



# MATERIAL SAFETY DATA SHEET

## Section 4: First Aid Measures

### General Advice:

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor (at once). Have this MSDS with you when you call.

### Description of necessary first aid measures

#### Inhalation:

Remove from exposure area to fresh air immediately, seek medical attention.

#### Skin Contact:

Remove contaminated clothing and shoes immediately and wash with plenty of water and soap. If symptoms persist seek medical attention.

#### Eye Contact:

If in eyes, hold eyelids apart and flush the eye continuously with large amounts of water for at least 15 minutes.). Seek medical attention if symptoms persist.

#### Ingestion:

If swallowed, do not induce vomiting. Immediately rinse mouth with water. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

### Symptoms caused by exposure

Incidences of exposure to other strobilurin fungicides involved upper respiratory tract pain, irritation, chest pain, eye pain, pruritus (itchiness), skin redness, weakness, headache and dizziness. Clinical signs and symptoms reported in test animals include increased salivation, vomiting, regurgitation, urinary incontinence and fluid faeces. Azoxystrobin has caused moderate eye irritation in rabbits.

### Medical attention and special treatment

Treat symptomatically. There is no specific antidote available.

## Section 5: Fire Fighting Measures

### Suitable extinguishing equipment:

Water fog or spray, foam, carbon dioxide (CO<sub>2</sub>) or dry chemical. Do not use extinguishes which may spread fire (eg solid water stream).

### Specific hazards arising from the chemical

Oxides of carbon and nitrogen

### Special protective equipment and precautions for fire fighters

In case of fire and/or explosion do not breathe fumes. Wear self-contained breathing apparatus and chemical-protective clothing.

## Section 6: Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

Avoid contact with eyes and skin. Wear cotton overalls or chemical resistant clothing buttoned to the neck and wrist and elbow length PVC or nitrile gloves. After use, wash gloves and contaminated clothing.

### Environmental precautions

In the event of a spill, prevent spillage from entering drains or water courses with absorbent material and call emergency services.

### Methods and materials for containment and cleaning up

Contain spill by absorbing with clay, sand, soil or proprietary absorbent (such as vermiculite). Cover drains if possible. Collect spilled material and waste in sealable open-top type containers for disposal.

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<b>Section 7: Handling And Storage</b>	
<b>Precautions for safe handling</b>	Read container label before use. Use only in accordance with the instructions provided on the container label, including the Precaution and Protection sections and the Safety Directions.
<b>Conditions for safe storage</b>	Store in the closed, original container in a dry, well ventilated area, as cool as possible.
<b>Section 8: Exposure Controls / Personal Protection</b>	
<b>Exposure control measures</b>	No exposure standards have been set for this product or its ingredients
<b>Biological monitoring</b>	No biological limit allocated for the product or any of its ingredients. No biological monitoring is required.
<b>Control Banding</b>	No control banding level allocated.
<b>Engineering controls</b>	Use only in a well ventilated area.
<b>Individual protection measures</b>	When opening the container and preparing the spray wear cotton overalls or chemical resistant clothing buttoned to the neck and wrist and elbow length PVC or nitrile gloves. After each day's use, wash gloves and contaminated clothing. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.
<b>Section 9: Physical and Chemical Properties</b>	
<b>Appearance:</b>	Off white liquid
<b>Odour:</b>	Minimal odour
<b>pH:</b>	7.0-8.0 (100% w/v)
<b>Vapour pressure:</b>	1.1x10 <sup>-7</sup> mPa @ 25°C (Azoxystrobin)
<b>Octanol-Water Partition Coefficient (K<sub>ow</sub>):</b>	3.60x10 <sup>2</sup> (Azoxystrobin)
<b>Henry's constant:</b>	7.4 x 10 <sup>-9</sup> Pa·m <sup>3</sup> /mol (Azoxystrobin)
<b>Specific gravity:</b>	1.082 kg/L
<b>Solubility (water)</b>	6.7 mg/L (Azoxystrobin) Azo-Force 250SC Fungicide is a suspension in water.
<b>Ignition temperature:</b>	No data available. Azoxystrobin is not highly flammable
<b>Section 10: Stability And Reactivity</b>	
<b>Reactivity:</b>	
<b>Chemical stability:</b>	Stable under normal storage conditions and use.
<b>Possibility of hazardous reactions:</b>	None when stored and used as directed. Hazardous polymerisation is not possible.
<b>Conditions to avoid:</b>	None known. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.
<b>Incompatible materials:</b>	No particular incompatibilities. Store and use as directed. Avoid strong acids, strong bases and strong oxidising agents
<b>Hazardous decomposition products</b>	None known. Store and use as directed.
<b>Section 11: Toxicological Information</b>	
<b>Acute Oral (LD<sub>50</sub>):</b>	11051 mg/kg (rat, calculated from ingredients) Category 5
<b>Acute Dermal (LD<sub>50</sub>):</b>	5467mg/kg (rabbit, calculated from ingredients) Category 5
<b>Acute Inhalation (LC<sub>50</sub>):</b>	No data for the product. Azoxystrobin is low to moderate in toxicity by inhalation as a spray mist. The 4-hour LC50 is 0.69 mg/L in rats
<b>Skin irritation:</b>	Not considered a skin irritant (rabbit)
<b>Eye irritation:</b>	Moderate eye irritant (rabbit)
<b>Skin sensitisation:</b>	Not a sensitizer (Magnusson & Kligman test)
<b>Genotoxicity (mutagenicity)</b>	No data for the product. Azoxystrobin is not considered to be genotoxic via in-vitro and in-vivo studies.

