

Trade name: Sunfire**Product no.:** MAI 117 C0218 UK-3**Current version :** 3.0.2, issued: 09.03.2022**Replaced version:** 3.0.1, issued: 27.04.2020**Region:** GB**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name

Sunfire**1.2 Relevant identified uses of the substance or mixture and uses advised against****Relevant identified uses of the substance or mixture**Plant protection product for professional use. Agriculture.
Herbicide**Uses advised against**

No data available.

1.3 Details of the supplier of the safety data sheet**Address**Certis Europe B.V. - United Kingdom
Suite 5, 3 Riverside
Granta Park - Great Abington
Cambridgeshire CB21 6AD
United Kingdom

Telephone no. +44 (0) 1223 894 261

Fax no. +44 (0)1223 891210

e-mail info@certiseurope.co.uk - www.certiseurope.co.uk

Advice on Safety Data Sheet

certis@certiseurope.co.uk

1.4 Emergency telephone number

Carechem 24 GB: +44 870 190 6777

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification in accordance with Regulation (EC) No 1272/2008 (CLP)**

Acute Tox. 4; H302

Aquatic Acute 1; H400

Aquatic Chronic 1; H410

STOT RE 2; H373

Classification information

Classification and labelling are based on toxicological studies performed on the product (mixture).

Classification and labelling with respect to water pollution risks are based on ecotoxicological studies performed on the product (mixture).

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3, 4 and 5 of Annex I to CLP.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)****Hazard pictograms**

GHS07



GHS08



GHS09

Signal word

Trade name: Sunfire**Product no.:** MAI 117 C0218 UK-3**Current version :** 3.0.2, issued: 09.03.2022**Replaced version:** 3.0.1, issued: 27.04.2020**Region:** GB

Warning

Hazardous component(s) to be indicated on label:

Flufenacet (ISO)

Hazard statement(s)

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

Hazard statements (EU)

EUH208 Contains Flufenacet (ISO), 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.

Precautionary statement(s)

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P264 Wash hands thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
 P391 Collect spillage.
 P501 Dispose of contents/ container to a licensed hazardous waste disposal contractor or collection site except for triple rinsed empty clean containers which can be disposed of as non-hazardous waste.

Supplemental label elements

UFI: JC89-C0V6-000J-2E8F

2.3 Other hazards

PBT assessment

According to the information provided in the supply chain, the mixture does not contain > 0.1% of a substance that is considered to be PBT.

vPvB assessment

According to the information provided in the supply chain, the mixture does not contain > 0.1% of a substance that is considered to be vPvB.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Not applicable. The product is not a substance.

3.2 Mixtures**Chemical characterization**

Flufenacet 500 g/l (SC)

Hazardous ingredients

No	Substance name		Additional information	
	CAS / EC / Index / REACH no	Classification (EC) 1272/2008 (CLP)	Concentration	%
1	Flufenacet (ISO)			
	142459-58-3 - 613-164-00-9 -	Acute Tox. 4*; H302 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Skin Sens. 1; H317 STOT RE 2*; H373**	>= 25.00 - < 50.00	wt%
2	1,2-benzisothiazol-3(2H)-one			
	2634-33-5 220-120-9 613-088-00-6 01-2120761540-60	Acute Tox. 4*; H302 Aquatic Acute 1; H400 Eye Dam. 1; H318 Skin Irrit. 2; H315 Skin Sens. 1; H317	< 0.10	wt%

Trade name: Sunfire**Product no.:** MAI 117 C0218 UK-3**Current version :** 3.0.2, issued: 09.03.2022**Replaced version:** 3.0.1, issued: 27.04.2020**Region:** GB

3	glycerol			
	56-81-5 200-289-5 - 01-2119471987-18	-	< 5.00	wt%

Full Text for all H-phrases and EUH-phrases: pls. see section 16

(*, **, ***, ****) Detailed explanation pls. refer to CLP regulation No. 1272/2008, annex VI, 1.2

No	Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
1	-	-	M = 100	-
2	-	Skin Sens. 1; H317: C >= 0.05%	-	-

No	Route, target organ, concrete effect
1	H373 dermal; liver; -

Acute toxicity estimate (ATE) values			
No	oral	dermal	inhalative
1	383 mg/kg bodyweight		

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

No special measures necessary. In case of persisting adverse effects, consult a physician. Remove contaminated clothing and shoes and launder thoroughly before reusing.

