

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

1.1. Product identifier

Product form	: Mixture
Product name	: Starfire
Product code	: MSI 000 C0218
Type of formulation	: Suspension concentrate (SC)
Active Ingredient	: Flufenacet
MAPP	: 18179

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

2.1. Relevant identified uses

Main use category	: Plant protection product for professional use. Agriculture.
Use of the substance/mixture	: Herbicide.

1.2.2. Uses advised against

No additional information available.

1.3. Details of the supplier of the safety data sheet

CERTIS UK

Suite 5, 3 Riverside

Granta Park

Great Abington

Cambridgeshire CB21 6AD

United Kingdom

Tel: +44 (0)845 373 0305

Fax: +44 (0)1223 891210

Email: certis@certiseurope.co.uk

Website: www.certiseurope.co.uk

1.4. Emergency telephone number

Emergency number	: Certis Carechem24 multilingual 24 hours emergency number: +44 (0) 870 190 6777. For advice on medical emergencies, fires, spillages or chemical hazards only –phone: 0870 190 6777. For further advice for medical professionals - The National Poisons Information Service: Tel: 0870 600 6266 (UK only) or Dublin Tel: 0035 3 137 99 64/379966. For further advice for veterinary surgeons: 020 7635 9195.
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral) H302

STOT RE 2 H373

Aquatic Acute 1 H400

Aquatic Chronic 1 H410

Full text of H-phrases: see section 16.

2.2. Label elements
Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Warning

Hazard statements (CLP)

 : 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.

Precautionary statements (CLP)

 : P260 - Do not breathe gas/mist/vapours/spray.
 P264 - Wash hands, forearms and face thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P301+P312 - IF SWALLOWED: Call a POISON CENTER or 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 empty clean containers which can be disposed of as non-hazardous waste.

EUH-statements

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

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients
3.1. Substance

Not applicable.

3.2. Mixture

Name	Product identifier	% (w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Flufenacet	(CAS No) 142459-58-3	< 50	Acute Tox. 4 (Oral), H302 Skin Sens. 1, H317 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16.

SECTION 4: First aid measures
4.1. Description of first aid measures

First-aid measures general

: In the event of any complaints or symptoms, avoid further exposure.

First-aid measures after inhalation

: IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist call a doctor.

First-aid measures after skin contact	: IF ON SKIN: Wash with plenty of soap and water. Remove contaminated clothing and shoes. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: IF IN EYES: Rinse cautiously with water for at least 15 minutes, also under eyelides. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist.
First-aid measures after ingestion	: IF SWALLOWED: Immediately call a POISON CENTER or doctor. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : No information available.

4.3. Indication of any immediate medical attention and special treatment needed

The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray
Dry chemical powder
Alcohol resistant foam
Carbon dioxide (CO₂).

Unsuitable extinguishing media : Water spray jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustion or thermal decomposition may generate toxic vapours: chlorine compounds, nitrogen oxides, carbon monoxide, hydrocarbons.

5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire.
Fight fire from safe distance and protected location.
Do not breathe fumes
Cool closed containers exposed to fire with water spray
If possible, take the containers out of dangerous zone.
Contain fire-fighting water with dikes or absorbents to prevent migration and entry into sewers, streams or groundwater.

Protection during firefighting : Wear suitable protective clothing, gloves, eye/face protection and respiratory protection
Wear a self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Protective equipment : Wear suitable protective clothing, gloves and eye/ face protection.

Emergency procedures : Evacuate area.
Ensure adequate ventilation.
Avoid direct contact with the substance.
Contain any spills with dikes or absorbents to prevent migration and entry into sewers, streams or groundwater.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

Notify the authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it.
- Once absorbed collect spilled material with shovels, buckets and place in closed containers and label properly.
- Remove as chemical waste, according to national or local legislation.
- In the event of major spillage: contact an expert.

6.4. Reference to other sections

See sections 7-8-13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Read label before use.
- Avoid contact with eyes, skin, nose and mouth.
- Wear suitable protective clothing, gloves and eye/face protection.
- Opened containers must be carefully closed and kept upright to avoid leakage.
- Hygiene measures : Always wash your hands immediately after handling this product, and once again before leaving the workplace.
- Contaminated work clothing should not be allowed out of the workplace.
- Do not eat, drink or smoke when using this product.
- Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Provide adequate ventilation.
- Storage conditions : Prevent unauthorised access.
- Keep locked up and out of the reach of children.
- Keep in original containers, tightly closed.
- Keep away from food, drink and animal feedingstuffs.
- Protect against frost.
- Keep away from heat and direct sunlight.
- Shelf life : The product is expected to be stable for two years.