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<b>Carcinogenicity:</b>	No data for the product. Azoxystrobin is not considered to be carcinogenic (52 week rat studies). Azoxystrobin did not cause mutations in human lymphocytes, Chinese hamster V79 cells, <i>Salmonella</i> (Ames test), or mouse micronuclei.
<b>Reproductive toxicity:</b>	No data for the product. Azoxystrobin is not considered to have reproductive toxicity. No developmental abnormalities were reported for azoxystrobin administered to rats and rabbits at oral doses up to 165.4 mg/kg bw/d and 500 mg/kg bw/d respectively. Azoxystrobin was not embryotoxic, fetotoxic or teratogenic at doses of up to 300 and 500 mg/kg bw per day in rats and rabbits, respectively.
<b>Specific Target Organ Toxicity – single exposure:</b>	No data for the product. For azoxystrobin a study of acute neurotoxicity in rats found no treatment-related effects on motor activity parameters, brain measurements (weight, length and width) or neurohistopathology at doses of up to and including 2000 mg/kg bw..
<b>Specific Target Organ Toxicity – repeat exposure:</b>	No data for the product. Tests involving repeated azoxystrobin exposure found the major target organs in rats were the liver, kidney and bile duct as shown by changes in organ weights, histopathology, and clinical chemistry parameters.
<b>Aspiration hazard:</b>	No data for the product or Azoxystrobin.

### Inhalation

Azoxystrobin has sufficiently low vapour pressure so that Azoxystrobin does not readily volatilize. Use as per label instructions (low pressure spray) is unlikely to result in significant inhalation exposure. Breathing in very high concentrations of spray mist through use of this product may cause changes in activity, tremors, convulsions, and seizures.

### Skin Contact

The product is not considered a skin irritant. Repeated exposure to Azoxystrobin can result in skin sensitisation. Care should be taken to avoid future exposure.

### Eye Contact

Product may irritate the eyes.

### Ingestion

Possible symptoms of exposure include changes in activity, tremors, convulsions, and seizures.

### Exposure levels and health effects

The acute reference dose (ARfD) for Azoxystrobin is 0.02 mg/kg body weight based on a combined NOEL of 2.5 mg/kg bw/day from two acute neurotoxicity studies in rats and a safety factor of 100.

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### Section 12: Ecological Information

#### ENVIRONMENTAL TOXICITY

<b>Ecotoxicity:</b>	<b>Information on Azoxystrobin, the primary environmental toxicant.</b>
Fish:	LC50 (96 h) 0.47 mg/l, <i>Oncorhynchus mykiss</i> NOEC (21 d) 0.147 mg/l, <i>Pimephales promelas</i>
Aquatic invertebrates:	EC50 (48 h) 0.23 mg/l, <i>Daphnia magna</i> NOEC (21 d) 0.044 mg/l, <i>Daphnia magna</i> EC50 (96 h) 0.055 mg/L Mysid shrimp NOEC (28 d) 0.8 mg/L <i>Chironomus riparius</i>
Aquatic plants:	EC50 (7 day) 3.2 mg/l (biomass), <i>Lemna gibba</i> EC50 (72 h) 0.36 mg/l (growth), <i>Pseudokirchneriella subcapitata</i>
Birds:	Acute oral LD50 >2000 mg/kg <i>Colinus virginianus</i> (bobwhite quail) Short-term dietary LC50 >1179 mg/kg
Terrestrial insects:	<i>Aphidius rhopalosiphi</i> LR50 >1 kg/ha (harmless) <i>Typhlodromus pyri</i> LR50 >1 kg/ha (harmless)
<b>Persistence and degradability</b>	Half-life of Azoxystrobin is 78-600 days in aerobic soils (moderately persistent). No evidence of volatility Azoxystrobin is stable to hydrolysis at pH 7 and is not pH sensitive.
<b>Bioaccumulative potential</b>	Azoxystrobin bioaccumulation potential is considered to be low
<b>Mobility in soil</b>	Slightly to moderately mobile Koc = 589 (Linear) Kd = 8.93 (Linear) Kf = 7.35 (Freundlich) Kfoc = 425 (Freundlich)

### Section 13: Disposal Considerations

#### Product Disposal:

Product Disposal On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).

#### Container Disposal

Do not use this container for any other purpose. Triple or preferably pressure rinse empty containers before disposal or recycling. Add rinsings to spray tank. Contact licensed industrial waste collector for proper disposal.

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Section 14: Transport Information	
<b>UN Number:</b>	3082 (Azoxystrobin)
<b>UN Proper Shipping Name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains AZOXYSTROBIN 25%)
<b>Transport hazard class</b>	9
<b>Packing Group:</b>	III
<b>Environmental hazards for Transport Purposes</b>	Marine Pollutant
<b>Special precautions for user:</b>	None
<b>Hazchem</b>	2X

**ADG Code:**

NOT considered dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Section 15: Regulatory Information	
<b>SUSDP:</b>	5 - CAUTION
<b>Commonwealth requirements:</b>	None
<b>AgVet Code Act 1994:</b>	Registered - 68835

Section 16: Other Information	
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**References:**

1. FAO 2009. 5. EVALUATION OF DATA FOR ACCEPTABLE DAILY INTAKE AND ACUTE DIETARY INTAKE FOR HUMANS, MAXIMUM RESIDUE LEVELS AND SUPERVISED TRIAL MEDIAN RESIDUE VALUES 5.1 AZOXYSTROBIN (229). <ftp://ftp.fao.org/docrep/fao/011/i0450e/i0450e05.pdf>
2. National Library of Medicine (USA) TOXNET Azoxystrobin <http://toxnet.nlm.nih.gov/cgi-bin/sis/search/a?dbs+hsdb:@term+@DOCNO+7017>
3. IUPAC Agrochemical Information <http://sitem.herts.ac.uk/aeru/iupac/54.htm>

**Acronyms**

AgVet Code Act 1994 – Agricultural and Veterinary Chemicals Code Act 1994

LD50 or LC50 – Estimated lethal dose / concentration to kill 50% of the population/sample.

SUSDP - Standard for the Uniform Scheduling of Drugs and Poisons

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