


Safety Data Sheet

Flustar WG L 8419 (Act 36 of 1947)

Date of issue: 12/09/2007

Date revised: 22/04/2016

1) PRODUCT AND COMPANY IDENTIFICATION	
Product name:	FLUSTAR WG
Other means of identification:	Flusilazole 200 g/kg WG
Recommended use:	Fungicide
Restrictions on use:	Agriculture
UN No:	3077
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 GRIFFON POISON CENTRE: 082 446 8946.
Chemical Name:	Flusilazole: bis(4-fluorophenyl)(methyl)(1H-1,2,4triazol-1-ylmethyl)silane
2) Hazards Identification:	
Product Classification:	Xn; N R22; R40; R51; R53; R61 Full text of phrases; see section 15
Label Elements:	Hazard symbols: Xn – Harmful N – Dangerous for the environment  Signal word: Harmful
Health effects: eyes:	May cause irritation.
Health effects: skin:	May cause irritation.
Health effects: ingestion	Harmful.
Health effects: inhalation	May be harmful.
3) Composition Details:	
COMPOSITION	Flusilazole 200 g/kg Inert ingredients 800 g/kg
4) First Aid Measures:	
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek Medical attention
Skin contact:	In case of contact, immediately wash skin with soap and plenty of water. Wash contaminated clothing before reuse.
Eye contact:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Seek Medical attention

<p>Ingestion</p> <p>Advice to physician:</p>	<p>If swallowed, immediately give two glasses of water and induce vomiting. Never give anything by mouth to an unconscious person. Seek Medical attention.</p> <p>No specific requirements. Treat symptomatically.</p>
<p>5) Fire-Fighting Measures:</p>	
<p>Flash point:</p> <p>Extinguishing Media:</p> <p>Fire Fighting:</p>	<p>NA. Not a fire and explosion hazard. Like most organic powders or crystals, under severe dusting conditions, this material may form explosive mixtures in air.</p> <p>Water spray, dry powder, foam or CO2.</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. 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. On small fires, if the area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the contamination hazard.</p> <p>On small fires, if area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the contamination hazard.</p>
<p>Protective clothing:</p>	<p>Full protective clothing and self-contained breathing apparatus</p>
<p>6) Accidental Release Measures:</p>	
<p>Personal precautions:</p> <p>Environmental precautions:</p> <p>Occupational spill:</p>	<p>Avoid contact with skin and eyes. Review FIRE AND EXPLOSION HAZARDS and HANDLING SECTIONS before proceeding with cleanup. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.</p> <p>For personal protection see Section 8.</p> <p>Do not contaminate waterways, drains and groundwater. If contamination of waterways, drains, rivers or lakes is unavoidable, warn the local authorities (Police and Department of Water/Environmental affairs) immediately.</p> <p>Wear protective clothing. Clear area of unprotected personnel. Shovel or sweep up. Never return to container for reuse. Scoop into bags or boxes with plastic or aluminium shovel. Wash area with water and detergent and absorb with further inert material. If spill does enter waterways contact the local authority. Spilled product cannot be re-used and must be disposed of in a chemical waste disposal facility. If containers cannot be recycled, they should be disposed of together with the waste chemical.</p>

7) Handling & Storage:	
Handling:	Handling: DO NOT consume food, drink or tobacco in the areas where they may become contaminated with this material. Attacks eyes and may irritate skin. Avoid contact with eyes and skin. DO NOT inhale dust. Protect eyes while using. Wash hands after use. After each day's use, wash faceshield or goggles and contaminated clothing.
Storage:	Keep container tightly closed. Store in closed original containers in a cool, well ventilated area out of direct sunlight. DO NOT contaminate water, other pesticides, fertilisers, food or feed with this product. . Keep away from heat, sparks and flames.
8) Exposure Control / Personal Protection:	
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.	
Occupational Exposure Limits:	Non established for formulated product. Flusilazole: AEL (Du Pont): 0.5 mg/m ³ (8 hr TWA)
Engineering Controls:	Use only with adequate ventilation.
<u>PERSONAL PROTECTIVE EQUIPMENT:</u>	
Clothing:	Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.
Respiratory	Use only with adequate ventilation.
Gloves:	Employee must wear appropriate chemical-resistant gloves to prevent contact with this substance
Eye protection:	The use of a face shield or safety goggles with side shields is recommended. Protect eyes while using.
Emergency eye wash:	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 & Chemical Properties:	
Form:	Granules
Colour:	Light brown
Odour:	Slight lignin sulphonate
Solubility:	Dispersible in water
pH:	9 at 20°C (at 10 g/L H ₂ O)
Odour threshold:	Not available
Melting point / Freezing point	53-55°C (flusilazole)
Initial boiling point and boiling range	Not available
Flash point:	NA
Evaporation rate:	Not available
Flammability (solid, gas)	Not available
Upper/ lower flammability or explosive limits:	Lower: 0.173 vol. %
Vapour pressure:	0.039 (25°C) (flusilazole)
Vapour density:	Not available
Relative density:	0.58 g/cm ³
Partition coefficient: n-octanol/water	Log K _{ow} 3.74 (pH 7) (flusilazole)
Auto-ignition temperature:	525°C
Viscosity:	NA
10) Stability & Reactivity:	

