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

1.1 Product Identifier

Product Name: DIFENOSTAR®
Product Code: 049-01

UFI Code: 6CAS-SDDS-F105-VNPQ

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

Product Use: Fungicide

1.3 Details of the supplier of the safety data sheet

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

1.4 Emergency contact information

UK ONLY 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 Acute	Category 1	H400
Aquatic Chronic	Category 1	H410

2.2 Label Elements

Labelling according to Regulation (EU) 1272/2008

Hazard Pictograms:

Signal Word:

Danger

Hazard Phrases:

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

Precautionary Phrases:

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.

Other Phrases:

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 Eye Irrit 2 H319 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:	Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control centre or physician, or going for treatment.
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

Suitable extinguishing media: Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires:
Alcohol-resistant foam

Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health. Flash back possible over considerable distance.

5.3 Advice for firefighters

Special protective equipment for firefighters: : Wear full protective clothing and self-contained breathing apparatus.

Further information: Do not allow run-off from firefighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Refer to protective measures listed in sections 7 and 8. Keep people away from and upwind of spill/leak. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Remove all sources of ignition. Pay attention to flashback.

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

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

Section 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. When using do not eat, drink or smoke. Use only in an area containing flame proof equipment. Take precautionary measures against static discharges. For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:
Keep containers tightly closed in a dry, cool and well ventilated place. Keep out of the reach of children. Keep away from combustible material. Keep in an area equipped with sprinklers. Keep away from food, drink and animal feeding stuffs. No smoking.

Further information on storage stability:
Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

7.3 Specific end use(s)

For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

Section 8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

Component	Exposure Limit	Value Type	Source
Difenoconazole	5 mg/m^3	TWA	Supplier
2-methylpropan-1-ol	50 ppm, 154 mg/m3 75 ppm, 231 mg/m^3	TWA STEL	GB EH40
Solvent naphtha (petroleum), heavy aromatic	10 ppm,50 mg/m^3	TWA	91/322/EEC

8.2 Exposure controls

Respiratory protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Suitable respiratory equipment: Respirator with a particle filter (EN 143). The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Skin protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Remove and wash contaminated clothing before re-use. Wear as appropriate: Impervious clothing.

Hand protection: Use nitrile rubber or other suitable chemical-resistant gloves. Gloves should have a minimum breakthrough time (>480 min) 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. Equipment should conform to EN 166

Engineering measures: Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. Maintain air concentrations below occupational exposure standards. Where necessary, seek additional 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

Physical state:	Liquid
Colour:	Yellow to brown
Odour:	Aromatic
Odour Threshold:	No data available
Melting point/range:	No data available
Boiling point/boiling range:	No data available
Flammability:	No data available
Upper explosion limit / Upper flammability limit	No data available
Lower explosion limit / Lower flammability limit	No data available
pH (at 20 °C)	5.0 – 8.0 at 1% w/w
Flash point (°C)	80.25
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
Relative vapour density:	No data available
Particle characteristics	No data available
Particle size:	

9.2 Other Information

Oxidising properties	Not oxidising
Explosive properties	Not explosive
Miscibility with water:	Miscible
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

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

No decomposition if used as directed.

10.5 Incompatible material

None known.

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

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:	Moderate eye irritati.
Skin irritation rabbit:	No skin irritation.
Sensitisation guinea pig:	Does not cause skin sensitisation.
Long-term toxicity:	No evidence of carcinogenic, teratogenic or mutagenic effects in animal experiments.

11.2 Information on other hazards
Endocrine disrupting properties

Product:
Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Section 12. ECOLOGICAL INFORMATION

12.1 Toxicity

LC_{50} Rainbow trout (96 h):	3.7 mg/L
EC_{50} Daphnia magna (48 h):	4.3 mg/L
E_rC_{50} Green algae (72 h):	4.4 mg/L
NOEC Green algae (72 h):	0.22 mg/L

12.2 Persistence and degradability

Difenoconazole:

Biodegradability:	Not readily biodegradable.
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

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher

12.6 Endocrine disrupting properties
Product:
Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available.

Section 13. Disposal considerations

13.1 Waste treatment methods

Product :	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 practicable, dispose of in compliance with local regulations.
Contaminated packaging:	Empty remaining contents. Triple rinse containers. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

Section 14. TRANSPORT INFORMATION

Transport the product in accordance with the provisions of ADR for road, RID for rail, IMDG for the sea, and ICAO / IATA for air transport

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, environmentally hazardous

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

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

Full list of relevant hazard and 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.

The information presented in this document is accurate to the best of our knowledge at the date of its publication. However, the information given is designed only as a guide for the methods of handling, storage, use, transportation and disposal of the product and is not considered a warranty or quality specification. Life Scientific Limited cannot be held responsible for any loss or damage resulting from the handling, storage, use or disposal of the product. The information contained in this document relates only to this specific product.

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