

# UNIVERSAL FLUSILAZIM 375 SC

# SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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

**Supplier:** Universal Crop Protection (Pty) Ltd.  
**Co. Reg. No.:** 1983/008184/07  
PO Box 801,  
Kempton Park, 1620, South Africa  
(011) 396 2233  
**Telephone:** (011) 396 2233  
**Fax:** (011) 396 4666  
**Website:** [www.villacrop.co.za](http://www.villacrop.co.za)

**Emergency telephone numbers:**  
**24 Hr Transport / Spill emergency no:**  
Envirosure. +27 31 205 4918  
(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  
**Villa Crop Protection Emergency number:**  
**National Safety, Health and Environmental Manager:**  
+27 63 698 0668

## 2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
<b>Health</b>		
Oral	Acute Tox. 5	H303
Dermal	Acute Tox. 5	H313
	Skin Irrit. 3	H316
	Skin Sens. 1	H317
Inhalation	Acute Tox. 5	H333
Germ Cell Mutagenicity	Muta. 1B	H340
Carcinogenicity	Carc. 1B	H350
Reproductive toxicity	Repr. 1B	H360FD
<b>Environment</b>		
Aquatic acute	Aquatic acute 2	H401
Aquatic chronic	Aquatic chronic 2	H411

**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.

### Label elements:



**Signal word:** Danger.

### Hazard statements:

H303: May be harmful if swallowed.  
H313: May be harmful in contact with skin.  
H316: Causes mild skin irritation.  
H317: May cause an allergic skin reaction.  
H333: May be harmful if inhaled.  
H340: May cause genetic defects.  
H350: May cause cancer,  
H360FD: May damage fertility. May damage the unborn child.  
H401: Toxic to aquatic life.  
H411: Toxic to aquatic life with long lasting effects.

### Precautionary statements:

P202: Do not handle until all safety precautions have been read and understood.  
P273: Avoid release into the environment.  
P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.  
P302/352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.  
P308/313: If exposed or concerned: Get medical attention.  
P333/313: If skin irritation or rash occurs: Get medical advice.  
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.  
Classification according to WHO: Category 2.

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## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture  
 Composition:

Chemical Name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Flusilzaole	85509-19-9	25 %	Acute Tox. 4 (H302) Carc. 2 (H351) Repr. 1B (H360D) Aquatic Chronic 2 (H411)
Carbendazim	10605-21-7	12.5 %	Muta. 1B (H340) Repr. 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 Tox. 4 (H302)
Anti-bacterial	50-00-0	< 0.5 %	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Acute Tox. 3 (H331) Muta. 2 (H341) Carc. 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. Immediately consult a doctor.

**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 persists.

**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:** None known.

**Anticipated delayed effects:** None known.

**Most important symptoms/effects:** None known.

**Advice to physician:** Treat symptomatically and supportively. No specific antidote known.

## 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. Keep upwind. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from affected 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:** Ventilate the spill area. Avoid contact with skin and eyes. Do not breathe in spray or fumes.

**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 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,

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scoop, or sweep up material and place the material into a clean, dry, sealable container. Large spills should be diked with absorbent material and pumped into containers for disposal. 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 (i.e. organic solvent, detergent bleach or caustic). Incinerate or take to a special waste disposal site in accordance with local authority regulations. Open burning or dumping of this material is prohibited. 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 containers tightly closed and store under lock and key in its original container in dry, cool, well-ventilated area. Do not store near heat or sources of ignition. Protect from freezing conditions. Not to be stored next to foodstuffs, seed, feed and water supplies. Keep out of reach of children, uninformed persons and animals. Do not contaminate other pesticides and fertilizers.

**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]	-	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 (Product Dependent):

**Respiratory Protection:** Wear respiratory protection if ventilation is inadequate in case of vapour/aerosol release. Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2).

**Hand Protection:** The use of chemically protective, impervious gloves is recommended to prevent against prolonged skin contact. These should satisfy the EN 374 standard (Recommended: Glove thickness: 0.4 – 0.7mm, Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm). Avoid neoprene and natural rubber gloves.

