


Safety Data Sheet

PROTIVO - Reg. No: L 9247 (Act No 36 of 1947)

1) PRODUCT AND COMPANY IDENTIFICATION	
Product name:	PROTIVO
Other means of identification:	Trifloxystrobin 500 SC
Chemical Name:	methyl (E)-methoxyimino-{{(E)-α-[1-(α,α,α-trifluoro-mtolyl)ethylideneaminoxy]-o-tolyl}acetate
Recommended use:	Fungicide
Restrictions on use:	Agriculture
UN No:	3082
Distributed by:	MERIDIAN AGRITECH P O BOX 436 MODDERFONTEIN TEL 011 8228509 FAX 0866901386 MOBILE: 0834006056 www.agritech.co.za
Emergency Number:	POISON CENTRE (UNITAS HOSPITAL) 012 664 1100 TYGERBERG:021 931 6129 RED CROSS: 021 689 5227 RAPID SPILL RESPONSE 0800 775 3305 GRIFFON POISON CENTRE: 082 446 8946
2) HAZARDS IDENTIFICATION:	
Classification of the substance/mixture:	GHS Category: 5 Skin Sensitization Category 1 Aquatic Acute Category 1 Aquatic Chronic Category 1 Acute Toxicity Category 4 STOT RE Category 2 (Kidney, Oral) STOT SE Category 3 (Central nervous system) Skin Irritation Category 2 Mutagenicity Category 1B Reproductive toxicity Category 1B Eye Irritation Category 2 Skin Corrosion Category 1B
Label Elements: Globally Harmonized System, EU (GHS):	Pictogram:  <p>Signal Word: Danger</p> <p>Hazard Statements: H301: Toxic if swallowed. H302: Harmful if swallowed. H311: Toxic in contact with skin. H314: Causes severe skin burns and eye damage. H315: Causes skin irritation. H317: May cause an allergic skin reaction. H319: Causes serious eye irritation.</p>

According to Directive 67/548/EEC No. 1272/2008 [CLP]

H331: Toxic if inhaled.
H336: May cause drowsiness or dizziness.
H340: May cause genetic defects.
H360: May damage fertility or the unborn child.
H373: May cause damage to organs through prolonged or repeated exposure (Kidney, oral).
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long-lasting effects.
H412: Harmful to aquatic life with long-lasting effects.

Precautionary Statements:

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P270: Do not eat, drink or smoke when using the product.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves, protective clothing, eye protection.
P302+P352: If on skin: Wash with plenty of water.
P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P321: Specific treatment (See First aid measures on this label)
P333+P313: If skin irritation or a rash occurs: Get medical advice/attention.
P362+P364: Take off contaminated clothing and wash it before reuse.
P405: Store locked up.

Hazard Symbols:

Xi: Irritant
N: Dangerous to the environment.

R-phrase(s):

R43: May cause sensitization by skin contact.
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s):

S2: Keep out of the reach of children
S13: Keep away from food, drink and animal feedings.
S24: Avoid contact with skin.
S 35: This material and its container must be disposed of in a safe way.
S 37: Wear suitable gloves
S 57: Use appropriate container to avoid environmental contamination.

3) COMPOSITION / INFORMATION ON INGREDIENTS:

3.1 Substances:

Not applicable


3.2 Mixtures:

Chemical name	Concentration	CAS No.	EC No.	Classification according to Regulation EC 1272/2008 (CLP)
Trifloxystrobin	500 g/L	141517-21-7	604-327-6	Skin Sens. Cat. 1 (H317) Aquatic Acute Cat. 1 (H400) Aquatic Chronic Cat. 1 (H410)
Ethylene glycol	50 g/L	107-21-1	203-473-3	Acute Tox. Cat. 4 (H302) STOT RE Cat. 2 (H373) (Kidney, Oral) STOT SE Cat. 3 (H336) (Central nervous system) Skin Irrit. Cat. 2 (H315) Muta. Cat. 1B (H340) Repr. Cat. 1B (H360) Aquatic Chronic Cat. 3 (H412) Eye Irrit. Cat. 2 (H319)
Mixture of:	1 g/L	55965-84-9	611-341-5	Acute Tox. Cat. 3 (H301) Acute Tox. Cat. 3 (H311)

