

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

1.1 Product Identifier

Product Name: FLYWHEEL
Product Code: 009-01
UFI Code : RRH1-88RA-F00H-W1AD

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

Product Use: Herbicide

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

In case of Emergency: Tel. NHS 111

Section 2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EU) No. 1272/2008

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:

Warning

Hazard Phrases:

H410 Very toxic to aquatic life with long lasting effects.

Precautionary Phrases:

P102 Keep out of reach of children.
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.

Supplemental information:

EUH208 Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.
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).

2.3 Other Hazards

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.

Ecological information: 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.

Toxicological information: 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 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)
Florasulam	145701-23-1	-	Aquatic Acute1; H400 Aquatic Chronic1; H410	0-5
Orthophosphoric acid	7664-38-2	231-633-2	Corrosive to metals 1, H290 Skin corrosion 1B, H314	<1
1,2-Benzisothiazol-3(2H)-one	2634-33-5	220-120-9	Acute Tox.4; H302 Skin Irrit.2; H315 Skin Sens.1; H317 Eye Dam.1; H318 Aquatic Acute1; H400	<1
Propylene glycol	57-55-6	200-338-0	Not classified	<10

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: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

Ingestion: DO NOT induce vomiting unless directed to do so by a Poison Control Centre. Never give anything by mouth to an unconscious person. Seek medical advice immediately and show the product container, label or data sheet if possible.

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

Eye contact: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

4.2 Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

4.3 Indication of any immediate medical attention and special treatment needed

No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

Section 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Water spray Alcohol-resistant foam
Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Sulfur oxides. Nitrogen oxides. Hydrogen halides.

Unusual Fire and Explosion Hazards: Exposure to combustion products may be a hazard to health. Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters

Fire Fighting Procedures: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Remove undamaged containers from fire area if it is safe to do so. Evacuate area. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2 Environmental precautions

If the product contaminates rivers and lakes or drains inform respective authorities. Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

6.3 Methods and materials for containment and cleaning up

Clean up remaining materials from spill with suitable absorbant. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, recovered material should be stored in a vented container. The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to overpressurization of the container. Keep in suitable, closed containers for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). See Section 13, Disposal Considerations, for additional information.

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

Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice. Smoking, eating and drinking should be prohibited in the application area. Take care to prevent spills, waste and minimize release to the environment. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

7.2 Conditions for safe storage, including any incompatibilities

Store in a closed container. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in properly labelled containers. Store in accordance with the particular national regulations.

Do not store with the following product types: Do not store near acids. Strong oxidizing agents. Unsuitable materials for containers: None known.

7.3 Specific end use(s)

Refer to product label.

Section 8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING

8.2 Exposure controls

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

Skin protection: Wear suitable chemical-resistant clothing based on the potential for skin contact.

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms.

Eye protection: Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent..

Engineering measures: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Results based on similar composition

Physical State:	Liquid
Color:	White to off-white
Odor:	Mild
pH:	4 - 5
Melting point/range:	Not applicable
Freezing point:	No data available
Boiling point (760 mmHg):	No data available
Flash point:	closed cup Pensky-Martens Closed Cup ASTM D 93 none below boiling point
Evaporation Rate:	No data available
Flammability (solid, gas):	Not Applicable
Lower explosion limit:	No data available
Upper explosion limit:	No data available
Vapor Pressure:	Not applicable
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	1.0318 at 20 °C Digital Density Meter (Oscillating Coil)
Water solubility:	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature:	EC Method A15 none below 400 degC
Decomposition temperature:	No data available
Kinematic Viscosity:	No data available
Explosive properties:	Not explosive
Oxidizing properties:	No significant increase (>5C) in temperature.

9.2 Other Information

9.2.1 Information on physical hazard classes

Liquid Density:	1.034 g/cm ³ at 20 °C Digital density meter
Molecular weight:	No data available

9.2.2 Other safety characteristics

None

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical Stability

No decomposition if stored and applied as directed. Stable under normal conditions.

10.3 Possibility of hazardous reactions

No hazards to be specially mentioned.

