Monkeys fed smaller doses of Triclopyr (20 mg/kg/day) showed no adverse effects.
Reproductive effects: Triclopyr fed to rabbits on days 6 to 18 of gestation at doses of 25, 50, and 100 mg/kg/day produced no effects on maternal body weight, litter size, or foetal body weight. Triclopyr does not appear to cause reproductive toxicity.
Teratogenic effects: Pregnant rats given moderate to high doses of 50, 100, and 200 mg/kg/day on days 6 to 15 of gestation had offspring with mild foetotoxicity, but no birth defects. These data suggest that Triclopyr is not teratogenic.
Mutagenic effects: Triclopyr is nonmutagenic in bacterial and cytogenetic assay systems. Based on these data, Triclopyr is unlikely to be mutagenic.
Carcinogenic effects: Rats and mice fed oral doses of Triclopyr at 3 to 30 mg/kg/day for 2 years showed no carcinogenic response. Based on these data, Triclopyr is unlikely to be carcinogenic.
Organ toxicity: Organs affected by exposure to Triclopyr include the kidneys and liver.
Fate in humans and animals: Data from animal studies indicate that Triclopyr is rapidly eliminated via the urine as the unchanged parent compound. At higher oral doses, some Triclopyr may be eliminated through the faeces as the absorption capacity of the intestine is exceeded. Reported half-lives for elimination of Triclopyr from mammals are 14 hours (dog) and <24 hours (monkeys). This product may affect kidneys, gastrointestinal system, eyes, skin.

Classification of Hazardous Ingredients

Ingredient	Health Hazard Statement Codes

No ingredient mentioned in the HCIS Database is present in this product at hazardous concentrations. Classifications used in this SDS are from other sources.

Potential Health Effects

Inhalation:

Short Term Exposure: Available data indicates that this product is not harmful. In addition product is unlikely to cause any discomfort or irritation.

Long Term Exposure: No data for health effects associated with long term inhalation.

Skin Contact:

Short Term Exposure: Classified as a potential sensitiser by skin contact. Exposure to a skin sensitiser, once sensitisation has occurred, may manifest itself as skin rash or inflammation, and in some individuals this reaction can be severe. In addition product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short Term Exposure: This product is a severe eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms such as swelling of eyelids and blurred vision may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment is likely to cause permanent damage.

Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. Available data shows that this product is harmful, but symptoms are not available. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

Long Term Exposure: Long term minor exposures to this product may cause serious health effects.

Carcinogen Status:

SWA: No significant ingredient is classified as carcinogenic by SWA.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: No significant ingredient is classified as carcinogenic by IARC.

SECTION 12 - ECOLOGICAL INFORMATION

This product is very toxic to aquatic life with long lasting effects. This product is not readily biodegradable; it may accumulate in the soil or water and cause long term problems.

Effects on birds: Triclopyr is slightly to practically nontoxic to birds. The LD_{50} of the parent compound in the mallard duck is 1698 mg/kg, while the formulated compounds are of lower toxicity. The LC_{50} in bobwhite quail and Japanese quail fed Triclopyr for 8 days are 2935 ppm and 3278 ppm, respectively.

Effects on aquatic organisms: The parent compound and amine salt are practically nontoxic to fish. The compound is practically nontoxic to the aquatic invertebrate Daphnia magna, a water flea, with a reported LC_{50} for the amine salt of 1170 mg/L. The ester formulation has reported 96-hour LC_{50} values of 0.74 mg/L and 0.87 mg/L in the rainbow trout and bluegill sunfish, respectively. The compound has little if any potential to accumulate in aquatic organisms.

Effects on other organisms: The compound is nontoxic to bees.

Environmental Fate:

Breakdown in soil and groundwater: In natural soil and in aquatic environments, the ester and amine salt formulations rapidly convert to the acid, which in turn is neutralised to a relatively nontoxic salt. It is effectively degraded by soil microorganisms and has a moderate persistence in soil environments.

Breakdown in water: Triclopyr is not readily hydrolysed at pH 5 to 9. Hydrolysis of the ester and the amine salt occurs rapidly and results in formation of Triclopyr. Reported half-lives in water are 2.8 to 14.1 hours, depending on season and depth of water.

Breakdown in vegetation: Triclopyr is readily translocated throughout a plant after being taken up by either roots or the foliage. The estimated half-life in above ground drying foliage as in a forest overstory is 2 to 3 months.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal: Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 http://www.chemclear.com.au/ and for help with the disposal of empty drums, contact DrumMuster http://www.drummuster.com.au/ where you will find contact details for your area.

SECTION 14 - TRANSPORT INFORMATION

Not subject to the ADG Code when transported by Road or Rail in Australia, in packages 500kg(L) or less; or IBCs, but classed as Dangerous by IATA and IMDG/IMSBC when carried by Air or Sea transport (see details below).

UN Number: 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains TRICLOPYR).
Hazchem Code: 2Z
Special Provisions: 274, 331, 335, 375, AU01
Limited quantities: ADG 7 specifies a Limited Quantity value of 5 kg for this class of product.
Dangerous Goods Class: Class 9: Miscellaneous Dangerous Goods.
Packing Group: III
Packing Instruction: P002, IBC08, LP02

Class 9 Miscellaneous Dangerous Goods shall not be loaded in the same vehicle or packed in the same freight container with Dangerous Goods of Class 1 (Explosives).

SECTION 15 - REGULATORY INFORMATION

AICS/AIIC: All of the significant ingredients in this formulation are compliant with AICIS regulations.
The following ingredient: Triclopyr, is mentioned in the SUSMP.

SECTION 16 - OTHER INFORMATION

This SDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition)
AICS/AIIC	Australian Inventory of Industrial Chemicals
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

This SDS summarises our best knowledge of the health and safety hazard information on the product, and how to safely handle and use the product in the workplace. Each user should read this SDS 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 Imtrade Australia Pty Ltd, or in the event of an emergency, 000. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

TITLE® is a Registered Trademark of Imtrade Australia Pty Ltd

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document “Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice” (July 2020) and GHS Revision 7

Copyright © Kilford & Kilford Pty Ltd, July, 2022.

http://www.kilford.com.au/ Phone (02)8321 8866

End of Report