5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one			Skin Corr, Cat. 1B (H314) Skin Sens. Cat. 1 (H317) Acute Tox. Cat. 3 (H331) Aquatic Acute Cat. 1 (H400) Aquatic Chronic Cat. 1 (H410)
4) FIRST AID MEASURES:			
<p>Description of First-Aid Measures:</p> <p>Inhalation:</p> <p>Skin contact:</p> <p>Eye contact:</p> <p>Ingestion</p> <p>Most important symptoms and effects, both acute and delayed:</p> <p>Indication of any immediate medical attention and special treatment needed:</p>		<p>Remove patient to fresh air. Loosen clothing around neck. Lie down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Monitor patient for respiratory distress. Seek medical assistance.</p> <p>Immediately remove contaminated clothing and gently wipe off excess chemical. Wash thoroughly and gently with plenty of water and a non-abrasive soap. Wash contaminated clothing before re-use. Seek medical assistance if irritation persists.</p> <p>Flush eyes with plenty of gently flowing clean water for at least 20 minutes holding eyelids open. Remove contact lenses. Seek medical assistance.</p> <p>Never give anything by mouth to an unconscious person. For advice, contact the National Poisons Centre. Wash mouth out with water if patient is conscious. DO NOT induce vomiting. Keep the patient at rest and seek medical assistance immediately. Show this material safety data sheet to the doctor.</p> <p>No symptoms known or expected.</p> <p>Local contamination: Treatment should be symptomatic following decontamination. In the case of skin or eye contamination, treat as above. Systemic poisoning: No specific antidote is available. Treat symptomatically. An aqueous solution of activated charcoal may be administered in order to absorb the remaining toxicant. The active ingredient belongs to the strobilurin chemical group</p>	
5) FIRE-FIGHTING MEASURES:			
<p>Extinguishing Media:</p> <p>Unsuitable Extinguishing Media:</p> <p>Specific Hazards arising from the substance/mixture:</p> <p>Fire Fighting:</p> <p>Protective clothing:</p>		<p>Water spray, carbon dioxide, foam and sand. Contain any firefighting water.</p> <p>High volume water jet due to contamination risk.</p> <p>It can be expected that the formation of hydrogen cyanide, hydrogen fluoride, carbon monoxide and nitrogen oxides could occur.</p> <p>Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent. Bund the area with sand or earth in order to prevent contamination of drains or waterways. Fight fire from maximum distance. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind. Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal. Dispose of the extinguishing agent and spillage safely at a later stage. Avoid the contamination of water bodies.</p> <p>Full chemical protective clothing and self-contained breathing apparatus</p>	
6) ACCIDENTAL RELEASE MEASURES:			

<p>Personal precautions, protective equipment and emergency procedures:</p> <p>Environmental precautions:</p> <p>Methods and material for containment and cleaning up:</p>	<p>Avoid contact contaminated surfaces or spilled material. Do not eat, drink or smoke during the clean-up process. For personal protection see Section 8.</p> <p>Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. Do not allow to enter drains or watercourses. If contamination of water courses is unavoidable, report to the Police and the Department of Water/Environmental Affairs immediately.</p> <p>Keep people and animals away. Contain the spill and absorb with earth, sand, clay or another inert absorbent material. Prevent the spillage from entering drains and watercourses. Collect the material into a clean, dry, properly labelled container and cover for subsequent safe disposal. Clean the floor using a damp cloth and place the cloth into a waste drum. Seal the waste drums and label them ready for safe disposal. Deal with spillages immediately. If the contamination of drains, streams, watercourses and other water bodies cannot be avoided, warn the local authorities immediately.</p>								
<p>7) HANDLING & STORAGE:</p>									
<p>Precautions for Safe Handling:</p> <p>Conditions for Safe Storage, including any incompatibilities:</p>	<p>Avoid contact with eyes, skin, mouth and inhalation of product. Wear protective clothing (See section 8) when opening the container, preparing the spray and using the prepared spray. Wash hands after use and before eating, drinking, chewing gum, smoking or using the toilet. Wash gloves and contaminated clothing daily following use.</p> <p>Keep out of reach of children, unauthorized persons, and animals. Store in its original labelled container in a shaded, well ventilated area. Keep the container as cool as possible out of direct sunlight. Protect the product from temperatures below -10 and above 35 °C. Keep away from food, drink and animal feeding stuffs.</p>								
<p>8) EXPOSURE CONTROL / PERSONAL PROTECTION:</p>									
<p>Appropriate Engineering Controls:</p> <p>Control Parameters: Occupational exposure limits:</p> <p><u>PERSONAL PROTECTIVE EQUIPMENT:</u></p> <p>Clothing:</p> <p>Respiratory protection:</p> <p>Gloves:</p> <p>Eye protection:</p> <p>Emergency eye wash:</p>	<p>It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.</p> <table border="1" data-bbox="810 1400 1449 1489"> <thead> <tr> <th>Ingredient</th> <th>CAS#</th> <th>Limit</th> <th>Basis</th> </tr> </thead> <tbody> <tr> <td>Trifloxystrobin</td> <td>141517-21-7</td> <td>2.7 mg/m³ (SK-SEN)</td> <td>OES BCS*</td> </tr> </tbody> </table> <p>Cotton coveralls buttoned to the neck and wrist (or equivalent protective clothing)</p> <p>Well ventilated areas: Full face mask with combination filter. Enclosed premises: Respirator with an independent air supply</p> <p>Employee must wear appropriate, elbow-length chemical-resistant gloves to prevent contact with this substance.</p> <p>Safety goggles.</p> <p>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.</p>	Ingredient	CAS#	Limit	Basis	Trifloxystrobin	141517-21-7	2.7 mg/m ³ (SK-SEN)	OES BCS*
Ingredient	CAS#	Limit	Basis						
Trifloxystrobin	141517-21-7	2.7 mg/m ³ (SK-SEN)	OES BCS*						
<p>9) PHYSICAL & CHEMICAL PROPERTIES:</p>									
<p>Appearance:</p>	<p>Off-white liquid, Suspension concentrate</p>								
<p>Odour:</p>	<p>Characteristic</p>								
<p>Solubility:</p>	<p>Suspends in water</p>								
<p>pH:</p>	<p>5.3</p>								

