

Product no.: LC 117-118 C0245/UK

Current version: 2.0.4, issued: 28.06.2023 Replaced version: 2.0.3, issued: 22.06.2023 Region: GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name

FIRESTORM

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

Herbicide

Uses advised against

No data available.

1.3 Details of the supplier of the safety data sheet

Address

Certis Belchim B.V. (EU)

Stadsplateau 16

3521 AZ Utrecht - Nederland

Telephone no. 0031 (0)30 200 1200 Fax no. 0031 (0)30 310 0241 e-mail info@certisbelchim.com

Advice on Safety Data Sheet

www.certisbelchim.com

Identification of the supplier

Address

Certis Belchim B.V. - United Kingdom

Suite 5, 3 Riverside, Granta Park - Great Abington

Cambridgeshire CB21 6AD

United Kingdom

Telephone no. 0044 (0) 1223 652500 Fax no. 0044 (0)1223 891210

e-mail info.uk@certisbelchim.com - www.certisbelchim.co.uk

1.4 Emergency telephone number

Carechem 24 EU: +44 1235 239670

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 Appex Lto 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



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Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)

Hazard pictograms







Signal word

Warning

Hazardous component(s) to be indicated on label:

Flufenacet (ISO)

Hazard statement(s)

H302 Harmful if swallowed.

H373 May cause damage to the nervous system through prolonged or repeated exposure if

swallowed.

H410 Very toxic to aquatic life with long lasting effects.

Hazard statements (EU)

EUH208 Contains Flufenacet (ISO). May produce an allergic reaction.

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statement(s)

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.

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.

2.3 Other hazards

PBT assessment

The components of this product are not considered to be a PBT.

vPvB assessment

The components of this product are not considered to be a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable. The product is not a substance.

3.2 Mixtures

Chemical characterization

Flufenacet + Diflufenican 400 g/l + 200 g/l (SC)

Hazardous ingredients

	Hazardous ingredients					
No	Substance name		Additional information			
	CAS / EC / Index /	dex / Classification (EC) 1272/2008 (CLP) Concentration			%	
	REACH no					
1	Flufenacet (ISO)					
	142459-58-3	Acute Tox. 4*; H302	>=	25.00 - <	50.00	wt%
	-	Aquatic Acute 1; H400				
	613-164-00-9	Aquatic Chronic 1; H410				
	-	Skin Sens. 1; H317				
		STOT RE 2*; H373**				
2	diflufenican					
	83164-33-4	Aquatic Chronic 3; H412	>=	5.00 - <	10.00	wt%
	-					
	616-032-00-9					
	-					
3	glycerol					



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56-81-5 200-289-5	-	<	2.50	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	-

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

Acu	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

Symptoms

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 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



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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.

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 discharge uncontrolled 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		



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WEL long-to	erm (8-hr TWA reference period)	10 r	mg/m³
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8.2 Exposure controls

Appropriate engineering controls

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		
Suspension		
Ouspension		
Colour		
white to beige		

Odour	
characteristic	

pH value	
Value	4.0 - 6.5
Reference temperature	23 °C
Concentration	100 %
Source	Manufacturer

Boiling point / boiling range				
Value	>	100	°C	
Source	Manufacturer			

Melting point/freezing point	
No data available	

Decomposition temperature	
Decemposition temperature	
No data available	

Flash point	
No data available	

Ignition temperature	
No data available	

Flammability



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No data available

Lower explosion limit

No data available

Upper explosion limit

No data available

Vapour pressure

No data available

Relative vapour density

No data available

Relative density

No data available

Density

Value 1.19 g/cm³
Reference temperature 20 °C

Source Manufacturer

Solubility in water

Source Manufacturer
Comments dispersible

Solubility

No data available

Part	Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.		EC no.
1	Flufenacet (ISO)	142459-58-3		-
log F	Pow		3.2	
Refe	erence temperature		20	°C
Soul	rce	Manufacturer		
2	diflufenican	83164-33-4		-
log F	Pow		4.2	
Refe	erence temperature		20	°C
Meth	nod	OECD 117		

Kinematic viscosity

No data available

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

None, if handled according to intended use.

10.5 Incompatible materials

None known.



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10.6 Hazardous decomposition products

Combustion or thermal decomposition may generate toxic vapours.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acu	Acute oral toxicity				
No	Product Name				
1	FIRESTORM				
LD5	0	500	-	2000	mg/kg
Spe	cies	rat			
Soul	rce	Manufacturer			
Com	nments	Analogous to a product w	vith a	similar composition	٦.

Acu	Acute dermal toxicity				
No	Product Name				
1	FIRESTORM				
LD5	0	>	4000	mg/kg	
Spe	cies	rabbit			
Soul	rce	Manufacturer			
Com	nments	Analogous to	product with a similar compos	ition.	

Acu	Acute inhalational toxicity				
No	Product Name				
1	FIRESTORM				
LC5	0	>	2.078	mg/m³	
Dura	ation of exposure		4	h	
Stat	e of aggregation	Dust/mist			
Spe	cies	rat			
Sou	rce	Manufacturer			
Con	nments	Analogous to pro-	duct with a similar composi	tion.	
Eval	uation/classification	Based on availab	le data, the classification cr	iteria are not met	
		(maximum achiev	able concentration, no mor	tality).	

Skin	Skin corrosion/irritation			
No	Product Name			
1	FIRESTORM			
Spec	cies	rabbit		
Sour	rce	Manufacturer		
Com	nments	Analogous to a product with a similar composition.		
Eval	uation	non-irritant		

Seri	Serious eye damage/irritation		
No	Product Name		
1	FIRESTORM		
Spec	cies	rabbit	
Soul	Source Manufacturer		
Com	nments	Analogous to product with a similar composition.	
Eval	uation	non-irritant	

Res	Respiratory or skin sensitisation			
No	Product Name			
1	FIRESTORM			
Rout	e of exposure	Skin		
Spec	Species mouse			
Sour	ce	Manufacturer		
Com	ments	Analogous to product with a similar composition.		
Eval	uation	non-sensitizing		

Geri	Germ cell mutagenicity			
No	Substance name	CAS no.	EC no.	



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1	Flufenacet (ISO)	142459-58-3 -
Sou	rce	Manufacturer
Eva	uation/classification	Based on available data, the classification criteria are not met.
2	diflufenican	83164-33-4 -
Sou	rce	Manufacturer
Eva	uation/classification	Based on available data, the classification criteria are not met.

Rep	Reproduction toxicity						
No	Substance name	CAS no.	EC no.				
1	Flufenacet (ISO)	142459-58-3	-				
Source		Manufacturer					
Eval	uation/classification	Based on available data, the classification criteria are not met.					
2	diflufenican	83164-33-4	-				
Source		Manufacturer					
Evaluation/classification Based on available data, the classification criteria are not met.		n criteria are not met.					

Card	Carcinogenicity							
No	Substance name	CAS no.	EC no.					
1	Flufenacet (ISO)	142459-58-3	-					
Source		Manufacturer						
Eval	uation/classification	Based on available data, the classification criteria are not met.						
2	diflufenican	83164-33-4	-					
Source Manufacturer								
Eval	Evaluation/classification Based on available data, the classification criteria are not met.							

STO	STOT - single exposure						
No	Substance name	CAS no.	EC no.				
1	diflufenican	83164-33-4	-				
Eval	Evaluation/classification Based on available data, the classification criteria are not met.						

STO	STOT - repeated exposure							
No	Substance name	CAS no.	EC no.					
1	Flufenacet (ISO)	142459-58-3	-					
Soul	Source Manufacturer							
Eval	uation/classification	Based on available data, the class	sification criteria are met.					
2	diflufenican	83164-33-4	-					
Soul	Source Manufacturer							
Eval	Evaluation/classification Based on available data, the classification criteria are not met.							

Aspiration hazard	
No data available	

11.2 Information on other hazards

Endocrine disrupting properties

No data available.

Other information

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

SECTION 12: Ecological information

12.1 Toxicity

Toxi	Toxicity to fish (acute)						
No	Product Name						
1	FIRESTORM						
LC5	0		54.9	mg/l			
Dura	ation of exposure		96	h			
Species		Cyprinus carpio					
Species Source		Cyprinus carpio Manufacturer					



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Toxicity to fish (chronic)

No data available

Toxi	Toxicity to Daphnia (acute)						
No	Product Name						
1	FIRESTORM						
EC5	0		68.2	mg/l			
Dura	ation of exposure		48	h			
Spec	cies	Daphnia magna					
Sour	rce	Manufacturer					

Toxicity to Daphnia (chronic)

No data available

Toxi	Toxicity to algae (acute)						
No	Product Name						
1	FIRESTORM						
EC/L	EC/LC50 0.00885 mg/l			mg/l			
Dura	Duration of exposure 72 h			h			
Soul	rce	Manufacturer					

Toxicity to algae (chronic)

No data available

Bacteria toxicity
No data available

12.2 Persistence and degradability

Biod	Biodegradability					
No	Substance name	CAS no.	EC no.			
1	Flufenacet (ISO)	142459-58-3	-			
Soul	rce	Manufacturer				
Eval	uation	not readily biodegradable				
2	diflufenican	83164-33-4	-			
Soul	rce	Manufacturer				
Eval	uation	Moderate to highly persistence in soils				

12.3 Bioaccumulative potential

Biod	Bioconcentration factor (BCF)						
No	Substance name		CAS no.		EC no.		
1	Flufenacet (ISO)		142459-58-3		-		
BCF				71			
Sour	rce	Manufacturer					
2	diflufenican		83164-33-4		-		
BCF		1276	-	1596			
Meth	nod	OECD 305					

Part	Partition coefficient n-octanol/water (log value)						
No	Substance name	CAS no.	EC no.				
1	Flufenacet (ISO)	142459-58-3	-				
log F	Pow	3.2					
Refe	erence temperature	20	°C				
Soul	rce	Manufacturer					
2	diflufenican	83164-33-4	-				
log F	Pow	4.2					
Refe	erence temperature	20	°C				
Meth	nod	OECD 117					

12.4 Mobility in soil

Mok	Mobility in soil					
No	Substance name	CAS no.	EC no.			
1	Flufenacet (ISO)	142459-58-3	-			



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log Koc		2.305	
Source		Manufacturer	
2	diflufenican	83164-33-4 -	
log Koc		3.534	
Source		Manufacturer	

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment			
PBT assessment	The components of this product are not considered to be a PBT.		
vPvB assessment	The components of this product are not considered to be a vPvB.		

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

12.8 Other information

011		4
Other	ıntorı	mation

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
Packing group III
Hazard identification no. 90
UN number UN3082

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Technical name Flufenacet (ISO) diflufenican

Tunnel restriction code - label 9

Environmentally hazardous Symbol "fish and tree"

substance mark

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) diflufenican

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



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UN number UN3082

Proper shipping name Environmentally hazardous substance, liquid, n.o.s.

Technical name Flufenacet (ISO) diflufenican

Label

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
1	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:

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)



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H317 May cause an allergic skin reaction.

H400 Very toxic to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

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.

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