7.3. Specific end use(s)

Herbicide for agricultural use. Refer to the label.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available.

8.2. Exposure controls

- Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
- Hand protection : Wear impervious gloves resistant to chemical. Nitrile rubber.

Eye protection	: Safety goggles or a face shield.
Skin and body protection	: Protective clothing with long sleeves waterproof and resistant to chemicals. Rubber boots.
Respiratory protection	: Wear appropriate respirator for dust / organic vapors.
Hygiene measures	: Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke while handling the product. Clean gloves with soap and water before removing. Wash hands and face with soap and water before eating, drinking smoking and immediately after handling product. Clean equipment, premises and work clothes regularly. Work clothing should remain on the work area and stored separately from street clothes.
Environmental exposure controls	: Discharge into the environment must be avoided. Do not contaminate surface and groundwater.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
pH of a 1% aqueous dilution	: 5,76
Flammability (solid, gas)	: 400°C: No flame detected
Relative density	: 1,1891 g/ml

9.2. Other information

Surface tension: Mean corrected surface tension at 20°C: 65,22 mN/m ± 1,84

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable at normal handling and storage conditions.

10.2. Chemical stability

Physically and chemically stable after storage for 8 weeks at 40°C.

10.3. Possibility of hazardous reactions

Hazardous polymerization does not occur.

Is not explosive and does not exhibit oxidant properties.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Combustion or thermal decomposition may generate toxic vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed.

Starfire	
LD50 oral rat	> 300 - < 2000 mg/kg bw

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Flufenacet (142459-58-3)	
LC50 Fishes (<i>Leopomis macrochirus</i>)	2,13 mg/l (96h)
EC50 Daphnia (<i>Daphnia magna</i>)	30,9 mg/l (48h)
EC50 (<i>Lemna gibba</i>)	0,00243 mg/l (14d)
ErC50 Algae (<i>Pseudokrichneriella subcapitata</i>)	0,00973 mg/l (72h)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

The risk of bioaccumulation in aquatic food chains was assessed as low, based on a BCF of 71,4 (whole fish) and since during the depuration phase residues in fish declined with a half-life for clearance of 0,3 days.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

No additional information available

SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

UN-No.	: 3082
UN-No.(IATA)	: 3082

14.2. UN proper shipping name

Proper Shipping Name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Flufenacet)
Transport document description	: UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Flufenacet), 9, III, (E)

14.3. Transport hazard class(es)

Class (UN)	: 9
Class (IATA)	: 9 - Miscellaneous dangerous goods.

Hazard labels (UN) : 9



14.4. Packing group

Packing group (UN) : III

14.5. Environmental hazards

Dangerous for the environment :
 Marine pollutant :



14.6. Special precautions for user

14.6.1. Overland transport

Hazard identification number (Kemler No.) : 90
 Classification code (UN) : M6
 Orange plates :



14.6.2. Transport by sea

EmS-No. (1) : F-A
 EmS-No. (2) : S-F

14.6.3. Air transport

No additional information available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions
 Contains no REACH candidate substance

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Indication of changes:

Change date	Previous Version	Section	Changed Item	Change	Comments
19/05/2015	1.0	14	ADR: 3077	Modified	Rob Schoonbeek proposal.
22/05/2015	2.0	2.2	P phrases	Modified	According to Appendix 3 to CRD.

08/06/2015	2.1	2.2	1,2-benzisothiazolin-3-one (002634-33-5)	Added	Biocide co-formulate.
25/06/2015	2.4	2.2	P270, P313, P302+P352	Removed	Consultant remark
			P314	Added	Consultant remark
29/06/2015	2.5	2.2	P333+ P314	Modified	Text modified by RA
04/03/2015	2.7	7,9,11,12	Updated		According to Core Assessment, December 2015
07/08/2018	2.8	1	MAPP:	Modified	

Full text of H phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Skin Sens. 1	Sensitisation — Skin, category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects