



## Safety Data Sheet

# FORTRESS ULTRA L10450 (Act 36 of 1947)

Date of issue: 03/07/2018

1) PRODUCT AND COMPANY IDENTIFICATION	
Product name:	FORTRESS ULTRA
Other means of identification:	Azoxystrobin 200 g/L, Difenoconazole 125 g/L SC
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
Chemical Name:	Azoxystrobin(IUPAC): methyl (E)-2-{2-[6-(2-cyano-phenoxy)pyrimidin-4-yloxy]phenyl}-3-methoxyacrylate Difenoconazole (IUPAC): cis,trans-3-chloro-4-[4-methyl-2-(1H-1,2,4-triazol-1-ylmethyl)-1,3-dioxolan-2-yl]phenyl 4-chlorophenyl ether
2) Hazards Identification:	
Product Classification:	N; R22; R23; R41; R50/53 Full text of phrases; see section 15
Label Elements:	Hazard symbols: N – Dangerous for the environment  <div style="display: flex; justify-content: space-around; align-items: center;">   </div> Signal word: Harmful
Health effects: eyes:	May cause mild irritation.
Health effects: skin:	May cause slight irritation.
Health effects: ingestion	May cause irritation and may be harmful.
Health effects: inhalation	May cause irritation.
3) Composition Details:	
COMPOSITION	Azoxystrobin 200 mg/L Difenoconazole 125 mg/L
4) First Aid Measures:	
Inhalation:	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. Seek medical assistance if irritation persists.
Skin contact:	Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash affected areas with soap and water. Seek medical assistance if irritation occurs.
Eye contact:	Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance.

<p><b>Ingestion</b></p> <p><b>Advice to physician:</b></p>	<p>Never give anything by mouth to an unconscious person. Do not induce vomiting. Plenty of water may be given to drink. For advice, contact the National Poisons Centre. Seek medical assistance immediately.</p> <p>No specific antidote known. Treat symptomatically. Prevent aspiration. Administer medicinal charcoal or consider a laxative.</p>
<p><b>5) Fire-Fighting Measures:</b></p>	
<p><b>Flash point:</b></p> <p><b>Extinguishing Media:</b></p> <p><b>Fire Fighting:</b></p>	<p>Not flammable.</p> <p>Fine water spray, foam, carbon dioxide, dry chemical powder. Do not use high volume water jet, due to contamination risk.</p> <p>Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal.</p> <p>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. Do not scatter the material. Avoid pollution of waterways.</p>
<p><b>Protective clothing:</b></p>	<p>Full protective clothing and self-contained breathing apparatus</p>
<p><b>6) Accidental Release Measures:</b></p>	
<p><b>Personal precautions:</b></p> <p><b>Environmental precautions:</b></p> <p><b>Occupational spill:</b></p>	<p>Avoid contact with skin and eyes. 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.</p> <p>Wear protective clothing. Clear area of unprotected personnel. Contain and absorb liquid spills with inert material, remove by scoop or vacuum. Use approved industrial vacuum cleaner for removal and place in waste containers. Wash area with water and detergent and absorb with further inert material. Heavily contaminated soil layers have to be dug out down to clean soil. If spill does enter waterways contact the local authority. Spilled product cannot be re-used and must be disposed of by incineration or disposal in a chemical waste disposal facility. If containers cannot be recycled, they should be disposed of together with the waste chemical.</p>
<p><b>7) Handling &amp; Storage:</b></p>	
<p><b>Handling:</b></p> <p><b>Storage:</b></p>	<p>Avoid skin and eye contact and inhalation of spray mist. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke. Wash contaminated clothing before re-use.</p> <p>APPROVED HANDLER: This product must be under the control of an approved handler when applied in a wide dispersive manner; or used by a commercial contractor.</p> <p>BEWARE: Spray drift hazard. Apply this product carefully. Spray drift may cause serious damage to other desirable plants.</p> <p>Store in original container tightly closed and in a locked, dry, cool area away from foodstuffs, fertilisers and seeds. Keep away from children or uninformed persons. Avoid extreme temperatures.</p>
<p><b>8) Exposure Control / Personal Protection:</b></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> <p><b>Occupational Exposure Limits:</b></p>	<p>Azoxystrobin: 2 mg/m<sup>3</sup> (8 h TWA) Difenoconazole: 8 mg/m<sup>3</sup> (8 h TWA)</p>