Odour threshold:	Not available
Melting point / Freezing point	Not available
Initial boiling point and boiling range	Not available
Flash point:	Does not flash
Evaporation rate:	Not available
Flammability (solid, gas)	Not available
Upper/ lower flammability or explosive limits:	Not available
Vapour pressure:	Not available
Vapour density:	Not available
Relative density:	1.13
Partition coefficient: n-octanol/water	Log P _{ow} 4.5 at 25°C (Trifloxystrobin)
Auto-ignition temperature:	Not available
Decomposition Temperature:	Not available
Viscosity:	Not available
10) STABILITY & REACTIVITY:	
Reactivity:	Stable under normal conditions.
Chemical Stability:	Stable for two years under normal, dry storage conditions in the original unopened container.
Possibility of hazardous reactions:	No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid:	Temperature extremes and direct sunlight.
Incompatible materials:	Only store in the original container.
Hazardous decomposition product(s):	In a fire, the formation of hydrogen cyanide, hydrogen fluoride, carbon monoxide and nitrogen oxides could occur.
11) TOXICOLOGICAL INFORMATION: BASED ON TECHNICAL MATERIAL.	
Acute Toxicity:	
Oral:	LD ₅₀ for rats >2000 mg/kg.
Dermal:	LD ₅₀ for rats >4 000 mg/kg, rabbits >5000 mg/kg.
Inhalation:	LC ₅₀ (4 h) for rats >1100 mg/m ³
Skin Corrosion/Irritation:	Not an irritant, rabbit.
Serious Eye Damage/Irritation:	Not an irritant, rabbit
Respiratory or Skin Sensitization:	May cause sensitization on laboratory animals, guinea pig.
Germ Cell Mutagenicity:	May cause genetic defects.
Carcinogenicity:	No data available.
Reproductive Toxicity:	May damage fertility or the unborn child.
STOT-SE:	May cause drowsiness or dizziness.
STOT-RE:	May cause damage to organs through prolonged or repeated exposure (Kidney, oral).
Aspiration Hazard:	No data available.
12) ECOLOGICAL INFORMATION: BASED ON TECHNICAL MATERIAL.	
Ecotoxicity:	
Birds:	Acute oral LD ₅₀ : Bobwhite quail > 2000 mg/Kg body weight, Mallard ducks > 2250 mg/Kg. Dietary LC ₅₀ for bobwhite quail and mallard ducks >5050 ppm.
Fish:	LC ₅₀ (96 h) for rainbow trout 0.015, bluegill sunfish 0.054 mg/l.
Daphnia:	LC ₅₀ (48 h) 0.016 mg/l.
Algae:	No data available.
Worms:	LC ₅₀ (14 d) for <i>Eisenia foetida</i> >1000 mg/kg soil.
Bees:	LD ₅₀ (oral) >200 µg/bee; (contact) >200 µg/bee.
Persistence and Degradability:	Trifloxystrobin dissipates rapidly from the soil and surface water. Soil DT ₅₀ 4.2-9.5 days. In water: DT ₅₀ 0.3-1 days, DT ₉₀ 4-8 days.
Bio-accumulative Potential:	No data available.
Mobility in Soil:	It has no leaching potential
13) DISPOSAL CONSIDERATIONS:	
Waste Disposal:	In accordance with local and national regulations. Do not pour untreated waste or surplus product into public sewers or where there is any danger whatsoever of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with this product or the used containers. Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product may be disposed of at an approved chemicals waste disposal facility. Empty containers and product must not be burnt.