**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.

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Viscosity: Not available.

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Product is stable at ambient temperature and pressure, under normal storage and handling conditions.

**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<sub>50</sub> (24 h) rat > 2100 mg/kg.

Dermal LD<sub>50</sub> (24 h) rat > 4700 mg/kg.

Inhalation LC<sub>50</sub> (4 h) > 14.8 mg/ℓ.

**Skin Irritation/Corrosion:** May cause mild irritation.

**Eye Damage/Irritation:** May cause mild irritation.

**Skin Sensitization:** May cause an allergic skin reaction.

**Respiratory Sensitization:** May be harmful if inhaled.

**Reproductive cell mutagenicity:** May cause genetic defects.

**Carcinogenicity:** Formulants may cause cancer.

**Reproductive toxicity:** Formulants may lead to damage of fertility or damage to the unborn child.

**Specific target organ toxicity – single exposure:** Not available.

**Specific target organ toxicity – repeated exposure:** Not available.

**Aspiration hazard:** Not available

**Chronic Effects:** Not available.

**POTENTIAL ADVERSE EFFECTS:** Not available.

## 12. ECOLOGICAL INFORMATION

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

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

### Fish:

#### Flusilazole

LC <sub>50</sub> (96 h)	Rainbow trout	1.2 mg/ℓ.
	Bluegill sunfish	1.7 mg/ℓ.

#### Carbendazim

LC <sub>50</sub> (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 <sub>50</sub> (48 h)	3.4 mg/ℓ.
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### Carbendazim

LC <sub>50</sub> (48 h)	0.13 – 0.22 mg/ℓ.
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### Algae:

#### Carbendazim

EC <sub>50</sub> (72 h)	<i>Scenedesmus subspicatus</i>	419 mg/ℓ.
	<i>Selenastrum capricornutum</i>	1.3 mg/ℓ.

### Birds:

#### Flusilazole

LD <sub>50</sub>	Mallard Ducks	> 1 590 mg/kg.
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#### Carbendazim

LD <sub>50</sub>	Quail	5 826 – 15 595 mg/kg.
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### Bees:

#### Flusilazole

LD <sub>50</sub>	> 150 mg/bee.
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#### Carbendazim

LD <sub>50</sub> (contact)	> 50 mg/bee.
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### Worms:

#### Carbendazim

LC <sub>50</sub> (4 w)	<i>Eisenia foetida</i>	6 mg/kg soil.
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### Plants:

#### Carbendazim

Readily absorbed by plants. One degradation product is 2-aminobenzimidazole.

### ENVIRONMENTAL EFFECTS:

#### Persistence and degradability:

#### Flusilazole

Results of several different studies under varying environmental conditions indicate average DT<sub>50</sub> 95 d.

#### Carbendazim

2-Aminobenzimidazole has been found as a minor metabolite. DT<sub>50</sub> in soil 8–32 d under outdoor conditions. Carbendazim decomposes in the environment, DT<sub>50</sub> 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. K<sub>oc</sub> 200–250.

**Bio-accumulative Potential:** Not determined.

**Mobility in soil:** Not determined.

**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. Disposal



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should be done by a certified incineration plant. Comply with local legislation applying to waste disposal.

**Container:** Emptied containers retain product residue and vapours. Do not re-use the empty container for any other purpose. Triple rinse empty containers by inverting the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the container three times with a volume of water equal to a minimum of one third of that of the container. Add the rinsing's to the contents of the spray tank before recycling or destroying the container in the prescribed manner via a certified incineration plant or waste disposal site. Comply with local legislation applying to waste disposal.

## 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** (according to MARPOL 73/78, Annex II and the IBC code): Not available.

## 15. REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation for the mixture:**  
OHS 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 1, 5, 10, 20 and 25 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.  
H351: Suspected of causing cancer.  
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.

**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.