10.4 Conditions to avoid

None known

10.5 Incompatible material

None

10.6 Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: sulfur oxides Nitrogen oxides. Hydrogen halides

Section 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Results based on similar composition

LD ₅₀ oral rat	>5000 mg/kg
LD ₅₀ percutaneous rat	>2000 mg/kg.
LC ₅₀ inhalation rat	> 5 mg/L/4 h.
Eye irritation rabbit	Non irritant.
Skin irritation rabbit	Non irritant.
Sensitisation guinea pig	Not sensitising.
STOT- (Single Exposure):	Not an STOT-SE toxicant
STOT- (Repeated Exposure):	Repeated skin application to laboratory animals did not produce systemic toxicity.
Carcinogenicity:	Did not cause cancer in laboratory animals.
Teratogenicity:	Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother
Reproductive toxicity:	In animal studies, did not interfere with reproduction
Mutagenicity:	Animal genetic toxicity studies were negative..
Aspiration Hazard:	Based on physical properties, not likely to be an aspiration hazard.

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

Results based on similar composition

LC ₅₀ Rainbow trout (96 h)	>100 mg/L
EC ₅₀ Daphnia magna (48 h)	>100 mg/L
EC ₅₀ Lemna minor (14 d)	0.0413 mg/L
E ₅₀ C ₅₀ Green algae (72h)	0.0611 mg/L
Oral LD ₅₀ Anas platyrhynchos	2250 mg/kg bodyweight
Oral LD ₅₀ Apis mellifera (24h)	>70.25 µg/bee
Contact LD ₅₀ Apis mellifera (24h)	>100 µg/bee
LC ₅₀ Eisenia fetida	>1033 mg/kg

12.2 Persistence and degradability

Florasulam

Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

Stability in Water (1/2-life): > 30 d

Theoretical Oxygen Demand: 0.85 mg/mg

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method	10 Day Window
2 %	28 d	OECD 301B Test	Fail

Indirect Photodegradation with OH Radicals:

Rate Constant	Atmospheric Half-life	Method
7.04E-11 cm ³ /s	1.82 h	Estimated

Propylene glycol

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method	10 Day Window
81 %	28 d	OECD 301F Test	Pass
96 %	64 d	OECD 306 Test	Not applicable

12.3 Bioaccumulative potential

Florasulam

Bioaccumulation:

Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient, n-octanol/water (log Pow):

-1,22

Bioconcentration Factor (BCF):

0.8; Fish (measured)

Propylene Glycol

Bioaccumulation:

Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient, n-octanol/water (log Pow):

-1,07 (measured)

Bioconcentration Factor (BCF):

0.9; (estimated)

12.4 Mobility in soil

Florasulam

Mobility in soil:

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient, soil organic carbon/water (Koc):

4 – 54

Henry's Law Constant (H):

4.35E-07 Pa*m³/mole.; 20 °C

Propylene Glycol

Mobility in soil:

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process. Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient, soil organic carbon/water (Koc):

< 1 Estimated.

Henry's Law Constant (H):

1.2E-08 atm*m³/mole (measured)

12.5 Results of PBT and vPvB assessment

Florasulam

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Propylene Glycol

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Endocrine disrupting properties

Product:

Assessment: The 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

Florasulam

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

Propylene Glycol

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

14. TRANSPORT INFORMATION

Transport in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO / IATA for air transport (ADR 2011 - IMDG 2010 - ICAO / IATA 2011).

14.1 UN Number

3082

14.2 UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Florasulam)

14.3 Transport hazard class(es)

9

14.4 Packing group

III

14.5 Environmental hazards

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

15. REGULATORY INFORMATION

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

This product contains only components that have been either pre-registered, registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH). The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Listed in Regulation: ENVIRONMENTAL HAZARDS

Number in Regulation: E1

100 t

200 t.

15.2 Chemical safety assessment

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

16 OTHER INFORMATION

Full list of relevant hazard and precautionary statements that were not given in full in sections 2 and 3.

H290	May be corrosive to metals.
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H400	Very toxic to aquatic life.
H410	Very 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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