SPARTA 375 SC

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **SPARTA 375 SC**
Other identifier: **Flusilazole Carbendazim 375 SC**
Recommended use: Fungicide
Restrictions on use: Agriculture

Supplier: **Villa Crop Protection (Pty) Ltd.**
Co. Reg. No.: 1992/002474/07
PO Box 10413
Aston Manor, 1630, South Africa
Telephone: (011) 3962233
Fax: (011) 3964666
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
Health		
Oral	Acute Toxicity 5	H303
Dermal	Skin Sensitisation 1	H317
Germ Cell Mutagenicity	Mutagenicity 1B	H340
Carcinogenicity	Carcinogenicity 1B	H350
Reproductive toxicity	Reproductive Toxicity 1B	H360
Environment		
Aquatic acute	Aquatic acute 1	H400
Aquatic chronic	Aquatic chronic 1	H410

The most important adverse effects:
Physiochemical effects: None known.
Human health effects:
May cause an allergic skin reaction.
May cause genetic defects.
May cause cancer.
May damage fertility or the unborn child.

Label elements:

Signal word: Danger.
Hazard statements:
H303: May be harmful if swallowed.
H317: May cause an allergic skin reaction.
H340: May cause genetic defects.
H350: May cause cancer.
H360: May damage fertility or the unborn child.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
Precautionary statements:
P203: Obtain, read and follow all safety instructions before use.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release into the environment.
P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
P301+P317: IF SWALLOWED: Get medical help.
P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.
P318: IF exposed or concerned, get medical advice.
P333+P317: If skin irritation or rash occurs: Get medical help.
P391: Collect spillage.
P405: Store locked up.
P501: Dispose of contents/container to suitable landfill in accordance with local regulations.
Special labelling of certain mixtures:
None known.
Other hazards:
None known.
Toxicity:
Classification according to GHS: Category 5.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture
Composition:

Chemical Name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Flusilazole	85509-19-9	25 %	Acute Toxicity 4 (H302) Carcinogenicity 2 (H351) Reproductive Toxicity 1B (H360D) Aquatic Chronic

			2 (H411)
Carbendazim	10605-21-7	12.5 %	Mutagenicity 1B (H340) Reproductive Toxicity 1B (H360FD) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Emulsifier	99734-09-5	< 5 %	Aquatic Chronic 3 (H412)
Anti-freeze	107-21-1	< 5 %	Acute Toxicity 4 (H302)
Anti-bacterial	50-00-0	< 0.5 %	Acute Toxicity 3 (H301) Acute Toxicity 3 (H311) Skin Corrosive 1B (H314) Skin Sensitisation 1 (H317) Acute Toxicity 3 (H331) Mutagenicity 2 (H341) Carcinogenicity 1B (H350)

4. FIRST AID MEASURES

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. IF exposed or concerned, get medical advice.

Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs.

Skin: Remove contaminated clothing and wash before re-using. Wash skin gently and thoroughly with water and non-abrasive soap. **Seek medical attention if skin irritation or rash occurs.**

Eyes: Flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. Seek medical attention if irritation persists.

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 alert, rinse mouth with plenty of water.

Anticipated acute effects: May cause an allergic skin reaction.

Anticipated delayed effects: May cause genetic defects. May cause cancer.
May damage fertility or the unborn child

Most important symptoms/effects: May cause headaches and dizziness.

Advice to physician: Treat symptomatically and supportively. No specific antidote known. Consider gastric lavage avoiding aspiration. Do not give ephedrine or related drugs.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Water, foam or carbon dioxide.

Unsuitable Extinguishing Media: High volume water jet due to contamination risk.

Specific hazards: Fire may produce irritating or poisonous vapours (toxic fumes of hydrogen cyanide and oxides of nitrogen and carbon), mists or other products of combustion.

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 vapours, spray or fumes. 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 and evacuate unprotected personnel and animals.

Environmental Precautions: Prevent spilled product from entering sewers, waterways or ground water. This product is classified as very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into water courses should be reported immediately to the police and the Department of Water/Environmental Affairs.

Methods and Materials for Containment: Contain spilled product by diking area with sand, earth or vermiculite.

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: Avoid contact with skin, eyes and clothes. Ensure adequate ventilation during handling and use. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling and ensure spills are disposed of safely and according to local legislation. 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 again.
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. Avoid excess heat. Not to be stored next to foodstuffs, feed and water supplies. Avoid cross contamination with other pesticides and fertilisers.
Incompatible substances and mixtures: Avoid strong bases. Refer to product label.
Packaging material: Plastic containers.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Components	Exposure limits	Type of exposure limit	Source
Formaldehyde	Ca 0.016ppm (C) 0.1ppm [15 min]	Up to 10-hour TWA (C) Ceiling	NIOSH REL

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 OSHA PELs 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: Employees must wear chemically protective impervious gloves 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: Employee must wear appropriate impervious clothing depending on the activity and possible exposure; apron, boots, hat, chemical protection suite and equipment; to prevent repeated or prolonged skin contact with this substance (according to DIN-EN 465).
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: White liquid, suspension concentrate.
Odour: Faint odour.
pH (1% aqueous dilution): 7.0 – 9.0.
Melting point: Not available.
Freezing Point: Not available.
Boiling Point: Not available.
Flash Point: > 100 °C.
Flammability: Not flammable.
Upper/lower explosion limits: Not available.
Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density: 1.109 g/mℓ at 20°C.
Solubility: Suspends in water.
n-octanol/water partition coefficient: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.

10. STABILITY AND REACTIVITY

Chemical Stability: The product is stable for two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Store below 50 °C, preferably below 30 °C, and not for prolonged periods in direct sunlight.
Reactivity: None known.

Possibility of Hazardous Reactions: Heating can release combustible vapours. No decomposition is expected if recommended storage and handling conditions are observed.
Conditions to Avoid: Extreme heat, direct sunlight or exposure to flames. Protect from frost and temperatures < -5°C.
Incompatible Materials: Strong bases.
Hazardous Decomposition Products: Hazardous gases may be released under heating or combustion.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Calculated according to GHS
Oral LD_{50} (24 h) > 2700 mg/kg (rat).
Dermal LD_{50} (24 h) > 5000 mg/kg (rat/rabbit).
Inhalation LC_{50} (4 h) > 9 mg/ℓ (rat).
Skin Irritation/Corrosion: Not classified.
Eye Damage/Irritation: Not classified.
Skin Sensitization: May cause an allergic skin reaction.
Respiratory Sensitization: Not classified.
Reproductive cell mutagenicity: May cause genetic defects.
Carcinogenicity: May cause cancer.
Reproductive toxicity: May damage fertility or the unborn child.
Specific target organ toxicity – single exposure: Not classified.
Specific target organ toxicity – repeated exposure: Not classified.
Aspiration hazard: Not classified.
Chronic Effects: Not available.
POTENTIAL ADVERSE EFFECTS:
Ingestion: May be harmful if swallowed.

12. ECOLOGICAL INFORMATION

This product is very toxic to aquatic life with long lasting effects.

ECOTOXICITY DATA: Based on active ingredients: flusilazole and carbendazim.

Fish:

Flusilazole		
LC_{50} (96 h)	Rainbow trout	1.2 mg/ℓ
	Bluegill sunfish	1.7 mg/ℓ
Carbendazim		
LC_{50} (96 h)	Carp	0.61 mg/ℓ
	Rainbow trout	0.83 mg/ℓ
	Bluegill sunfish	>17.25 mg/ℓ
	Guppies	> 8 mg/ℓ

Daphnia:

Flusilazole		
LC_{50} (48 h)		3.4 mg/ℓ
Carbendazim		
LC_{50} (48 h)		0.13 – 0.22 mg/ℓ

Algae:

Carbendazim		
EC_{50} (72 h)	*Scenedesmus subspicatus*	419 mg/ℓ
	Selenastrum capricornutum	1.3 mg/ℓ

Birds:

Flusilazole		
Acute oral LD_{50}	Mallard Ducks	> 1 590 mg/kg.
Dietary LC_{50}	Mallard Ducks	1580 mg/kg diet.
Carbendazim		
Acute oral LD_{50}	Quail	5 830 – 16 000 mg/kg.

Bees:

Flusilazole	
LD_{50} Contact	165 µg/bee.
LD_{50} Oral	33.8 µg/bee.
Carbendazim	
LD_{50} Contact	> 50 µg/bee.

Worms:

Flusilazole		
LC_{50}	Earthworms	338 mg/kg soil.
Carbendazim		
LC_{50} (4 w)	*Eisenia foetida*	6 mg/kg soil.

ENVIRONMENTAL EFFECTS:
Plants:
Carbendazim
Readily absorbed by plants. One degradation product is 2-aminobenzimidazole.
Persistence and degradability:
Flusilazole
Results of several different studies under varying environmental conditions indicate average DT_{50} 95 days.
Carbendazim
2-Aminobenzimidazole has been found as a minor metabolite. DT_{50} in soil 8–32 days under outdoor conditions. Carbendazim decomposes in the environment, DT_{50} 6–12 months on bare soil, 3–6 months on turf, and 2–25 months in water under aerobic and anaerobic conditions, respectively. It is mainly decomposed by micro-organisms.
Bio-accumulative Potential:
Flusilazole
Log K_{ow} 3.87 (pH 7).
Carbendazim
Log K_{ow} 1.38 (pH 5), 1.49 (pH 9), 1.51 (pH 7).
Mobility in soil:
Carbendazim
K_{oc} 200–250.
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. 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: **3082**
Road Transport ADR/IRD:
Class: 9
Packaging group: III
UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (**Flusilazole** 250 g/ℓ and **Carbendazim** 125 g/ℓ).
Maritime Transport IMDG/IMO:
Class: 9
Packaging group: III
UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (**Flusilazole** 250 g/ℓ and **Carbendazim** 125 g/ℓ).
Marine Pollutant (Y/N): **Yes**
Air Transport IATA/ICAO:
Class: 9
Packaging group: III
UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (**Flusilazole** 250 g/ℓ and **Carbendazim** 125 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 50, 100, 200, 250, 400, 500, 800 millilitres and 1, 1.5, 3, 5, 10, 15, 20, 25 and 50 litres plastic containers, labelled according to South African regulations and guidelines.
Additional H statements (formulants):
H301: Toxic if swallowed.
H302: Harmful if swallowed.
H311: Toxic in contact with skin.
H314: Causes severe burns and eye damage.
H331: Toxic if inhaled.
H341: Suspected of causing genetic defects.
H351: Suspected of causing cancer.
H411: Toxic to aquatic life with long lasting effects.
H412: Harmful to aquatic life with long lasting effects.
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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For detailed information on revisions, contact the Registration holder.