



# SAFETY DATA SHEET

## Ardent 50 SC

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Version 1

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### Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### Product identifier

## Ardent 50 SC

Synonyms	Kresoxim methyl 500 SC
Pure substance/mixture	Mixture
Formula	SC

#### Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Fungicide
Uses advised against	No information available

#### Details of the supplier of the safety data sheet

Supplier Address	ADAMA SOUTH AFRICA (PTY) LTD Ground Floor, Simeka House The Vineyards Office Estate 99 Jip de Jager Drive Bellville 7530
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For further information, please contact

Email address	SDS@ADAMA.COM
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#### Emergency Telephone

Emergency Telephone	+ 27 82 446 8946 + 27 86 155 5777 + 27 21 982 1460
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### Section 2: HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

Carcinogenicity	Category 2 - (H351)
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)

#### Label Elements

#### Hazard pictograms



**Signal word** Warning

**Hazard Statements** H351 - Suspected of causing cancer  
H410 - Very toxic to aquatic life with long lasting effects

**Precautionary Statements** P102 - Keep out of reach of children  
P201 - Obtain special instructions before use  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P501 - Dispose of contents/ container to an approved waste disposal plant

**Other Hazards**  
No information available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

Chemical Name	Weight-%	CAS No	EC No	GHS Classification	M-Factor
Kresoxim methyl	44-49	143390-89-0		Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Carc. 2 (H351)	
Oxirane, methyl-, polymer with oxirane, monobutyl ether	2.0-3.0	9038-95-3		Acute Tox. 3 (H331) Skin Irrit. 3 (H316)	

### Section 4: FIRST AID MEASURES

**First aid measures**

**General advice** If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

**Inhalation** Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician.

**Skin Contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary.

**Eye contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

**Ingestion** Rinse mouth. Drink plenty of water. If symptoms persist, call a physician.

**Self-protection of the first aider** Use personal protective equipment as required.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** None known.

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**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

**Section 5: FIRE-FIGHTING MEASURES**

**Extinguishing media**

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media**

No information available.

**Special hazards arising from the substance or mixture**

No specific hazard known.

**Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus  
In the event of fire and/or explosion do not breathe fumes.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**

Use personal protective equipment as required.

**For emergency responders**

Use personal protection recommended in Section 8.

**Environmental precautions**

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

**Methods and material for containment and cleaning up**

**Methods for cleaning up**

Take up mechanically, placing in appropriate containers for disposal.

**Reference to other sections**

**Other Information**

See also section 8,13

**Section 7: HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling**

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

**General Hygiene Considerations**

When using do not eat, drink or smoke. Wash contaminated clothing before reuse.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

**Specific end use(s)**

**Risk Management Methods (RMM)**

The information required is contained in this Material Safety Data Sheet.

**Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**National occupational exposure limits**

**Exposure controls**

**Engineering Controls** Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.

**Hand Protection** Suitable chemical resistant gloves (EN 374) also with prolonged, direct contact (recommendation: protection index 6, corresponding > 480 minutes Permeability time (permeation) according to EN 374): e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm).

**Body Protection** Use suitable protective clothing and equipment if required, such as safety goggles certified to EN 166, gloves certified to EN 374, protective boots certified to EN 13832, and/or a water repellent woven coverall with 65% polyester and 35 % cotton.

**Respiratory protection** Use only with adequate ventilation.

**General Hygiene Considerations** When using do not eat, drink or smoke. Wash contaminated clothing before reuse.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Physical and Chemical Properties**

<u>Property</u>	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
<b>Appearance</b>			
Physical state	: liquid		
Color	: Off-white		
Odor	: characteristic		
Odor threshold	: No data available		
pH	: 5-6		
Melting point/freezing point °C	: No data available		
Boiling point/boiling range °C	: No data available		
Flash point °C	: No data available		
Evaporation rate	: Not Applicable		
Flammability (solid, gas)	: Not Applicable		
Upper/lower flammability or explosive limits	: No data available		
Vapor pressure kPa	: No data available		
Vapor density	: No data available		
Relative density	: 1.11-1.14		
Solubility(ies) mg/l	: No data available		
Partition Coefficient			

<b>(n-octanol/water) Log Pow</b>	:	See Section 12 for more information
<b>Autoignition temperature °C</b>	:	No data available
<b>Decomposition temperature °C</b>	:	No data available
<b>Kinematic viscosity mm<sup>2</sup>/s 40 °C</b>	:	Not Applicable
<b>Explosive properties</b>	:	Not an explosive
<b>Oxidizing properties</b>	:	No data available
<b>Other Information</b>		
<b>Bulk density g/ml</b>	:	
<b>Surface tension mN/m</b>	:	Not Applicable

## Section 10: STABILITY AND REACTIVITY

### Reactivity

Not available.

### Chemical stability

Stable under normal conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Conditions to avoid

Heat, flames and sparks.

### Incompatible Materials

No information available

### Hazardous Decomposition Products

None under normal use conditions.

