

## PRODUCT SAFETY DATA SHEET

### STRAND

**1. † Identification of the Preparation and the Company**

Trade name: STRAND  
A fungicide for use in agriculture

**Company Identification**

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- 2. Hazards**
- |  |
|--|
| Harmful Xn   |
| Dangerous for the environment N                                    |
| R20 Harmful by inhalation  |
| R40 Limited evidence of a carcinogenic effect                      |
| R62 Possible risk of impaired fertility                            |
| R63 Possible risk of harm to the unborn child                      |
| R50 Very toxic to aquatic organisms                                |
| R53 May cause long-term adverse effects in the aquatic environment |

**3. Composition**

A suspension concentrate containing 125 g/l of epoxiconazole

Hazardous components:

Epoxiconazole (ISO)	12.0% w/w
CAS No.	133855-98-8
Hazard symbols	Harmful Xn
	Dangerous for the environment N
Risk phrases	R40 Limited evidence of a carcinogenic effect (Carc3)
	R62 Possible risk of impaired fertility (Rep3)
	R63 Possible risk of harm to the unborn child (Rep3)
	R50 Very toxic to aquatic organisms
	R53 May cause long-term adverse effects in the aquatic environment

Ethoxylated/alkoxylated C16-C18 alcohols 22.0 % w/w

CAS No. n/a

Hazard Symbols Toxic T  
Dangerous for the environment N

Risk phrases R23 Toxic by inhalation  
R50 Very toxic to aquatic organisms

Solvent naphtha 14.0 % w/w

CAS No. 64742-94-5

Hazard Symbols Harmful Xn  
Dangerous for the Environment N

Risk phrases R65 Harmful – may cause lung damage if swallowed  
R66 Repeated exposure may cause skin dryness and cracking.  
R51 Toxic to aquatic organisms  
R53 May cause long-term adverse effects in the aquatic environment

1,2-Benzisothiazol-3(2H)-one 0.01 % w/w

CAS No. 2634-33-5

Hazard Symbols Harmful Xn  
Dangerous for the environment N

Risk phrases: R22 Harmful if swallowed.  
R38 Irritating to skin and respiratory system  
R41 Risk of serious damage to eyes  
R43 May cause sensitisation by skin contact  
R50 Very toxic to aquatic organisms  
R53 May cause long-term adverse effects in the aquatic environment

#### 4. First Aid Measures

Eyes: Irrigate with clean water for at least 15 minutes and seek medical attention if any irritation or redness persists.

Skin: Remove contaminated clothing. Wash thoroughly with soap and water. Seek medical attention if any irritation or redness persists.

Ingestion: If swallowed wash out mouth with water and give several glasses of water or milk. Do NOT induce vomiting. If vomiting occurs, rinse mouth and give fluids again. Obtain medical attention immediately.

Inhalation: Remove from exposure and provide maximum ventilation. Seek medical attention if the discomfort does not disappear.

Guide to Doctors  
There is no specific antidote for exposure to this product. Treatment should be symptomatic and supportive. Gastric lavage and/or administration of activated charcoal can be considered.

**5. Fire Fighting Measures**

This product will not burn. If involved in a fire, fumes and vapours will be toxic and malodorous and include oxides of carbon and nitrogen, hydrogen fluoride, hydrogen chloride, and other chlorinated and fluorinated organic compounds. Fire fighters should wear protective clothing and breathing apparatus.

Use dry chemical, foam, water spray, sand or earth but avoid high pressure water jets.

Prevent entry of the product or contaminated water into watercourses ditches or drains by bunding the area with sand or earth.

If possible, remove intact containers from exposure to fire and spray unopened containers with water mist to keep them cool.

**6. Accidental Release (Spillage)**

Wear suitable protective clothing (see Section 8). Remove contaminated clothing immediately. Do not eat drink or smoke. Keep bystanders away. Absorb spillage with inert material (e.g. sand, earth, Fullers Earth, bentonite clay), shovel or sweep up and transfer to a labelled container for later removal to a safe place for disposal.

Wash down the area with plenty of water and industrial detergent when all traces of the spill have been removed. Absorb wash liquid with absorbent and transfer to containers. Do not allow wash water to enter drains. Large spills which soak into the ground should be dug up and transferred to labelled metal drums.

Prevent the spillage from entering watercourses sewers or drains by bunding if necessary. Inform the authorities immediately if contamination of waterways, sewers or drains is threatened or occurs.

**7. Storage and Handling**

Wash all protective clothing thoroughly after use especially the insides of gloves. Wash hands and exposed skin before meals and after work.

Keep in original container, tightly closed.

Keep cool and dry in a suitable agricultural chemical store under lock and key away from food, drink and animal feedingstuffs and out of reach of children.

Protect from frost.

**8. Personal Protection**

Wear suitable protective clothing and gloves when handling the concentrated product or contaminated surfaces.

Barrier-laminated, butyl rubber or nitrile rubber gloves are recommended. Decontaminate all personal protective equipment after use. Avoid breathing vapours.

Occupational Exposure Limits:       None assigned

**9. Physical and Chemical Properties**

Appearance:	An off-white mobile liquid.
Odour:	Characteristic aromatic odour
Solubility:	Completely miscible in water
Specific Gravity:	1.04
pH:	4.8
Viscosity:	800-1300 Cp
Surface tension:	54.1 mN/m at 20°C
Partition Coefficient:	log Pow = 3.44
Flashpoint:	>200°C
Explosivity:	Not explosive
Oxidising Properties:	Not an oxidiser

**10. Stability and Reactivity**

Stability: Stable at ambient temperatures.  
Materials to avoid: None known

**11. Toxicological Information**

**Acute Toxicity:**

Acute oral LD50:	>2,000 mg/kg.bw (rat)
Acute dermal LD50:	>4,000 mg/kg.bw (rat)
Acute inhalation LC50:	2.12 mg/l/4 hours
Irritancy:	Not a skin irritant. Minimal irritant to eyes
Skin sensitisation:	Not a sensitiser (Buehler Test).

**Chronic toxicity:**

Carcinogenicity:	Limited evidence of a carcinogenic effect.
Teratogenicity:	Possible risk of harm to the unborn child
Reproductive toxicity:	Possible risk of impaired fertility
Mutagenicity:	Not a mutagen

**12. Environmental Protection**

Strand is very toxic to aquatic plants, fish and aquatic invertebrates.

Aquatic organisms:

96 hour LC 50 Rainbow trout	1.1 mg/litre
48 hour EC50 Daphnia magna	0.63 mg/l
72 hour EC50 Green algae (Desmodesmus)	0.010 mg/l

Bees:

Non-toxic to bees

Earthworms:

Non-toxic to earthworms

Mobility in soils:

Low mobility in soils due to absorption.

Persistence:

Not readily biodegradable. Half-lives vary from a few months to more than 1 year depending on circumstances.

Bioaccumulation potential:

Moderate potential for bio-accumulation but rapidly excreted. BCF for Rainbow Trout (whole fish) = 70.

**13. Disposal of Unwanted Product and Used Containers**

Consult the local authorities before disposing of unwanted chemical.

Triple-rinse and puncture used containers and dispose of as permitted by local authorities. Do not re-use containers for any purpose.

**14. Transport Information**

Road Transport:	Environmentally hazardous substance
UN Number:	3082
Class:	9
Proper Shipping Name:	Environmentally hazardous substances, liquid, N.O.S (epoxiconazole, alkyl (C3-C6) benzenes and ethoxylated/alkoxylated C16-C18 alcohols.)
CPL Packing Group:	III
IMDG Description:	Marine pollutant

**15. Regulatory Information**

Hazard symbols:	Harmful Xn Dangerous for the environment N
Risk phrases:	R20 Harmful by inhalation R40 Limited evidence of a carcinogenic effect R62 Possible risk of impaired fertility R63 Possible risk of harm to the unborn child R50 Very toxic to aquatic organisms R53 May cause long-term adverse effects in the aquatic environment
Safety Phrases:	S2 Keep out of reach of children S13 Keep away from food, drink and animal feedingstuffs S20/21 When using do not eat, drink or smoke S36/37 Wear suitable protective clothing and gloves S46 If swallowed, seek medical advice immediately and show the container or label. S35 This material and its container must be disposed of in a safe way S57 Use appropriate containment to avoid environmental contamination

**16. Other Information**

The above information is intended to give health and safety guidance on the storage and transport of the substance or product to which it relates. It is not intended to apply to the use of the product, for which purpose the product label and any appropriate technical usage literature available should be consulted and any relevant licences, consents or approvals complied with.

The requirements or recommendations of any relevant site or working procedure, system or policy in force or arising from any risk assessment involving the substance or product should take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given. The information provided in this safety data sheet is accurate to the best of the issuer's available knowledge at the date of publication, and will be updated as and when appropriate. No liability will be accepted for any loss or damage resulting from any failure to take account of information or advice contained in this safety data sheet.

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