<p><b>Engineering Controls:</b></p> <p><b><u>PERSONAL PROTECTIVE EQUIPMENT:</u></b></p> <p><b>Clothing:</b></p> <p><b>Respiratory protection:</b></p> <p><b>Gloves:</b></p> <p><b>Eye protection:</b></p> <p><b>Emergency eye wash:</b></p>	<p>Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. If airborne mists/vapors are generated, use local exhaust ventilation controls. Where necessary, seek additional occupational hygiene advice.</p> <p>Consult supplier to confirm that the equipment is suitable.</p> <p>Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.</p> <p>Wear respirator if ventilation is inadequate.</p> <p>Employee must wear appropriate chemical-resistant gloves to prevent contact with this substance</p> <p>The use of safety goggles with side shields is recommended.</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>
<p><b>9) Physical &amp; Chemical Properties:</b></p>	
<p><b>Form:</b></p>	<p>Liquid</p>
<p><b>Colour:</b></p>	<p>Cream white</p>
<p><b>Odour:</b></p>	<p>Characteristic odour</p>
<p><b>Solubility:</b></p>	<p>Emulsifies in water</p>
<p><b>pH:</b></p>	<p>8.0</p>
<p><b>Odour threshold:</b>  <b>Melting point / Freezing point</b>  <b>Initial boiling point and boiling range</b>  <b>Flash point:</b>  <b>Evaporation rate:</b>  <b>Flammability (solid, gas)</b>  <b>Upper/ lower flammability or explosive limits:</b>  <b>Vapour pressure:</b>  <b>Vapour density:</b>  <b>Relative density:</b>  <b>Partition coefficient: n-octanol/water</b>  <b>Auto-ignition temperature:</b>  <b>Viscosity:</b></p>	<p>Not available  Not available  Not available  Not flammable  Not available  Not flammable  Not explosive  Not available  Not available  Not available  Not available  Not available  505°C  169 – 646 mPa.s at 20°C  98.0 – 472 mPa.s at 40°C</p>
<p><b>10) Stability &amp; Reactivity:</b></p>	
<p><b>Stability:</b></p> <p><b>Conditions to avoid:</b></p> <p><b>Incompatible materials:</b></p> <p><b>Hazardous decomposition product(s):</b></p>	<p>When stored appropriately this product should show no significant degradation for 2 years from the date of manufacture.</p> <p>Not available</p> <p>Not available</p> <p>When heated to decomposition, irritant or dangerous fumes may be emitted.</p>
<p><b>11) Toxicological Information:</b></p>	
<p>Azoxystrobin:  Oral : LD50 &gt; 5 000 mg/kg, rat.  Dermal : LD50 &gt; 2 000 mg/kg, rabbit.  Inhalation : LC50 (4h) &gt;4.5 mg/L, rat.</p> <p>Skin irritation: Slight irritant, rabbit.  Eye irritation : Moderate irritant, rabbit.  Sensitization : Did not cause sensitization on laboratory animals, guinea pigs.</p> <p>Difenoconazole:  Oral : LD50 &gt; 1500 mg/kg, rat.  Dermal : LD50 &gt; 2000 mg/kg, rabbit.  Inhalation : LC50 (4h) &gt; 3000 mg/ m<sup>3</sup>, rat.</p> <p>Skin irritation: Non irritant, rabbit.  Eye irritation : Non irritant, rabbit.</p>	

Sensitization : Did not cause sensitization on laboratory animals, guinea pigs.

## 12) Ecological Information:

Azoxystrobin:

Bees : (oral) >25 µg/bee; (contact) >200 µg/bee.

Birds : Acute oral LD<sub>50</sub> for mallard ducks and bobwhite quail >2000 mg/kg.

LC<sub>50</sub> (5 d) for bobwhite quail and mallard ducks >5200 mg/kg diet.