## Section 11: TOXICOLOGY INFORMATION

### Information on toxicological effects

#### Acute toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
<b>Oral LD50 mg/kg</b>	: >2000	Rat	OECD 423	
<b>Dermal LD50 mg/kg</b>	: >2000	Rat	OECD 402	
<b>Inhalation LC50 mg/l/4h</b>	:	Rat	OECD 403	Not available
<b>Skin corrosion/irritation</b>	: Non-irritating to the skin	Rabbit	OECD 404	
<b>Serious eye damage/eye irritation</b>	: Not irritating to eyes	Rabbit		
<b>Respiratory/skin sensitization</b>	: Not a sensitizer	Guinea pig	OECD 406	

#### Chronic toxicity

#### Germ cell mutagenicity

**Chemical Name**  
Kresoxim methyl : Not classified

#### Carcinogenicity

**Chemical Name**  
Kresoxim methyl : Carcinogenic category 2

**Reproductive toxicity**

**Chemical Name**

Kresoxim methyl : Not classified

**STOT - single exposure**

**Chemical Name**

Kresoxim methyl : No data available

**STOT - repeated exposure**

**Chemical Name**

Kresoxim methyl : No data available

**Aspiration hazard**

**Section 12: ECOLOGICAL INFORMATION**

**Toxicity**

**Aquatic toxicity**

**Acute toxicity**

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Fish 96-hour LC50 mg/l	: 0.6	Rainbow trout	OECD 203	
Crustacea 48-hour EC50 mg/l	: 0.2	Daphnia magna	OECD 202	
Algae 72-hour EC50 mg/l	: 0.23	D. Subspicatus	OECD 201	
Other plants EC50 mg/l	:	Lemna	OECD 221	7 days

**Chronic aquatic toxicity**

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Fish NOEC mg/l	: No data available			
Crustacea NOEC mg/l	: No data available			
Algae NOEC mg/l	: No data available			
Other plants NOEC mg/l	: No data available			

**Terrestrial Toxicity**

**Birds Oral LD50 mg/kg**

**Chemical Name**

Kresoxim methyl : >2000 Japanese quail

**Bees Oral LD50 µg/bee**

**Chemical Name**

Kresoxim methyl : >100

**Persistence and degradability**

**Abiotic Degradation**

	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
Water DT50 days			

**Soil DT50 days**

**Biodegradation**

**Bioaccumulative potential**

**Partition Coefficient**

	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
(n-octanol/water) Partition Coefficient (n-octanol/water) Log Pow			

**Bioconcentration factor (BCF)**

**Mobility in soil**

<u>Adsorption/Desorption</u>	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
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**Results of PBT and vPvB assessment**

The components in this formulation do not meet the criteria for classification as PBT or vPvB

**Other adverse effects**

No information available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Waste from residues/unused products** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging** Improper disposal or reuse of this container may be dangerous and illegal.

**Other Information** Waste codes should be assigned by the user based on the application for which the product was used.

**Section 14: TRANSPORTATION INFORMATION**

**IMDG/IMO**

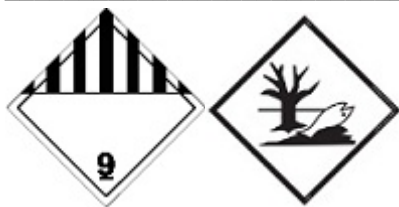
<b>UN/ID No *</b>	3082
<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( Kresoxim methyl )
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Marine pollutant</b>	Yes
<b>Special precautions for user</b>	

**RID/ADR**

<b>UN/ID No *</b>	3082
<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( Kresoxim methyl )
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Environmental hazard</b>	Yes
<b>Special precautions for user</b>	

**ICAO/IATA**

<b>UN/ID No *</b>	3082
<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( Kresoxim methyl )
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Environmental hazard</b>	Yes
<b>Special precautions for user</b>	
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not Applicable



\* Note: UN3077 & UN3082 – These products may be transported as non-dangerous goods under the special provisions of IMDG Code 2.10.2.7; ADR SP375 and ICAO/IATA A197 when packed in single or inner packaging of up to 5L for liquids or 5 kg or less for solids.

## Section 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

## Section 16: OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3

H400 - Very toxic to aquatic life  
H410 - Very toxic to aquatic life with long lasting effects  
H351 - Suspected of causing cancer if inhaled  
H331 - Toxic if inhaled  
H316 - Causes mild skin irritation

### Revision Note

Changes made to the last version are labeled with this sign \*\*\*.

### List of Acronyms

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road  
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
CAS Number - Chemical Abstracts Service number  
EC Number - EINECS and ELINCS Number  
EINECS - European Inventory of Existing Commercial Substances  
ELINCS - European List of notified Chemical Substances  
IATA - International Air Transport Association  
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air  
IMDG - International Maritime Dangerous Goods  
LC50 - Lethal Concentration to 50 % of a test population  
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)  
OECD - Organization for Economic Co-operation and Development  
PBT - Persistent, Bioaccumulative and Toxic substance  
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail  
STOT - Specific Target Organ Toxicity  
vPvB - Very Persistent and Very Bioaccumulative

### Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet