TAMRON 585 SL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **TAMRON 585 SL**
Other identifier: **Methamidophos 585 SL**
Recommended use: Insecticide
Restrictions on use: (Agriculture); May only be sold and used by a registered pest control operator.

Supplier: **Villa Crop Protection (Pty) Ltd.**
Co. Reg. No.: 1992/002474/07
PO Box 10413
Aston Manor, 1630, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: www.villacrop.co.za

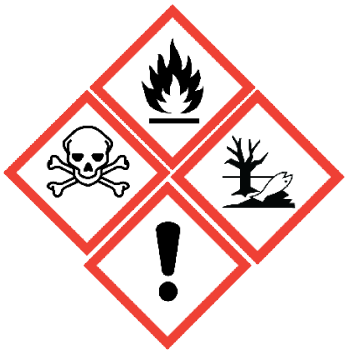
Emergency telephone numbers:
24 Hr Transport / Spill emergency no:
(Hazcall24) +27 86 044 4411
(Client: Villa Crop Protection)
Griffon Poison Information Centre +27 82 446 8946
(Client: Villa Crop Protection)
Poisoning Emergency telephone numbers:
Griffon Poison Information Centre +27 82 446 8946
Poisons Information Centre +27 861 555 777

2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	**Hazard categories**	**H-statements**
Physical		
Flammable	Flam. Liq. 2	H225
Health		
Oral	Acute Toxicity 2	H300
Dermal	Acute Toxicity 2	H310
Eye	Eye irritation 2	H319
Inhalation	Acute Toxicity 2	H330
Specific Target Organ Toxicity - Single Exposure	STOT SE 3	H336
Environment		
Aquatic acute	Aquatic acute 1	H400

The most important adverse effects:
Physiochemical effects:
Highly flammable liquid and vapour.
Human health effects:
Fatal if swallowed. (Acute Tox. 2)
Fatal in contact with skin. (Acute Tox. 2)
Fatal if inhaled. (Acute Tox. 2)
Causes serious eye irritation. (Eye irrit. 2)
May cause drowsiness or dizziness. (STOT SE 3)

Label elements:



Signal word: Danger

Hazard statements:
H225: Highly flammable liquid and vapour.
H300: Fatal if swallowed.
H310: May be harmful in contact with skin.
H319: Causes serious eye irritation.
H330: Fatal if inhaled.
H336: May cause drowsiness or dizziness.
H400: Very toxic to aquatic life.

Precautionary statements:
P210: Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P240: Ground and bond container and receiving equipment.
P242: Use non-sparking tools.
P243: Take action to prevent static discharges.
P260: Do not breathe dust, fume, gas, mist, vapours, or spray.
P261: Avoid breathing mist, vapours, and spray.
P262: Do not get in eyes, on skin, or on clothing.
P264: Wash hands and face thoroughly after handling.
P270: Do not eat, drink, or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release into the environment
P280: Wear impervious rubber gloves and boots, protective clothing, and chemical safety goggles.
P284: In case of inadequate ventilation wear respiratory protection.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER.
P301+P316: IF SWALLOWED: Get emergency medical help immediately.
P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P316: Get emergency medical help immediately.
P319: Get medical help if you feel unwell.
P320: Specific treatment is urgent (see section 4).

P330: Rinse mouth.
P361+P364: Take off immediately all contaminated clothing and wash before reuse.
P370+P378: In case of fire: Use carbon dioxide or dry chemical to extinguish small fires and water fog or foam for large fires.
P391: Collect spillage.
P403 + P233 + P235: Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405: Store locked up.
P501: Dispose of content/container to suitable landfill in accordance with local regulations.

Other hazards:
None known.
Toxicity:
Classification according to GHS: Category 1

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture
Composition:

Chemical name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Methamidophos	10265-92-6	72.95 %	Acute Tox. 2 (H300) Acute Tox. 3 (H311) Acute Tox. 2 (H330) Aquatic Acute 1 (H400)
Isopropyl ethanol	67-63-0	< 30 %	Flam. Liq. 2 (H225) Eye Irrit. 2 (H319) STOT SE 3 (H336)

