

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

1.1 Product Identifier

Product Name: FIRESTARTER
Product Code: 033-01
UFI Code: XN6G-YXD0-M00G-R4G4

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

Product Use: Agriculture – 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

Acute Tox.	Category 4	H302
STOT RE .	Category 2	H373
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:

H302 Harmful if swallowed.
H373 May cause damage to organs (nervous system) through prolonged or repeated exposure if swallowed.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Phrases:

P102 Keep out of reach of children.
P280 Wear protective eye protection / face protection
P309+P311 If exposed or concerned: Call a POISON CENTRE/doctor/physician.
P391 Collect spillage.
P501 Dispose of contents/container to a licenced hazardous waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

2.3 Other Hazards

SP1 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).

EUH208 Contains Flufenacet. May produce an allergic reaction.
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

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)
Flufenacet	142459-58-3	604-290-5	Acute Tox. Category 4; H302 STOT RE Category 2; H373 Skin Sens Category 1 H317 Aquatic. Acute Category 1; H400 Aquatic Chronic Category 1; H410	30-45
Diflufenican	83164-33-4	617-446-2	Aquatic Chronic 3; H412	5-15
Naphthalenesulfonic acids, branched and linear butyl derivatives, sodium salts	91078-64-7	293-346-9	Accute Tox. 4; H332 Eye Irrit. 2; H319	>1.00
2-methylisothiazol-3(2H)-one (2.5%), 1,2-benzisothiazol-3(2H)-one (2.5%)	2634-33-5 2682-204	220-120-9 220-239-6	Eye Dam. 1; H318 Skin Sens. 1B; H317 Aquatic Chronic. 3; H412	>1.00

Section 4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice: Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.

Inhalation: Move to fresh air. Keep patient warm and at rest. Call a physician or poison control centre immediately.

Skin contact: Wash off thoroughly with plenty of soap and water, if available with polyethylene glycol 400, subsequently rinse with water. If symptoms persist, call a physician.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

Ingestion: Call a physician or poison control centre immediately. Rinse mouth. Induce vomiting only, if: 1. patient is fully conscious, 2. medical aid is not readily available, 3. a significant amount (more than a mouthful) has been ingested and 4. time since ingestion is less than 1 hour. (Vomit should not get into the respiratory tract.)

4.2 Most important symptoms and effects, both acute and delayed

If large amounts are ingested, the following symptoms may occur:
Shortness of breath, Drowsiness, Headache, Tiredness, Dizziness, Nausea, Breathing difficulties, tachycardia
Symptoms and hazards refer to effects observed after intake of significant amounts of the active ingredient(s).

The absorption of this product into the body may lead to the formation of methaemoglobin that, in sufficient concentration, causes cyanosis.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. In case of methaemoglobinemia, oxygen and specific antidotes (methylene blue/ toluidine blue) should be given.

Section 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable: High volume water jet

5.2 Special hazards arising from the substance or mixture

In the event of fire the following may be released: Hydrogen cyanide (hydrocyanic acid), Hydrogen fluoride, Carbon monoxide (CO), Nitrogen oxides (NO_x), Sulphur oxides

5.3 Advice for firefighters

In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus. Contain the spread of fire fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

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. Avoid contact with spilled product.

6.2 Environmental precautions

If spillage enters drains leading to sewage works inform local water company immediately. If spillage enters rivers or watercourses, inform the Environment Agency. Do not allow to get into surface water, drains and ground water.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations. Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

6.4 Reference to other sections

See Section 7 for information on handling and storage. See Section 8 for information on PPE. See section 13 on information regarding waste disposal.

Section 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- Advice on safe handling: No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Ensure adequate ventilation.
- Advice on protection against fire and explosion: Keep away from heat and sources of ignition.
- Hygiene measures: Avoid contact with skin, eyes and clothing. Keep working clothes separately. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt). Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers:
Store in a place accessible by authorized persons only. Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from frost. Keep away from direct sunlight.
- Advice on common storage
Keep away from food, drink and animal feedingstuffs.
- Suitable materials: HDPE (high density polyethylene)

7.3 Specific end use(s)

- Refer to the label and/or leaflet.

