Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name:	DIFENOSTAR
Product Description:	An emulsifiable concentrate containing 250 g/L (24% w/w) difenoconazole
Chemical description of active substance (s):	1-[2-[2-chloro-4-(4-chlorophenoxy)phenyl]-4-methyl-1,3-dioxolan-2-ylmethyl]-1H-1,2,4-triazole.
Chemical Class:	Azole
GCPF code:	EC (Emulsifiable Concentrate)

1.2 Relevant indentified uses of the substance or mixture and uses advised against

Product Use:	Agriculture – Fungicide

1.3 Details of the supplier of the safety data sheet

Company:	Life Scientific Limited, Block 4, Belfield Office Park, Beech Hill Road, Dublin 4, Ireland
Telephone:	+353 (0) 1 2832024
Fax:	+353 (0) 1 2832026
Web:	www.lifescientific.com

1.4 Emergency contact information

In case of Emergency:	Tel. NHS 111

Section 2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Aspiration hazard	Category 1	H304
Eye irritation	Category 2	H319
Aquatic Chronic	Category 1	H410
Aquatic Acute	Category 1	H400

2.2 Label Elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms:

Hazard Statements:

H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation.
H410	Very toxic to aquatic life with long-lasting effects.

Signal Word:

Danger

Precautionary Statements:

P102	Keep out of reach of children.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331	Do NOT induce vomiting.
P391	Collect spillage.
P501	Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

Additional Information:

EUH401	To avoid risks to human health and the environment, comply with the instructions for use.
SP 1	Do not contaminate water with the product or its container. (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).

Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

No substances fulfil the criteria set out in Annex II, Part A of the REACH Regulation (EC) No 1907/2006.

3.2 Mixtures

Chemical Name	CAS No	EC No	Classification (Regulation(EC) No 1272/2008)	Concentration (% $^{w}/_{w}$)
Difenoconazole	119446-68-3	NA	Acute Tox 4, H302 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	24 % w/w
2-methylpropan-1-ol	78-83-1	201-148-0	Flamm Liq 3, H226 Skin irrit. 2, H315 Serious Eye Damage, H318 STOT SE 3, H335 STOT SE 3, H336	1 – 3 % w/w
Poly(oxy-1,2-ethanediyl), alpha-9-octadecenyl -omega-hydroxy-, (Z)-	9004-98-2	500-016-2	Acute Tox 4, H302 Eye Damage 1, H318	1 – 5 % w/w
Calcium bis (dodecyl benzenesulphonate), branched	70528-83-5	274-654-2	Eye Damage 1, H318 Skin irrit 2, H315 Aquatic Chronic 2, H411	1 – 5 % w/w
Solvent naphtha (petroleum), highly aromatic	64742-94-5	265-198-5	Asp. Tox 1, H304 Aquatic Chronic 2, H411	55 – 70 % w/w

Section 4. FIRST AID MEASURES

4.1 Description of first aid measures

General information: In the event of any complaints or symptoms, avoid further exposure. Treat symptomatically. If unwell, consult a physician showing the product container, label or this safety data sheet.

Inhalation: If inhaled, remove victim to fresh air. If breathing is difficult, give oxygen. If breathing is irregular or stopped, give artificial respiration. Consult a physician or Poison Control Centre immediately.

Ingestion: DO NOT induce vomiting unless directed to do so by a Poison Control Centre. Never give anything by mouth to an unconscious person. Rinse mouth with plenty of water. Seek medical advice immediately.

Skin contact: Remove contaminated clothing immediately. Wash immediately with plenty of water. If skin irritation persists, consult a physician. Wash contaminated clothing before re-use.

Eye contact: Remove contact lenses if present. Rinse immediately with plenty of water, with the eyelid open for at least 15 minutes. Obtain medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

Aspiration may in some instances cause pulmonary oedema and pneumonitis.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physicians: There is no specific antidote available. Treat symptomatically. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

Section 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

For small fires: Use water spray, dry chemical, alcohol-resistant foam or carbon dioxide.
For large fires: Use alcohol-resistant foam or water spray. Avoid using a solid water stream as it may cause the fire to scatter or spread.

5.2 Special hazards arising from the substance or mixture

This product contains combustible organic components. Fire will produce a thick black smoke containing hazards products of combustion. Exposure to products of combustion may be a health hazard.
Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

5.3 Advice for firefighters

Wear self-contained breathing apparatus with full face shield. Fight fire from a safe distance and a protected location.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use appropriate personal protective equipment, see section 8. For safe handling and storage, see section 7.

6.2 Environmental precautions

Prevent further leaking or spillage if safe to do so. Prevent entry into sewers and public waters. In the event of a major spillage, contact an expert immediately. Notify appropriate authorities if the product enters sewers or public waters. Make provisions to collect extinguishing water after fires. If the product contaminates rivers and lakes or drains, inform respective authorities

6.3 Methods and materials for containment and cleaning up

Contain spillage. Use non-combustible absorbent material to absorb spillage and place in container for disposal according to local/national legislation.

6.4 Reference to other sections

See Section 7 for information on handling and storage and Section 8 for information on PPE

Section 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

No special technical protective measures required. No special handling advice required. Read label before use. DO NOT eat, drink or smoke during use. Avoid contact with skin and eyes.

7.2 Conditions for safe storage, including any incompatibilities

No special storage conditions required. Keep containers tightly closed in a cool, dry and well-ventilated area. Keep out of reach of children. Keep separate from food, drink and animal feed.

7.3 Specific end use(s)

Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

Section 8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

Component	Exposure Limit	Value Type	Source
Difenoconazole	8 mg/m^3	8h TWA	Supplier
2-methylpropan-1-ol	1,600 ppm 50 ppm 10 ppm 50 ppm 100 ppm 50 ppm, 231 mg/m^3	 8h TWA 15 min STEL 8h TWA 8h TWA 8h TWA	NIOSH SUVA SUVA ACGIH DFG UK HSE
Solvent naphtha (petroleum), heavy aromatic	15 ppm,100 mg/m^3	8h TWA	Supplier

8.2 Exposure controls

Respiratory protection: Protection provided by air-purifying respirators is limited. A combination gas, vapour and particulate respirator may be necessary until effective technical measures are introduced. Use self-contained breathing apparatus in case of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

Skin protection: Wear suitable chemical-resistant clothing based on the potential for skin contact. Wash body thoroughly with soap and water after removing protective clothing. Decontaminate protective clothing before re-use. Wear an impervious protective suit as appropriate.

Hand protection: Use nitrile rubber or other suitable chemical-resistant gloves. Gloves should have a minimum breakthrough time that is appropriate to the duration of exposure. Gloves should be changed when breakthrough is suspected.

Eye protection: If eye contact is possible, use tight-fitting chemical safety goggles.

Engineering measures: Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. If airborne mists or vapours are generated, use local exhaust ventilation controls. Assess exposure and use appropriate additional measures to keep airborne levels below the relevant exposure limit. Where necessary, seek occupational hygiene advice.

Hygiene measures: When using, DO NOT eat, drink or smoke. Wash hands and face with soap and water before breaks. Shower at the end of the workday. Decontaminate protective clothing before re-use.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Form	Liquid.
Colour	Pale amber.
Odour	Aromatic.

Chemical properties

pH (at 20 °C)	5.0 – 8.0 at 1% w/w
Boiling point (°C)	No data available
Flash point (°C)	80.25
Oxidising properties	Not oxidising
Explosive properties	Not explosive
Density (g/cm^3)	1.0415 at 20 °C
Solubility in water	No data available
Log P octanol/water at 20°C	No data available
Kinematic Viscosity (cm^2/s)	0.1304 at 20 °C

9.2 Other Information

Surface tension	36.197 mN/m at 25°C

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

No data is available.

10.2 Chemical Stability

This mixture is stable at the handling and storage conditions recommended in Section 7.

10.3 Possibility of hazardous reactions

None known. Hazardous polymerisation does not occur.

10.4 Conditions to avoid

No data is available.

10.5 Incompatible material

No data is available.

10.6 Hazardous decomposition products

Thermal decomposition may release / form:
- Carbon monoxide (CO)
- Carbon dioxide (CO2)

Section 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

LD_{50} oral rat:	3,129 mg/kg (females).
LD_{50} subcutaneous rat:	> 5000 mg/kg.

LC_{50} inhalation rat:	> 5.17 mg/L, 4 h.
Eye irritation rabbit:	Moderately irritating.
Skin irritation rabbit:	Slightly irritating.
Sensitisation guinea pig:	Does not cause skin sensitisation.
Long-term toxicity:	No evidence of carcinogenic, teratogenic or mutagenic effects in animal experiments.

Section 12. ECOLOGICAL INFORMATION

12.1 Toxicity

LC_{50} Rainbow trout (96 h):	3.7 µg/L
EC_{50} Daphnia magna (48 h):	4.3 µg/L
E_bC_{50} Green algae (72 h):	1.7 mg/L
E_rC_{50} Green algae (72 h):	4.4 mg/L

12.2 Persistence and degradability

Stability in water:	Difenoconazole is not persistent in water.
Stability in soil:	Difenoconazole is not persistent in soil.

12.3 Bioaccumulative potential

Difenoconazole has high potential for bioaccumulation.

12.4 Mobility in soil

Difenoconazole has low mobility in soil.

12.5 Results of PBT and vPvB assessment

The mixture does not meet the criteria applicable to mixtures PBT or vPvB in accordance with Annex XIII of the REACH Regulation (EC) No 1907/2006.

12.6 Other adverse effects

None

Section 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal procedures:	Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible, recycling is preferred to disposal or incineration. If recycling is not practical, dispose of in compliance with local regulations.
Contaminated packaging:	Empty remaining contents. Triple rinse containers. Do not re-use empty containers. Empty containers should be taken for local recycling or waste disposal.

Section 14. TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO / IATA for air transport (ADR 2013 - IMDG 2012 - ICAO / IATA 2013).

14.1 UN Number

3082

14.2 UN proper shipping name

Environmentally hazardous substance, liquid, N.O.S., (Difenoconazole and solvent naphtha).

14.3 Transport hazard class(es)

9

14.4 Packing group

III

14.5 Environmental hazards

Marine pollutant, Dangerous to the environment

14.6 Special precautions for user

None

14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC code

No Information available

Section 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture relating to the classification and labelling contained in Section 3.

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

The mixture contains no ' substances of very high concern "(SVHC) published by the European Chemicals Agency (ECHA) under Article 57 of REACH http://echa.europa.eu/uk/candidate-list- table

15.2 Chemical safety assessment

None

Section 16. OTHER INFORMATION

Labelling according to EU Regulation (EC) No. 1272/2008

Full list of Hazard statements, Safety phrases and/or Precautionary statements that were not given in full in sections 2 and 3.

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H318	Causes severe eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic organisms.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH401	Follow the instructions to avoid risks to human health and the environment.

The information presented in this SDS is correct to the best of our knowledge, information and belief at the date of its publication. However, the information given is designed only as a guidance for methods of handling, storage, use, transportation and disposal of the product, and is not considered to be a warranty or quality specification. Life Scientific Limited shall not be held liable for any loss or damage resulting from the handling, storage, use or disposal of the product. The information contained in this SDS relates only to this specific product and may not be valid if this product is used in combination with any other products.

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