4. FIRST AID MEASURES

Methamidophos is a compound, which inhibits cholinesterase enzyme activity in the nervous tissue. It is of very high toxicity. Contact with skin, inhalation of dust or spray, or swallowing may be fatal. Toxic to fish and bees. Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure. **Immediately consult a doctor.**
Likely routes of exposure: May be absorbed from the gastrointestinal tract, through the intact skin, and through inhalation of fine spray mist or dust.
Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs. **Seek medical attention immediately if you feel unwell after inhalation**.
Skin: 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.** medical advice if necessary. Persons who become sensitised may require specialised medical management with anti-inflammatory agents.
Eyes: 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.**
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. If the person is alert, rinse mouth thoroughly with water. **Seek medical attention immediately.**
Anticipated acute effects: Fatal if swallowed. Fatal in contact with skin. Fatal if inhaled.
Anticipated delayed effects: None known.
Most important symptoms / effects:
Symptoms of exposure to the product include: nausea, headache, tiredness, giddiness, blurred vision and pupillary constriction. Depending on severity of poisoning these symptoms become worse with the onset of vomiting, abdominal pain, diarrhoea, sweating and salivation. Confusion, ataxia, slurred speech, loss of reflexes are some of the central nervous system effects that may lead to misdiagnosis of acute alcoholism.
Overexposure effects:
After **inhalation of vapours or aerosols** effects appear within minutes: ocular and respiratory effects generally appear first. This includes marked miosis, ocular pain, conjunctival congestion, diminished vision, ciliary spasm, and brow ache.
With acute systemic absorption, miosis may not be evident due to sympathetic discharge in response to the hypotension. In addition to rhinorrhoea and hyperaemia of the upper respiratory tract, respiratory effects consist of “tightness” in the chest and wheezing respiration, caused by the combination of broncho-constriction and increased bronchial secretion. Gastrointestinal symptoms occur earliest after ingestion, and include anorexia, nausea and vomiting, abdominal cramps, and diarrhoea.
With percutaneous absorption of liquid, localised sweating and muscular fasciculation in the immediate vicinity are generally the earliest manifestations.
Severe intoxication is manifested by extreme salivation, involuntary defecation and urination, sweating, lacrimation, penile erection, bradycardia and hypotension.
The airway should be kept clear to maintain respiration, particularly when the patient is unconscious or has vomited. The mouth and pharynx should be cleared, and dentures removed. The jaw should be supported, and the patient placed in a face down position with the head down and turned to one side, with the tongue drawn forward. First aid should include, if necessary, mouth-to-nose

respiration, cardiac massage and avoidance of injury in patients with trauma.

Advice to physician:

Atropine must be administered as early as possible and could save lives, if given in time and in an adequate dosage. Patients with organophosphate poisoning require amounts of atropine far in excess of doses usually employed in medical practice. The therapeutic objective is to achieve atropinisation, as evidenced by dilation of the pupils, drying secretion, pulse rate of over 120/min and flushing skin. To prevent gastrointestinal absorption in the unconscious that have swallowed this product, perform stomach lavage using bicarbonate solution and activated charcoal.

In **less severe** cases begin with 2 mg atropine intravenously for adults or 0.05 mg atropine/kg body weight for children under 12 years of age and repeat administration of the drug at 15 to 30 minutes intervals.

In **severe cases** a total atropine dose of 20 to 80 mg in the first hour may be necessary, with repeated drug administration at 3 to 10 minutes intervals. When signs of atropinisation appear, the dose and frequency of administration should be reduced to a schedule that will maintain full atropinisation for at least 24 hours. Over dosage with atropine is rarely serious, but under dosage may be fatal in poisoning with organophosphorus compounds. In any severe progressive case of poisoning a cholinesterase reactivator e.g. pralidoxime (2PAM), if available, should be administered, preferably within 8h after intoxication. An average dose is 1 g for an adult (up to 50 mg/kg for children), usually given half as a single intramuscular or intravenous injection and the other half as an intravenous infusion with glucose and or saline. In severe cases this treatment may be repeated in 1 to 2 hours, then at 10-to-12-hour intervals if needed, but not beyond 24 hours, or 48 hours at the most. Pralidoxime should be administered very slowly. If respiration is depressed during or after injection, pulmonary ventilation should be assisted mechanically.

Toxogonin is a more recent cholinesterase reactivator. It can be administered instead of 2PAM at a dose of 250 mg intramuscularly for adults (4 to 8 mg/kg for children) and, if necessary, repeat after 1 to 2 hours.

Diazepam should be included in the therapy of severe cases and whenever convulsions appear. Doses of 5 to 10 mg for adults (2 to 5 mg for children) can be administered intravenously or subcutaneously or per rectum and repeated as required.

NB: Because of their respiratory-depressant effects, morphine and similar drugs are contraindicated for patients poisoned with organophosphorus compounds. Avoid **aminoglycosides** and **succinylcholine**, which have a blocking effect on the neuromuscular junction. **Phenothiazines**, **reserpine** and **theophylline** are **contraindicated** in organophosphorus poisoning.

5. FIRE-FIGHTING MEASURES

Fire and explosion hazard: Flammable.

Suitable Extinguishing Media: Use carbon dioxide or dry chemical for small fires and water fog or foam for large fires.

