


Safety Data Sheet

FUSION L10133 (Act No 36 of 1947)

1) PRODUCT AND COMPANY IDENTIFICATION	
Product name:	FUSION
Other means of identification:	Cymoxanil/Famoxadone 500 WDG
Chemical Name:	Cymoxanil: 2-cyano-N-[(ethylamino)carbonyl]-2(methoxyimino)acetamide Famoxadone: 3-anilino-5-methyl-5-(4phenoxyphenyl)-1,3-oxazolidine-2,4-dione
Recommended use:	Fungicide
Restrictions on use:	Agriculture
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 WESTERN CAPE POISONS TELEPHONE SERVICE 0861 555 777 RAPID SPILL RESPONSE 0800 775 3305 GRIFFON POISON CENTRE: 082 446 8946
2) HAZARDS IDENTIFICATION	
Classification of the substance/mixture:	Acute Toxicity (Oral) Category 4 Acute Toxicity (Dermal) Category 5 Acute Toxicity (Inhalation) Category 5 Skin Irritation Category 3 Eye Damage Category 1 Skin Sensitization Category 1 STOT RE Category 2 Aquatic Acute Category 1 Aquatic Chronic Category 1
Label elements: Globally Harmonized System, EU (GHS):	<p>Pictograms:</p>  <p>Signal Word: Danger</p> <p>Hazard Statements: H228: Flammable solid.</p>

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

H302: Harmful if swallowed.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H332: Harmful if inhaled.
H335: May cause respiratory irritation.
H361fd: Suspected of damaging the unborn child.
H373: May cause damage to organs through prolonged or repeated damage.
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.
P262: Do not get in eyes, on skin, or on clothing.
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.
P405: Store locked up.

Hazard symbols:

Xn – Harmful
Xi - Irritant
N – Dangerous for the environment

Risk – Phrase(s):

R22: Harmful if swallowed.
R43: May cause sensitization by skin contact.
R48/22: Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety – Phrase(s):

S2: Keep out of the reach of children.
S36/37: Wear suitable protective clothing and gloves.
S46: If swallowed, seek medical advice immediately and show this container or label.
S60: This container and its contents must be disposed of as hazardous waste.
S61: Avoid release to the environment. Refer to special instructions/Safety datasheets.

3) COMPOSITION / INFORMATION ON INGREDIENTS:

Mixture:

Chemical name	Composition	CAS No.	EC No.	Classification according to Regulation EC 1272/2008 (CLP)	Classification according to 67/548/EEC
Cymoxanil	25%	57966-95-7	261-043-0	Acute Tox. 4 (H302) Skin Sens.1 (H317) Repr. 2 (H361fd) STOT RE 2 (H373) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	Xn, N, R22, R43, R50-53; S2, S36/37, S60, S61

Famoxadone	25%	131807-57-3	612-206-00-3	STOT RE 2 (H373) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	Xn, N, R22 R48, R50-53; S2, S46, S60, S61
Sodium dodecyl sulphate	3%	151-21-3	205-788-1	Acute Tox 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 3 (H412) Flam Sol. 2 (H228) Acute Tox 4 (H332) STOT SE 3 (H335, inhalation)	

4) FIRST AID MEASURES

Description of First-aid measures:

Eye contact:

Immediately flush eyes with plenty of water. Remove contact lenses, if worn, and flush eyes with water for at least 15 minutes, holding eyelids open. **Seek medical assistance.**

Skin contact:

Remove contaminated clothing and shoes immediately. Immediately wash skin with soap and plenty of water. Seek medical attention in case of skin irritation or allergic reaction. Wash contaminated clothing before re-use.

Ingestion:

If swallowed, do not induce vomiting: **seek medical advice immediately** and show this document. Never give anything by mouth to an unconscious person. If victim is alert, rinse mouth thoroughly with water and give victim large volumes of water to drink. Keep victim calm.

Inhalation:

Remove victim to well ventilated area and loosen clothing around the neck. Keep victim calm and warm. Qualified personnel should administer oxygen or artificial respiration if necessary. Seek medical attention if irritation persists.

Most important symptoms and effects, both acute and delayed:

None known.

Indication of any immediate medical attention and special treatment needed: Advice to physician

Symptomatic treatment, no specific antidote known.

5) FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Water spray, foam, carbon dioxide (CO₂), dry powder.

Unsuitable extinguishing media:

Do not use high volume water jet, due to contamination risk.

Specific Hazards arising from the substance/mixture:

Fire may produce irritating or poisonous vapours such as carbon dioxide or nitrogen oxides.

Fire Fighting:

Remove spectators from surrounding area. Use a recommended extinguishing agent. Fight fire from a maximum distance and use an unmanned hose holder or monitor nozzles. Dike extinguishing media for later disposal, do not allow to reach sewage or water systems. Dispose of fire debris and contaminated extinguishing water according to regulations. Water can be used to cool unaffected containers but must be contained for later disposal. Avoid pollution of groundwater and waterways. In the case of small fires, allow the fire to burn itself out as use of water may increase the area of contamination

Protective clothing:


Fire-fighters and others that may be exposed should wear self-contained breathing apparatus.

6) ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	Remove personnel and control access. Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Wear personal protective clothing according to operator safety during removal of spillage. Ensure good ventilation.												
Environmental precautions:	If considered safe to do so, prevent further spillage. Do not contaminate waterways, drains, sewer systems and groundwater. Notify government occupational health, safety and environmental authorities if product should enter water sources. Considered a marine pollutant.												
Methods and material for containment and cleaning up:	<p>Clear area of unprotected personnel. Wear protective gear as mentioned in section 8 below. Contain the spill and stop leak provided it is safe to do so. Avoid dust formation. Collect by wet brushing or using an electrically protected, industrial vacuum cleaner. Collect waste in a suitable container which can be labelled and sealed for disposal according to local regulations. Clean contaminated areas thoroughly with water containing detergent. Collect washings to avoid any contamination of surface and ground water, water supplies and drains.</p> <p>Dispose of in accordance with local regulations. Never return spilled product to original container for re-use.</p>												
7) HANDLING & STORAGE													
Precautions for Safe Handling:	Ensure thorough ventilation of work and storage areas. Avoid contact with skin, eyes and clothes. Do not breathe in dust or spray. Wear suitable personal protective equipment as described in section 8. Do not eat, drink, smoke or apply cosmetics while using. Wash hands thoroughly with soap and water after handling, and before eating, tobacco use, drinking, or using the toilet. Sources of heat or ignition should be kept a safe distance away. Dust may form an explosive mixture in air. Do not apply directly to areas where surface water is present. Water used to clean equipment must be disposed of correctly to avoid contamination.												
Conditions for Safe Storage, including any incompatibilities:	Store in the original, clearly labelled container. Keep tightly closed in a dry, well-ventilated place away from foodstuffs, fertilisers and seeds. Store in a restricted area, away from animals, children or uninformed persons. Do not contaminate water, food or feed by storage or disposal.												
8) EXPOSURE CONTROL / PERSONAL PROTECTION													
Appropriate Engineering Controls:	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.												
Control Parameters: Occupational Exposure Limits:	<table><tr><td>Ingredient</td><td>CAS#</td><td>Limit</td><td>Basis</td></tr><tr><td>Cymoxanil</td><td>57966-95-7</td><td>2 mg/m³</td><td>AEL, 8h TWA</td></tr><tr><td>Famoxadone</td><td>131807-57-3</td><td>2 mg/m³</td><td>AEL, 15min TWA</td></tr></table>	Ingredient	CAS#	Limit	Basis	Cymoxanil	57966-95-7	2 mg/m ³	AEL, 8h TWA	Famoxadone	131807-57-3	2 mg/m ³	AEL, 15min TWA
Ingredient	CAS#	Limit	Basis										
Cymoxanil	57966-95-7	2 mg/m ³	AEL, 8h TWA										
Famoxadone	131807-57-3	2 mg/m ³	AEL, 15min TWA										
<u>PERSONAL PROTECTIVE EQUIPMENT:</u>													
Clothing:	Employee must wear appropriate protective (impervious) clothing related to the activity performed e.g. mixing, preparing concentrate, or spraying. Wear full protective clothing and rubber or plastic boots.												
Gloves:	Employee must wear appropriate chemical-resistant gloves to prevent contact with the substance. The use of nitrile gloves is recommended.												
Eye protection:	The use of safety goggles with side-shields is recommended.												
Respiratory protection:													

Emergency eye wash:	<p>Wear suitable respiratory equipment to protect from dust and spray mist.</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>
9) PHYSICAL & CHEMICAL PROPERTIES	
Form:	Solid granules
Colour:	Brown
Odour:	Characteristic
Solubility:	Disperses in water
pH:	4 – 5.5
Odour Threshold:	No data available
Melting point/Freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point:	No data available
Evaporation rate:	Not applicable
Flammability (solid, gas):	Not flammable
Upper/lower flammability or explosive limits:	Not explosive
Vapour pressure:	Not applicable
Vapour density:	Not applicable
Relative density:	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	Not applicable
10) STABILITY & REACTIVITY	
Reactivity:	Stable under normal storage conditions.
Chemical stability:	When stored appropriately this product should show no significant degradation for 2 years from the date of manufacture.
Possibility of hazardous reactions:	None known.
Conditions to avoid:	Protect from direct sunlight or heat to avoid thermal decomposition. Severe dusting conditions may lead to the formation of explosive mixtures in air.
Incompatible materials:	None known.
Hazardous decomposition product(s):	Fires can release carbon dioxides and nitrogen.
11) TOXICOLOGICAL INFORMATION	
Acute Toxicity:	
Oral:	LD50 > 1 600 mg/kg, rat.
Dermal:	LD50 > 3 800 mg/kg, rat.
Inhalation:	LC50 4h > 5.06 mg/L, rat (Cymoxanil) > 5.3 mg/L, rat (Famoxadone)
Skin Corrosion/Irritation:	May cause minor irritation.
Serious Eye Damage/Irritation:	May cause minor irritation.
Respiratory or Skin Sensitization:	Not a skin sensitizer, guinea pig.
Germ Cell Mutagenicity:	No data available.
Carcinogenicity:	Animal testing did not show any carcinogenic effects.
Reproductive Toxicity:	Suspected of damaging the unborn child.
STOT-SE:	May cause respiratory irritation.