Fish : LC<sub>50</sub> (96 h) for rainbow trout 0.47, bluegill sunfish 1.1, carp 1.6, sheepshead minnows 0.66 mg/l. For degradate R234886, LC<sub>50</sub> >150 mg/l.

Daphnia : EC<sub>50</sub> (48 h) 80 µg/l. EC<sub>50</sub> for degradates: R234886 >180, R401553 >50, R402173 >50 mg/l.

Algae : EC<sub>50</sub> (120 h) for *Selenastrum capricornutum* 0.12 mg/l.

Worms : LC<sub>50</sub> (14 d) for earthworms 283 mg/kg.

Persistence: Rapidly degraded in soil. Azoxystrobin and its degradates have low to moderate mobility in soil and low potential for bioaccumulation; typical  $K_{oc}$  c. 500.

Difenoconazole:

Bees : LD<sub>50</sub> (48h) Oral > 180 µg/bee; Contact > 100 µg/bee. Not toxic.

Birds : LD<sub>50</sub> (9–11 d) for mallard ducks >2150, Japanese quail >2000 mg/kg. LC<sub>50</sub> for bobwhite quail 4760, mallard ducks >5000 ppm.

Fish : LC<sub>50</sub> (96h) Rainbow trout > 0,8 mg/L, Bluegill sunfish 1.2mg/L.

Daphnia : LC<sub>50</sub> (48h) > 0,8 mg/L.

Algae : EC<sub>50</sub> (72h) *Scenedesmus subspicatus* 0.032–1.2 mg/L.

Other aquatic spp.: LC<sub>50</sub> (96h) Mysid shrimps 0.15 mg/L, EC<sub>50</sub> (96h) Eastern oysters 0.45 mg/L; (14d) Duckweed (*Lemna gibba*) > 18 mg/L.

Worms : LC<sub>50</sub> > 600 mg/kg. Not toxic.

Persistence: Practically immobile in soil, strong adsorption to soil particles,  $K_{oc,ads}$  3759 mL/g, low potential to leach below top soil layer. Soil dissipation rate is slow and dependent on application rate, DT<sub>50</sub> 50–150days. DT<sub>50</sub> from water 2days.

## 13) Disposal Considerations:

**Waste Disposal** : In accordance with local and national regulations.

Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved chemicals waste disposal facility.

### Container Disposal :

Refer to the product label for instructions.

If the container is to be refilled, do not rinse with any material or introduce any pesticide other than this product. DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.

Do not transport if this container is damaged or leaking.

## 14) Transportation Information:

UN NUMBER: 3082

Road Transport ADR/ RID:

Class: 9 Miscellaneous Dangerous Goods

Packaging group: III

Labelling no: 9

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Azoxystrobin, Difenoconazole)

Maritime Transport IMDG / IMO:

Class: 9 Miscellaneous Dangerous Goods

Packaging group: III

Labelling no: 9

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Azoxystrobin, Difenoconazole)

Air Transport ICAO / IATA:

Class: 9 Miscellaneous Dangerous Goods

Packaging group: III

Labelling no: 9

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Azoxystrobin, Difenoconazole)

MARINE POLLUTANT

## 15) Regulatory Information:

**Symbol(s):** N – dangerous for the environment

**Signal word:** Harmful

### R-phrases(s):

R22: Harmful if swallowed

R23: Toxic by inhalation

R36: Irritating to eyes.

R41: Risk of serious damage to eyes.

R50/53: Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.

R65: Harmful: may cause lung damage if swallowed.

**S-phrase(s):**

S2: Keep out of reach of children.

S 7: Keep container tightly closed.

S13: Keep away from food, drink and animal feeding stuffs.

S20/21: When using, do not eat drink or smoke.

S22: Do not breathe vapour.

S24: Avoid contact with the skin.

S36/37: Wear suitable protective clothing and gloves.

S46: If swallowed, seek medical advice immediately and show this label.

S35: This material and its container must be disposed of in a safe way.

S46: If swallowed, seek medical advice immediately and show this container

S57: Use appropriate containment to avoid environmental contamination.

S62: If swallowed, do not induce vomiting: seek medical advice immediately

**16. Other Information**

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.

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. 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.

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