Unsuitable Extinguishing Media: High volume water jet. Use a water jet only to cool heated containers.

Special fire-fighting procedures: Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Remain upwind of fire. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.

Personal protective equipment: Wear NIOSH / MSHA approved self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid contact with skin and eyes. Do not breathe in spray mist or dust / fumes / vapours 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 as very toxic / toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into watercourses should be reported immediately to the police and the Department of Water / Environmental Affairs.

Methods and Materials for Containment: Do not touch spilled material. Stop leak if you can do so without risk. Use water spray to reduce vapours (contain any water used). Neutralise with sodium hydroxide and allow standing for 4 hours. For small spills, sweep up with sand or other suitable absorbent material, and place into containers for later disposal. Move containers from spill area. For larger spills, contain material far ahead of spill for later disposal. Keep spectators away. Isolate hazard area and deny entry. Ventilate closed spaces before entering.

Methods and Materials for Clean-up: Cover contained spill with an inert absorbent material such as sand, vermiculite, earth, or other appropriate 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. See section 13 for disposal considerations.

7. HANDLING AND STORAGE

Handling:
Precautions for safe handling: Highly toxic by absorption, inhalation or if swallowed. Avoid contact with eyes, prolonged contact with skin, and inhalation of dust and vapour. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high-water mark. Water used to clean equipment must be disposed of correctly to avoid contamination. 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.
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 under lock and key and 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 surface. Not to be stored next to foodstuffs, feed, and water supplies. Avoid cross contamination with other pesticides and fertilisers.
Incompatible substances and mixtures: Incompatible with alkaline materials. Compatible with most pesticides. Do not physically mix concentrate directly with other herbicides or pesticide concentrates; always dilute first. A compatibility test is required before using with other products
Packaging material: Fluorinated plastic containers.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Components	Exposure limits	Type of exposure limit	Source
Isopropyl ethanol	400 ppm	TWA	www.osha.gov

Engineering Controls:
It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.
Personal Protective Equipment:
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.
Hand Protection: The use of chemically protective (impervious) gloves is recommended to prevent against skin contact.
Eye Protection: The use of chemical safety goggles is recommended to prevent against eye contact. Contact lenses are not protective eye devices.
Skin and Body Protection: Employees must wear appropriate protective (impervious) clothing, (rubber) boots, hat, and equipment to prevent repeated or prolonged skin contact with this substance.
Emergency eyewash: 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Yellowish liquid, soluble liquid.
Odour: Pungent odour.
Odour threshold: Not available.
pH (1% aqueous dilution): Not available.
Melting point: Not available.
Freezing Point: 0 °C.
Boiling Point: Not available.
Flash Point: 11.5 °C.
Flammability: Not available.
Upper / lower explosion limits:
Vapour Pressure (mm Hg): 2,3 x 10(-5) mbar at 20°C.
Relative Vapour Density: Not available.
Density / Relative density: 1.08 to 1.15 g/cm3 @ 20°C
Solubility: Soluble in water.
n-octanol / water partition coefficient: K_{ow} logP = -0.8 (*Data for active ingredient).*
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available

10. STABILITY AND REACTIVITY

Chemical stability: Stable at ambient temperature but decomposes on heating without boiling.
Stable at pH 3 to 8.
Hydrolysed in acids and alkalis.
DT50 (22 °C): 1.8 year (pH 4),
120 hours (pH 7),
70 hours (pH 9).

Photodegradation is of minor importance
Reactivity: None known.
Possibility of hazardous reactions: When heated to decomposition, Methamidophos releases toxic fumes of oxides of nitrogen, phosphorus, and sulphur.
Conditions to avoid: Extreme heat or exposure to flames.
Incompatible materials: Incompatible with alkaline materials. Compatible with most pesticides. Do not physically mix concentrate directly with other herbicides or pesticide concentrates; always dilute first. A compatibility test is required before using with other products.
Hazardous decomposition products: Alcohols. carbon monoxide and carbon dioxide may form under burning conditions or with incomplete combustion.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Calculated according to GHS:
Oral LD_{50} 17.82 mg/kg
Dermal LD_{50} 9.58 mg/kg
Inhalation LC_{50} 0.29 mg/ℓ
Skin Irritation / Corrosion: Not classified.
Eye Damage / Irritation: Causes serious eye irritation.
Skin Sensitization: Product is not a skin sensitizer.
Respiratory Sensitization: Not classified.
Reproductive cell mutagenicity: Not classified.
Carcinogenicity: Not classified.
Reproductive toxicity: Not classified.
Specific target organ toxicity – single exposure: May cause drowsiness or dizziness.
Specific target organ toxicity – repeated exposure: Not classified
Aspiration hazard: Not classified.
Chronic Effects Not classified
POTENTIAL ADVERSE EFFECTS:
Symptoms of exposure to the product include: nausea, headache, tiredness, giddiness, blurred vision, and pupillary constriction. Depending on severity of poisoning these symptoms become worse with the onset of vomiting, abdominal pain, diarrhoea, sweating and salivation. Confusion, ataxia, slurred speech, loss of reflexes are some of the central nervous system effects may lead to misdiagnosis of acute alcoholism.