After inhalation

Remove affected persons from dangerous area by observing suitable respiratory protection measures. Ensure supply of fresh air.

After skin contact

When in contact with the skin, clean with soap and water.

After eye contact

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes).

After ingestion

Call a doctor immediately and show label or packaging. Do not induce vomiting. Rinse the mouth thoroughly with water. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam; Carbon dioxide; Extinguishing powder; Water spray jet

Unsuitable extinguishing media

High power water jet

5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: Carbon dioxide (CO₂); Carbon monoxide (CO)

5.3 Advice for firefighters

Fire-fighting operations, rescue and clearing work under effect of combustion and smoulder gases just may be done with breathing apparatus. Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations. Wear protective clothing.

Trade name: Sunfire**Product no.:** MAI 117 C0218 UK-3**Current version :** 3.0.2, issued: 09.03.2022**Replaced version:** 3.0.1, issued: 27.04.2020**Region:** GB

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Refer to protective measures listed in sections 7 and 8. Ensure adequate ventilation.

For emergency responders

No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater. Do not uncontrolled discharge into the subsoil / soil.

6.3 Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13). When collected, handle material as described under the section heading "Disposal considerations".

6.4 Reference to other sections

Information regarding waste disposal, see section 13. Information regarding personal protective measures, see section 8. Information regarding safe handling, see section 7.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

No special measures necessary if stored and handled as prescribed. Provide good ventilation at the work area (local exhaust ventilation, if necessary).

General protective and hygiene measures

Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Do not eat, drink or smoke during work time. Remove soiled or soaked clothing immediately. Do not inhale vapours.

Advice on protection against fire and explosion

No special measures necessary.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Keep container tightly closed and dry in a cool, well-ventilated place. Keep from freezing. Protect from heat and direct sunlight.

Requirements for storage rooms and vessels

Containers which are opened must be carefully closed and kept upright to prevent leakage. Keep only in the original container.

Incompatible products

Do not store together with foodstuffs.

7.3 Specific end use(s)

Industry solution

Always read the label and product information before use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

No	Substance name	CAS no.	EC no.
1	glycerol	56-81-5	200-289-5
List of approved workplace exposure limits (WELs) / EH40			
Glycerol mist			
	WEL long-term (8-hr TWA reference period)	10	mg/m ³

8.2 Exposure controls

Appropriate engineering controls

Trade name: Sunfire**Product no.:** MAI 117 C0218 UK-3**Current version :** 3.0.2, issued: 09.03.2022**Replaced version:** 3.0.1, issued: 27.04.2020**Region:** GB

No data available.

Personal protective equipment**Respiratory protection**

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

Eye / face protection

Safety glasses (EN 166)

Hand protection

In case of intensive contact, wear protective gloves (EN 374). Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Appropriate Material nitrile rubber

Other

Chemical-resistant work clothes. Rubber boots. (EN 13832-3/EN ISO 20345)

Environmental exposure controls

No data available.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

State of aggregation	
liquid	
Form/Colour	
liquid	
whitish	
Odour	
vanilla	
pH value	
Value	5.8
Concentration	1 %
Source	Manufacturer
Boiling point / boiling range	
No data available	
Melting point/freezing point	
No data available	
Decomposition temperature	
No data available	
Flash point	
Value	> 100 °C
Ignition temperature	
No data available	
Auto-ignition temperature	
Value	> 400 °C
Comments	Product is not selfigniting.
Oxidising properties	
not oxidizing	
Explosive properties	
not explosive	

Trade name: Sunfire**Product no.:** MAI 117 C0218 UK-3**Current version :** 3.0.2, issued: 09.03.2022**Replaced version:** 3.0.1, issued: 27.04.2020**Region:** GB

Flammability	
Not applicable	

Lower explosion limit	
No data available	

Upper explosion limit	
No data available	

Vapour pressure	
Value	9 * 10 ⁻⁵ Pa
Reference temperature	20 °C
Reference substance	N-Isomer
Source	Manufacturer

Relative vapour density	
No data available	

Relative density	
No data available	

Density	
Value	1.1891 g/ml
Reference temperature	20 °C

Solubility	
No data available	

Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.
1	Flufenacet (ISO)	142459-58-3	-
	log Pow	3.2	
	Reference temperature	20 °C	
	Source	Manufacturer	

Viscosity	
Not applicable	

Particle characteristics	
No data available	

9.2 Other information

Other information	
No data available.	