<p>Stability:</p> <p>Conditions to avoid:</p> <p>Incompatible materials:</p> <p>Hazardous decomposition product(s):</p>	<p>Stable at normal temperatures and storage conditions.</p> <p>Keep away from heat, sparks and flames.</p> <p>No incompatibilities reasonably foreseeable</p> <p>Decomposition will not occur. There is a possibility of generating hazardous gases during a fire due to presence of F and CN groups.</p>
---	--

11) Toxicological Information:

Acute toxicity data:

Acute Effects

Eye: Classified as an eye irritant according to NOHSC. Attacks eyes. Causes substantial but temporary eye injury.
 Skin: May irritate skin, slightly toxic by contact. Classified as a skin irritant but not a skin sensitiser.
 Inhaled: May irritate the throat. Not classified as a respiratory irritant according to the criteria of NOHSC. Swallowed: Slightly toxic by ingestion. Not classified as hazardous by inhalation according to the criteria of NOHSC.

Toxicity Data:

Acute oral LD50 (rat): > 4000 mg/kg (male), 3000 mg/kg (female)
 Acute dermal LD50 (rabbit): > 2000 mg/kg 4 hr
 Inhalation LC50 (rat): > 4.3 mg/L Sensitisation: not a skin sensitiser.

12) Ecological Information:

96 h LC50 (fish): > 8mg/L
 48 h EC50 (daphnia): 21.4 mg/L
 72 h EC50 (algae): 4.4 mg/L (growth rate)
 8 day LC50 (mallard duck): 1584 mg/kg (flusilazole)
 8 day LC50 (bobwhite quail): > 5620 mg/kg (flusilazole)
 Bioaccumulation: log POW = 3.74

Fate of residues in animals:

It was concluded that bis(4-fluorophenyl)(methyl)silanol (IN-F7321, the methyl silanol) and 4fluorophenyl(methyl)silanediol are the predominant residues in poultry tissues and eggs arising from the phenyl-labelled compound and that triazole is the main residue from the triazole label, except in fat where flusilazole is the primary residue from the triazole label. **Soil dissipation:**
 It was observed that over 92% of the radioactivity is confined to the top 8 cm of soil over the test period, and that the predominant residues in this segment are flusilazole and its silanol metabolite IN-F7321. It was also concluded, the strong adsorption to the top layers of soil, the lack of residues exceeding 0.01 mg/kg in the 24-36 cm soil depths and the weak leaching potential indicated in other studies as evidence that residues in ground water were unlikely. While the data indicate that over 92% of the radioactivity remains in the top 8 cm of the silt loam soil investigated, and indeed that residue levels are extremely low in the 24-36 cm depths, it also shows an increasing penetration by low levels of radioactivity over the test period in this soil type.
 While the adsorption of this persistent pesticide to soil is strong, it was noted that uptake of low residue levels can occur in rotational crops and that the leaching potential would be less for silt loams (as in this study) than for more sandy soils. Because the silt loam study was under worst-case

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 waste disposal facility.

Container Disposal : Refer to the product label for instructions. Container

Refilling and Disposal:
 If the container is to be refilled, do not rinse with any material or introduce any pesticide other than this product.
DO NO REUSE THE CONTAINER FOR ANY OTHER PURPOSE.
 Do not transport if this container is damaged or leaking.

14) Transportation Information:

IMO hazardous description:

UN: 3077

Package and labels: S6

Hazard: N

IMO hazardous description:

Rail / Road (RID / ADR) U.N.

Number: 3077

Packing group: III Class: 9

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Sea (IMDG-Code) U.N.

Number: 3077

Class: 9

Packing Group: III

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Marine pollutant: yes

Air (ICAO / IATA) U.N.

Number: 3077

Class: 9

Packing Group: III

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

15) Regulatory Information:

Contains: Flusilazole 20%.

Symbol(s): N – Dangerous for the environment

R-phrase(s):

R22 – Harmful if swallowed.

R36 – Irritating to eyes.

R38 – Irritating to skin.

R40 – Limited evidence of a carcinogenic effect.

R61 – May cause harm to the unborn child.

R51/53 – Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s):

S2 - Keep out of reach of children.

S3/7 Keep container tightly closed in a cool place.

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

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

S24/25 - Avoid any inhalation, contact with skin and eyes. Wear suitable protective clothing and gloves. S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37 – Wear suitable protective clothing and gloves.

S45 – In case of accident or if you feel unwell, seek medical advice immediately (show label where possible). S35 – This material and its container must be disposed of in a safe way.

S53 – Avoid exposure – obtain special instructions before use.

S57 – Use appropriate containment to avoid environmental contamination.

Exceptional labelling of special preparations:

To avoid risks to man and the environment, comply with the instructions for use.

Further information: Restricted to professional users.

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.

MERIDIAN AGRITECH MAKES NO REPRESENTATION OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR

A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, MERIDIAN AGRITECH (PTY) LTD WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.