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

1.1 Product Identifier

Product Name: KASKAD®
Product Code: 132-01

UFI Code: 1W0X-WSXT-H30S-SYVC

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

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).

2.3 Other Hazards

Substance does/does not meet the criteria for vPvB according to regulation (EC) No 1907/2006, Annex III.

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	EC	Classification (Regulation (EC) No 1272/2008)	Concentration (% $^{w}/_{w}$)
Triflusulfuron-methyl	126535-15-7	-	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	50

Section 4. FIRST AID MEASURES

4.1 Description of first aid measures

General information:	Never give anything by mouth to an unconscious person. 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:	Move to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or Poison Control Centre immediately.
Ingestion:	If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.
Skin contact:	Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: None known.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physicians: There is no specific antidote available. Treat symptomatically.

Section 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

For small fires: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
For large fires: Use alcohol-resistant foam or water spray.

5.2 Special hazards arising from the substance or mixture

As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion. Exposure to decomposition products may be a hazard to health.

5.3 Advice for firefighters

Special protective equipment for fire fighters: In the event of fire, wear self-contained breathing apparatus. Do not allow run-off from firefighting to enter drains or water courses. Cool closed containers exposed to fire with water spray. Do not use a solid water stream as it may scatter and spread fire.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/spray. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

6.2 Environmental precautions

Do not allow contamination of public drains or surface or ground waters. Inform local water plc if spillage enters drains and the Environment Agency (England & Wales), the Scottish Environmental Protection Agency (Scotland), or the Environment and Heritage Service (Northern Ireland) if it enters surface or ground waters. Keep people and animals away.

6.3 Methods and materials for containment and cleaning up

For small amounts: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, diatomaceous earth).

For large amounts: Dike spillage. Pump off product. Cleaning operations should be carried out only while wearing breathing apparatus. Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labelled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

6.4 Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

Section 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. Avoid contact with skin and eyes. No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

7.2 Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds. Keep away from heat. Protect from direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of reach of children.

7.3 Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

Section 8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

Type Form of exposure	CAS No.	Control parameters	Basis
Talc	14807-96-6	1 mg/m3 (TWA)	EH40 WEL
Sucrose	57-50-1	10 mg/m3 (TWA) 20 mg/m3 (STEL)	EH40 WEL EH40 WEL

8.2 Exposure controls

When using this product refer to the label for details. In all other cases, use the following Personal Protective Equipment:

Respiratory protection:	Spray application (outdoor): Tractor/ sprayer with hood: No personal respiratory PPE normally required. However, without hood: low application: half mask with a particle filter P1 is recommended (EN 143)
Skin protection:	When mixing and loading use full protective clothing suitable for protection against light splashes (Type 5 and 6, EN ISO 13982-2/EN 13034), including rubber apron and nitrile rubber boots (EN13832-3). Engineering controls (*e.g.* use of hoods when applying by tractor-mounted or other machinery) can replace the need for body protection. When applying by other means, use of clothing to EN 14605 (breakthrough times of >240 minutes) are required. If circumstances require access to the treated area before recommended re-entry times, protective clothing Type 6, gloves and boots as above should be worn.
Hand protection:	Handle with only when using gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. This includes use of nitrile rubber with lower arm protection by the use of gauntlets of 35cm length, or sleeves. Select gloves based on the physical job requirements, including risk of damage such as tearing or wear. Ensure gloves meet EN 374 protection standard Class 6 (>480 minutes measured breakthrough time). Dispose of contaminated gloves after use in accordance with applicable laws and good practices. Wash and dry hands.
Eye protection:	If eye contact is a possibility, wear tight-fitting chemical safety goggles or faceshield, conforming to EN166. Follow any site-specific eye protection policies.
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. If airborne mists or vapours are generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit. Where necessary, seek additional occupational hygiene advice.
Protective measures:	The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice. Personal protective equipment should be certified to appropriate standards.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Form:	Solid granules
Colour:	Brown
Odour:	None

Chemical properties

pH (at 20 °C):	8.3 at 10 g/L
Melting point (°C):	N/A
Flash Point:	Not applicable
Oxidising properties :	Not Oxidising.
Explosive properties:	Not Explosive.
Bulk density:	650 kg/m^3
Solubility in water:	Dispersible.

9.2 Other Information

None.

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

No information available.

10.2 Chemical Stability

The product is stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

None known. Hazardous polymerisation does not occur. No hazardous reactions if stored and handled as prescribed/indicated.

10.4 Conditions to avoid

Avoid exposure to moisture as decomposition may occur. Do not expose to high temperatures.

10.5 Incompatible material

No information available.

10.6 Hazardous decomposition products

Combustion or thermal decomposition will evolve toxic and irritant vapours. Decomposition products: include hydrogen fluoride and sulphur oxides.

Section 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

LD_{50} oral rat:	>5000 mg/kg.
LC_{50}inhalation rat:	>6.1 mg/L
LD_{50} dermal rabbit:	>2000 mg/kg.
Eye irritation rabbit:	Not irritating.
Skin irritation rabbit:	Not irritating.
Sensitisation guinea pig:	Not a skin sensitiser.
Mutagenicity:	Not mutagenic.
Carcinogenicity:	An increased incidence of tumours was observed in laboratory animals. Does not appear carcinogenic for men.
Developmental Toxicity:	Not teratogenic.
Reproductive Toxicity:	Not reprotoxic.

Note: Information based on a similar formulation

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} *Oncorhynchus mykiss* (rainbow trout) (96 h):	150 mg/L
ErC50 (*Pseudokirchneriella subcapitata* (green algae) (72h):	0.430 mg/L
EC_{50} *Daphnia magna* (48 h):	>1200 mg/L
LC_{50} *Eisenia fetida* (earthworms) (14d)	>1000 mg/kg

LD_{50} *Apis mellifera* (bees) (48h)	>100 µ/b
Chronic toxicity to fish: NOEC (*Oncorhynchus mykiss* (rainbow trout) (21d)	>210 mg/L (OECD 204)
Chronic toxicity to aquatic invertebrates: NOEC (*Daphnia magna*) (21d):	11 mg/L (OECD 202)

12.2 Persistence and degradability

Not readily biodegradable (based on data on active ingredient)

12.3 Bioaccumulative potential

Does not bioaccumulate (based on data on active ingredient)

12.4 Mobility in soil

Potentially mobile.

12.5 Results of PBT and vPvB assessment

The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

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:	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 for local recycling or waste 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

3077

14.2 UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (Triflusulfuron-methyl).

14.3 Transport hazard class(es)

9

14.4 Packing group

III

14.5 Environmental hazards

Marine Pollutant.

14.6 Special precautions for user

Tunnel restriction code E.

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

Not evaluated.

Section 15. REGULATORY INFORMATION

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

No REACH Annex XVII restrictions.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out on this mixture by the supplier.

Section 16. OTHER INFORMATION

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

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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