STOT-RE:	May cause damage to organs through prolonged or repeated damage.
Aspiration Hazard:	No data available.
12) ECOLOGICAL INFORMATION	
<u>Ecotoxicity: Cymoxanil</u> Birds: Fish: Daphnia: Algae: Worms: Bees:	Acute oral LD ₅₀ > 2 250 mg/kg bobwhite quail and mallard ducks. LC ₅₀ (96h) rainbow trout 61 mg/L, bluegill sunfish 29 mg/L, common carp 91mg/L, sheepshead minnows >47.5 mg/L. LC ₅₀ (48h) 27 mg/L. EC ₅₀ (5d) <i>Selenastrum capricornutum</i> 1.21 mg/L, EC ₅₀ for <i>Anabena flos-aquae</i> 231ppb. LC ₅₀ (14d) 2 208 mg/kg soil. Practically non-toxic.
<u>Ecotoxicity: Famoxadone</u> Birds: Fish: Daphnia: Algae: Worms: Bees:	Acute oral LD ₅₀ > 2 250 mg/kg bobwhite quail, dietary LC ₅₀ (5d) > 5 260 mg/kg bobwhite quail and mallard ducks. LC ₅₀ (96h) rainbow trout 0.011 mg/L, sheepshead minnows 0.049 mg/L, carp 0.17 mg/L. EC ₅₀ (48h) 0.012 mg/L. E _b C ₅₀ (72h) <i>Scenedesmus capricornutum</i> 0.022 mg/L. LC ₅₀ (14d) earthworms 470 mg/kg soil. LD ₅₀ for honeybees > 25 µg/bee, LD ₅₀ (48h) > 1 000 ppm.
Persistence and Degradability:	Cymoxanil: In lab. soils, DT ₅₀ 0.75–1.6 d (5 soils, pH range 5.7–7.8, o.m. 0.8–3.5%). In the field, DT ₅₀ (bare soil) 0.9–9 d. In aquatic studies, DT ₅₀ <1 d. K _{oc} 38–237. Famoxadone: In laboratory soil, DT ₅₀ 6 d (aerobic, 20 °C, 40–50% MWHC, pH (5.3–8.0, 1.1–2.9% o.m.), 28 d (anaerobic, 20 °C, pH 7.2, 1.4% o.m.). Degradation routes include hydroxylation (at the 4'-phenoxyphenyl position) and ring opening (with formation of a glycolic acid derivative), and is primarily microbial; it is accelerated by light (K. M. Jernberg <i>et al.</i> , <i>ibid.</i> , 6A-009). Mean K _{oc} 3632 (4 soils); mean K _d 70 (4 soils).
Bio-accumulative Potential:	Cymoxanil: Majority of the dose was excreted in the urine. Famoxadone: Elimination is rapid.
Mobility in Soil:	Cymoxanil is mobile, adsorption Freundlich K 0.29– 2.86 in four soil types.
13) DISPOSAL CONSIDERATIONS	
Waste Disposal:	Waste or spillage should not be re-used. Do not contaminate water sources, food or feed by disposal. Wastes resulting from the use of this product should be disposed of by according to local regulations and preferably by an approved chemical waste disposal/incineration facility. Do not dispose of undiluted chemical on site.
Container Disposal:	Refer to the product label for instructions. Containers must be emptied completely before disposal. Shake the container into the spray tank until the container is empty. Destroy empty containers by perforating and flattening before disposal according to local regulations, preferably by an approved chemical waste disposal/incineration facility or landfill. Do not contaminate water sources, food or feed by disposal. DO NO REUSE THE CONTAINER FOR ANY OTHER PURPOSE.
14) TRANSPORTATION INFORMATION	
Road transport ADR / IRD:	UN Number: 3077 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Cymoxanil, Famoxadone) Transport Hazard Class: 9 Packaging group: III Hazard label: 9 Environmental Hazards: Not applicable Special Precautions for User: Read safety instructions, SDS and emergency procedures before handling

Maritime transport IMDG / IMO:	UN Number: 3077 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Cymoxanil, Famoxadone) Transport Hazard Class: 9 Packaging group: III Hazard label: 9 Environmental Hazards: Marine pollutant Special Precautions for User: Read safety instructions, SDS and emergency procedures before handling. 
Air transport IATA / ICAO:	UN Number: 3077 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Cymoxanil, Famoxadone) Transport Hazard Class: 9 Packaging group: III Hazard label: 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 MERCHANT ABILITY, 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.</p> <p>Date of issue: 08/09/2016 Date of revision: 13/01/2021</p> <p>Abbreviations and acronyms:</p> <ol style="list-style-type: none"> 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. STOT: Specific Target Organ Toxicity 8. SE: Single exposure 	

9. RE: Repeated exposure
10. TWA: Time-weighted average.
11. AEL: Airborne Exposure Limit

Literature References:

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