12. ECOLOGICAL INFORMATION

This product is considered a marine pollutant.
ECOTOXICITY DATA:
Active ingredient: Methamidophos

Fish:		
LC_{50} (96 h)	Rainbow trout	25 mg/ℓ
	Bluegill sunfish	34 mg/ℓ
Daphnia:		
EC_{50} (48 h)		0.27 mg/ℓ
Algae:		
EC_{50} (72 h)	*Scenedesmus subspicatus*	>178 mg/ℓ
Birds:		
Acute oral LD_{50}	Bobwhite quail	10 mg/kg
Dietary LD_{50} (5d)	Bobwhite quail	42 mg/kg diet
	Mallard ducks	1302 mg/kg diet
Bees:		
LD_{50} contact		Toxic
LD_{50} oral		Toxic
Worms:		
LC_{50}	*Eisenia fetida*	44 mg/kg

ENVIRONMENTAL EFFECTS (indicate if this is only for the active ingredient)
Based on information for the active ingredient: Methamidophos

Plants: After treatment with methamidophos via the roots, the a.i. was taken up rapidly and translocated into the leaves with the transpiration flow. However, a more prolonged uptake via the roots cannot be expected because of rapid degradation in soil. After foliar treatment, methamidophos was taken up rapidly; however, there was little translocation into untreated parts of the plan
Persistence and degradability: Most organophosphate pesticides degrade relatively rapidly in the environment. All organophosphate esters undergo hydrolysis in water; generally the water-soluble products of hydrolysis are less toxic than the parent compound. Degradation is by hydrolysis with loss of the amino, S-methyl or O-methyl groups.
Bio-accumulative potential: Does not accumulate.
Mobility in soil: Due to the rapid degradation of the substance, it's leaching into deeper soil layers can be ruled out.
Other adverse effects: Not determined.

13. DISPOSAL CONSIDERATIONS

Waste: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product 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. The product may be taken to a registered waste disposal site or incineration plant.
Container: Emptied containers retain product residues. Do not re-use the empty container for any other purpose. **TRIPLE RINSE THE EMPTY CONTAINER AS FOLLOWS**: Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank.

Puncture the triple rinsed container and dispose of via an approved collector or recycler (www.croplife.co.za). Do not bury, burn, or donate the container to any other parties that may use it as a container for food or beverages. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION

UN Number: **2784**
Road Transport ADR / ORD:
Class: 3 + 6.1
Packaging group: II
UN Proper Shipping Name: ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point < 23 °C (Methamidophos 585 g/l)

Maritime Transport IMDG / IMO:
Class: 3 + 6.1
Packaging group: II
UN Proper Shipping Name: ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point < 23 °C (Methamidophos 585 g/l)
Marine pollutant (Y/N): **Yes**
Air Transport IATA / ICAO:
Class: 3 + 6.1
Packaging group: II
UN Proper Shipping Name: ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC, flash point < 23 °C (Methamidophos 585 g/l)
Special / Environmental Precautions: Wedge drums tightly to avoid movement.
Transport in bulk: Refer to MARPOL 73/78, Annex II, and the IBC code.

15. REGULATORY INFORMATION

Safety, health, and environmental regulations / legislation for the mixture:
OHSA 1993 Regulations for Hazardous Chemical Substances.
Relevant information regarding restrictions: None.
EU regulation: Regulation EC1272/2008 (EU-GHS/CLP)
Other national regulations: None.
Chemical Safety Assessment carried out? No

16. OTHER INFORMATION

Packaging: Packed in 5, 10, 20 and 25 litres fluorinated plastic containers, labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations, and explanations:
IATA: International Air Transport Association.
IBC: International Bulk Chemical.
ICAO: International Civil Aviation Organization.
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization.
LD_{50} value: The median lethal dose or the amount of a toxic agent that is sufficient to kill 50 percent of a population within a certain period of time.
OEL/RL: Occupational exposure limit-recommended limit.
TWA: Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.
ST/STEL: Short-term exposure limits.
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, 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. 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.

END OF DOCUMENT
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Next revision date: January 2030

For detailed information on revisions, contact the Registration holder.