Container Disposal:	Triple or preferably pressure rinse containers before disposal. Add the rinsing's to the mixing tank. Do not dispose of undiluted chemical on-site. If recycling, replace the cap and return the clean containers to the recycler or the designated collection point. If recycling cannot be done, break, crush or puncture and bury the empty containers in a local authority landfill. If no landfill is available, the containers must be buried below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product must not be burnt. Do not re-use the containers for any other purpose.
14) TRANSPORTATION INFORMATION:	
Road Transport ADR / IRD:	UN NUMBER: 3082 UN Proper Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, Liquid, N.O.S. (Trifloxystrobin) Transport Hazard Class: 9 Miscellaneous Dangerous Goods Packaging group: III Labelling no: 9 Environmental Hazards: Not applicable Special Precautions for User: Read safety instructions, SDS and emergency procedures before handling.
Maritime Transport IMDG / IMO:	UN NUMBER: 3082 UN Proper Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, Liquid, N.O.S. (Trifloxystrobin) Transport Hazard Class: 9 Miscellaneous Dangerous Goods Packaging group: III Labelling no: 9 Environmental Hazards: Marine Pollutant Special Precautions for User: Read safety instructions, SDS and emergency procedures before handling. 
Air Transport ICAO / IATA:	UN NUMBER: 3082 UN Proper Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, Liquid, N.O.S. (Trifloxystrobin) Transport Hazard Class: 9 Miscellaneous Dangerous Goods Packaging group: III Labelling no: 9 Environmental Hazards: Not applicable Special Precautions for User: Read safety instructions, SDS and emergency procedures before handling.
Transport in Bulk (according to Annex II of MARPOL 73/78 and the IBC Code):	No transport in bulk according to the IBC Code.
15) REGULATORY INFORMATION:	
Safety, health and environmental regulations/legislation specific for the substance/mixture:	For the user of this plant-protective product applies: 'To avoid risks to man and the environment, comply with the instructions for use.' (Directive 1999/45/EC, Article 10, No. 1.2)
Chemical Safety Assessment:	Advice on product handling can be found in sections 7 and 8 of this safety data sheet.
16) OTHER INFORMATION	
<p>All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear.</p> <p>It is the responsibility of persons in receipt of this SDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with this product. If the recipient subsequently produces formulation(s) containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this SDS to their own SDS.</p> <p>The information contained herein is provided in good faith but makes no representation as to its comprehensiveness or accuracy. A properly trained person using this product intends this document only as a guide to the appropriate handling of the material. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.</p> <p>MERIDIAN AGRITECH MAKES NO REPRESENTATION OR WARRANTIES, EITHER EXPRESSES OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR</p>	

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Abbreviations and acronyms:

1. CAS number: Chemical Abstracts Service number.
2. CLP: Classification, Labelling, Packaging.
3. LD₅₀: Lethal Dose for 50% of the test population.
4. LC₅₀: Lethal Concentration for 50% of the test population.
5. DT₅₀: Half-life
6. GHS: Globally Harmonised System (of Classification and Labelling of Chemicals).
7. OES BCS: Occupational Exposure Standard, Bayer CropScience
8. STOT: Specific Target Organ Toxicity.
9. RE: Repeated Exposure.
10. SE: Single Exposure.

Literature References:

- GHS: www.ccohs.ca/oshanswers/chemicals/ghs.html
- ECHA: <https://echa.europa.eu/search-chemicals>