Section 8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

Component	Exposure Limit	Value Type	Source
Flufenacet	0.3 mg/m ³	TWA	Supplier
Diflufenican	5.5mg/m ³	TWA	Supplier
Glycerine (mist)	10mg/m ³	TWA	UK EH40 Workplace Exposure Limit

8.2 Exposure controls

- PPE: In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.
- Respiratory protection: Respiratory protection is not required under anticipated circumstances of exposure. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.
- Hand protection: Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.
- Eye protection: Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).
- Skin and body protection: Wear standard coveralls and Category 3 Type 4 suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently. If there is a risk of significant exposure, consider a higher protective type suit.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form:	Suspension
Colour:	White to beige
Odour:	Weak, characteristic
Odour Threshold:	No data available
pH:	4.0 - 6.5 (100 %) (23 °C)
Melting point/range:	No data available
Boiling Point:	No data available
Flash point:	> 100 °C
	No flash point - Determination conducted up to the boiling point.
Flammability:	No data available
Auto-ignition temperature:	No data available
Minimum ignition energy:	No data available
Self-accelerating decomposition temperature:	No data available
Upper explosion limit:	No data available
Lower explosion limit:	No data available
Vapour pressure:	No data available
Evaporation rate:	No data available
Relative vapour density:	No data available
Relative density:	No data available
Density:	ca. 1.19 g/cm ³ (20 °C)
Water solubility:	Dispersible
Partition coefficient:	Flufenacet: log Pow: 3.2
n-octanol/water	Diflufenican: log Pow: 4.2
Viscosity, dynamic:	No data available
Viscosity, kinematic:	No data available

9.2 Other Information

Oxidizing properties:	No data available
Explosivity:	No data available

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions.

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 hazardous reactions when stored and handled according to prescribed instructions.

10.4 Conditions to avoid

Extremes of temperature and direct sunlight.

10.5 Incompatible material

Store only in the original container.

10.6 Hazardous decomposition products

No decomposition products expected under normal conditions of use.

Section 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

All results based on tests conducted performed on similar formulation.

LD ₅₀ oral rat:	> 500 - < 2000 mg/kg.
LD ₅₀ subcutaneous rat:	> 4000 mg/kg.
LC ₅₀ inhalation rat:	> 2.078 mg/L (4 h).
Eye irritation rabbit:	No eye irritation.
Skin irritation rabbit:	No skin irritaton.
Sensitisation mouse:	No sensitisation.
Assessment repeated dose toxicity:	Flufenacet caused neurobehavioral effects and/or neuropathological changes in animal studies. Diflufenican did not cause specific target organ toxicity in experimental animal studies.
Assessment Mutagenicity:	Flufenacet was not mutagenic or genotoxic in a battery of in vitro and in vivo tests. Diflufenican was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Assessment Carcinogenicity:	Flufenacet was not carcinogenic in lifetime feeding studies in rats and mice. Diflufenican was not carcinogenic in lifetime feeding studies in rats and mice.
Assessment toxicity to reproduction:	Flufenacet did not cause reproductive toxicity in a two-generation study in rats. Diflufenican did not cause reproductive toxicity in a two-generation study in rats.
Assessment developmental toxicity:	Flufenacet caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Flufenacet are related to maternal toxicity. Diflufenican did not cause developmental toxicity in rats and rabbits

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 Cyprinus carpio (96 h):	54.9 mg/L
EC ₅₀ Daphnia magna (48 h):	68.2 mg/L
EC ₅₀ Pseudokirchneriella subcapitata	0.00885 mg/L
ErC50 (Raphidocelis subcapitata	8.85 µg/L
(freshwater green alga) (72 h)	
NOEC (Raphidocelis subcapitata	0.916 µg/L
(freshwater green alga) (72h)	
ErC50 (Lemna gibba (gibbous duckweed) (7d)	129 µg/L
NOEC (Lemna gibba (gibbous duckweed) (7d)	< 25.0 µg/L

12.2 Persistence and degradability

Biodegradability:	Flufenacet:	Not readily biodegradable
	Diflufenican:	Not readily biodegradable
Persistence:	Flufenacet:	Not persistence in soil.
	Diflufenican:	Moderate to highly persistent in soil

12.3 Bioaccumulative potential

Flufenacet: Bioconcentration factor (BCF) 71. Does not bioaccumulate.
Diflufenican: Bioconcentration factor (BCF) 1,596. Does not bioaccumulate.

12.4 Mobility in soil

Flufenacet: Moderately mobile in soils (Koc: 202)
Diflufenican: Slightly mobile in soils (Koc: 3417)

12.5 Results of PBT and vPvB assessment

Flufenacet: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Diflufenican: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

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

None.

Section 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal procedures: In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant. Advice may be obtained from the local waste regulation authority (part of the Environment Agency in the UK).
Contaminated packaging: Small containers (< 10 L or < 10 kg) should be rinsed thoroughly using an integrated pressure rinsing device, or, by manually rinsing three times. Add washings to sprayer at time of filling. Dispose of empty and cleaned packaging safely. Large containers (> 25 L or > 25 kg) should not be rinsed or re-used for any other purpose. Return large containers to supplier. Follow advice on product label and/or leaflet.

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., (Flufenacet, diflufenican solution).

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

None

15.2 Chemical safety assessment

A chemical safety assessment is not required.

Section 16. OTHER INFORMATION

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

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic organisms.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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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