SECTION 10: Stability and reactivity**10.1 Reactivity**

The product is stable under normal storage and handling conditions.

10.2 Chemical stability

Stable under recommended storage and handling conditions (See section 7).

10.3 Possibility of hazardous reactions

Dangerous reactions are not to be expected when handling product according to its intended use.

10.4 Conditions to avoid

Temperatures > 40°C

10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

Trade name: Sunfire**Product no.:** MAI 117 C0218 UK-3**Current version :** 3.0.2, issued: 09.03.2022**Replaced version:** 3.0.1, issued: 27.04.2020**Region:** GB**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute oral toxicity			
No	Product Name		
1	Sunfire		
LD50	300	- 2000	mg/kg
Species	rat		
Method	OECD 423		
Source	Manufacturer		

Acute dermal toxicity	
No	Product Name
1	Sunfire
Evaluation/classification	Based on available data, the classification criteria are not met.

Acute inhalational toxicity	
No	Product Name
1	Sunfire
State of aggregation	Dust/mist
Evaluation/classification	Based on available data, the classification criteria are not met.

Skin corrosion/irritation	
No	Product Name
1	Sunfire
Evaluation/classification	Based on available data, the classification criteria are not met.

Serious eye damage/irritation	
No	Product Name
1	Sunfire
Evaluation/classification	Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation	
No	Product Name
1	Sunfire
Route of exposure	Skin
Method	OECD 429
Source	Manufacturer
Evaluation/classification	Based on available data, the classification criteria are not met.

Germ cell mutagenicity			
No	Substance name	CAS no.	EC no.
1	Flufenacet (ISO)	142459-58-3	-
Source	Manufacturer		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Reproduction toxicity			
No	Substance name	CAS no.	EC no.
1	Flufenacet (ISO)	142459-58-3	-
Source	Manufacturer		
Evaluation/classification	Based on available data, the classification criteria are not met.		

Carcinogenicity			
No	Substance name	CAS no.	EC no.
1	Flufenacet (ISO)	142459-58-3	-
Source	Manufacturer		
Evaluation/classification	Based on available data, the classification criteria are not met.		

STOT - single exposure	
No data available	

STOT - repeated exposure	
No	Product Name
1	Sunfire
Source	Manufacturer

Trade name: Sunfire**Product no.:** MAI 117 C0218 UK-3**Current version :** 3.0.2, issued: 09.03.2022**Replaced version:** 3.0.1, issued: 27.04.2020**Region:** GB

Effects

May cause damage to organs through prolonged or repeated exposure

Aspiration hazard

No data available

11.2 Information on other hazards**Endocrine disrupting properties**

No data available.

Other information

No data available.

SECTION 12: Ecological information**12.1 Toxicity****Toxicity to fish (acute)**

No data available

Toxicity to fish (chronic)

No	Product Name
1	Sunfire
NOEC	0.2 mg/l
Duration of exposure	97 day(s)
Species	Oncorhynchus mykiss
Source	Manufacturer

1 Sunfire

NOEC

0.2

mg/l

Duration of exposure

97

day(s)

Species

Oncorhynchus mykiss

Source

Manufacturer

Toxicity to Daphnia (acute)

No data available

Toxicity to Daphnia (chronic)

No	Product Name
1	Sunfire
NOEC	3.26 mg/l
Duration of exposure	21 day(s)
Species	Daphnia magna
Source	Manufacturer

1 Sunfire

NOEC

3.26

mg/l

Duration of exposure

21

day(s)

Species

Daphnia magna

Source

Manufacturer

Toxicity to algae (acute)

No	Product Name
1	Sunfire
ErC50	0.0045 mg/l
Duration of exposure	120 h
Species	Selenastrum capricornutum
Source	Manufacturer
EbC50	0.00204 mg/l
Duration of exposure	72 h
Species	Selenastrum capricornutum
Source	Manufacturer

1 Sunfire

ErC50

0.0045

mg/l

Duration of exposure

120

h

Species

Selenastrum capricornutum

Source

Manufacturer

EbC50

0.00204

mg/l

Duration of exposure

72

h

Species

Selenastrum capricornutum

Source

Manufacturer

Toxicity to algae (chronic)

No data available

Bacteria toxicity

No data available

12.2 Persistence and degradability**Biodegradability**

No	Substance name	CAS no.	EC no.
1	Flufenacet (ISO)	142459-58-3	-
Source	Manufacturer		
Evaluation	not readily biodegradable		

CAS no.

EC no.

1 Flufenacet (ISO)

142459-58-3

-

Source

Manufacturer

Evaluation

not readily biodegradable

12.3 Bioaccumulative potential

Trade name: Sunfire**Product no.:** MAI 117 C0218 UK-3**Current version :** 3.0.2, issued: 09.03.2022**Replaced version:** 3.0.1, issued: 27.04.2020**Region:** GB

Bioconcentration factor (BCF)			
No	Substance name	CAS no.	EC no.
1	Flufenacet (ISO)	142459-58-3	-
BCF		71	
Source		Manufacturer	

Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.
1	Flufenacet (ISO)	142459-58-3	-
log Pow		3.2	
Reference temperature		20	°C
Source		Manufacturer	

12.4 Mobility in soil

Mobility in soil			
No	Substance name	CAS no.	EC no.
1	Flufenacet (ISO)	142459-58-3	-
log Koc		2.305	
Source		Manufacturer	

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	
PBT assessment	According to the information provided in the supply chain, the mixture does not contain > 0.1% of a substance that is considered to be PBT.
vPvB assessment	According to the information provided in the supply chain, the mixture does not contain > 0.1% of a substance that is considered to be vPvB.

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

Other adverse effects
No other ecological effects are to be mentioned specifically. See the product label for additional instructions on environmental precautions when applying the product. An environmental hazard cannot be ruled out in the event of unprofessional handling or disposal.

12.8 Other information

Other information
Do not discharge product unmonitored into the environment.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging

Residues must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

SECTION 14: Transport information**14.1 Transport ADR/RID/ADN**

Class 9
Classification code M6

Trade name: Sunfire**Product no.:** MAI 117 C0218 UK-3**Current version :** 3.0.2, issued: 09.03.2022**Replaced version:** 3.0.1, issued: 27.04.2020**Region:** GB

Packing group	III
Hazard identification no.	90
UN number	UN3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical name	Flufenacet (ISO)
Tunnel restriction code	-
Label	9
Environmentally hazardous substance mark	Symbol "fish and tree"

14.2 Transport IMDG

Class	9
Packing group	III
UN number	UN3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Technical name	Flufenacet (ISO)
EmS	F-A, S-F
Label	9
Marine pollutant mark	Symbol "fish and tree"

14.3 Transport ICAO-TI / IATA

Class	9
Packing group	III
UN number	UN3082
Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.
Technical name	Flufenacet (ISO)
Label	9
Environmentally hazardous substance mark	Symbol "fish and tree"

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user

No data available.

14.7 Maritime transport in bulk according to IMO instruments

Not relevant

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulations****Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

REACH candidate list of substances of very high concern (SVHC) for authorisation

According to available data and the information provided by preliminary suppliers, the product does not contain substances that are considered substances meeting the criteria for inclusion in annex XIV (List of Substances Subject to Authorisation) as laid down in Article 57 and article 59 of REACH (EC) 1907/2006.

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES

The product is considered being subject to REACH regulation (EC) 1907/2006 annex XVII.	No 3
--	------

The product contains following substance(s) that are considered being subject to REACH regulation (EC) 1907/2006 annex XVII.

No	Substance name	CAS no.	EC no.	No
----	----------------	---------	--------	----

Trade name: Sunfire**Product no.:** MAI 117 C0218 UK-3**Current version :** 3.0.2, issued: 09.03.2022**Replaced version:** 3.0.1, issued: 27.04.2020**Region:** GB

1	1,2-benzisothiazol-3(2H)-one	2634-33-5	220-120-9	75
2	Flufenacet (ISO)	142459-58-3	-	75

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

This product is subject to Part I of Annex I, risk category:

E1

Other regulations

Adhere to the national sanitary and occupational safety regulations when using this product.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this mixture.

SECTION 16: Other information**Sources of key data used to compile the data sheet:**

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.

Creation of the safety data sheet

UMCO GmbH

Georg-Wilhelm-Str. 187, D-21107 Hamburg

Tel.: +49 40 / 555 546 300 Fax: +49 40 / 555 546 357 e-mail: umco@umco.de

This information is based on our present knowledge and experience.

The safety data sheet describes products with a view to safety requirements.

It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.

Document protected by copyright. Alterations or reproductions require the express written permission of UMCO GmbH.

Prod-ID 761627