SAFETY DATA SHEET
According to Regulation (EC) No 1907/2006 (REACH)
and Commission Regulation (EU) No 453/2010

SVEN

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

1.1. Product identifier

SVEN
Esfenvalerate, 25 g/l emulsifiable concentrate
GIFAP Code : EC
EC number: not applicable

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

Insecticide (agricultural use)
Not for public use

1.3. Details of the supplier of the safety data sheet

INTERFARM (UK) LIMITED
36 Newgate Street
Doddington
Cambridgeshire PE15 0SR
United Kingdom
Tel.: +44 (0)1354 741414
email: technical@interfarm.co.uk

1.4. Emergency Telephone number 24/24hrs

UK & Ireland; +44 (0)844 560 5135

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classified as hazardous according to regulation (EC) No 1272/2008 (CLP)

Signal word(s) **Danger**

Pictogram (s)

Flam. liq. Cat 3

Acute oral Cat 4
Acute inhal. Cat 4
Skin sens. Cat 1A

Serious eye dam. Cat 1

Asp. Hazard Cat 1
STOT RE Cat 2

Aquatic Acute Cat 1
Aquatic Chronic Cat 1

Hazard statement(s)

H226: Flammable liquid and vapour
H302: Harmful if swallowed
H304: May be fatal if swallowed and enters airways
H332: Harmful if inhaled.
H318: Causes serious eye damage
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.

Classified as hazardous according to:

- EU directive 67/548/EEC modified by Directive 2001/59/EC (results of the experimental studies),
- Directives 1999/45/EC, 2001/60/EC, 2006/8/EC (classification based on the concentration of active substance and ingredients),
- Directive 2003/82/EC for pesticides (special risks and safety precautions).


Symbol(s) HARMFUL (Xn) DANGEROUS FOR THE ENVIRONMENT (N)

R(isk) phrase(s)

R10: Flammable
R20/22: Harmful by inhalation and if swallowed
R41: Risk of serious damage to eyes
R43: May cause sensitisation by skin contact
R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R65: Harmful: may cause lung damage if swallowed.
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

2.2. Label elements

Signal word(s) **Danger**

Pictogram (s)





Hazard statement(s)

H226: Flammable liquid and vapour
H302: Harmful if swallowed
H304: May be fatal if swallowed and enters airways
H332: Harmful if inhaled.
H318: Causes serious eye damage
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H373: May cause damage to organs through prolonged or repeated exposure
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P210: Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P331: Do NOT induce vomiting.
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P501 (UK): Dispose of contents/container to a licensed hazardous-waste contractor or collection site except for empty clean containers, which can be disposed of as non-hazardous waste.
EUH 401: To avoid risks to human health and the environment, comply with the instructions for use.

Special risks and safety precautions (directive 91/414/EEC):

General provisions	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).
Specific safety precautions	SPo 2: Wash all protective clothing after use. SPe 3: To protect aquatic organisms respect an unsprayed buffer zone of 5 metres to surface water bodies.
2.3. Other hazards	May cause a transient itching and/or burning sensation in exposed human skin (paresthesia).

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. This product is to be considered as a mixture in conformance to EC directives.

Composition/Information on hazardous ingredients

Number	% w/v	CAS number	Chemical name
1	2.5	66230-04-4	(*S*)-.alpha.-Cyano-3-phenoxybenzyl(*S*)-2-(4-chlorophenyl)-3-methylbutyrate
2	≥1	122-99-6	2-Phenoxyethanol
3	≥10	1330-20-7	Xylene
4	≥10	100-41-4	ethylbenzene
5	≥10	90989-38-1	aromatic hydrocarbons C8

Number	EC number	Annex-1 listing	Regl 1272/2008 Pict.	Hazard statements	Symbol 2001/59/EC	R phrase(s)
1	/	yes	GHS06, GHS09	H331, H301, H317, H400, H410	T, N	R23/25, R43, R50/53
2	204-589-7	/	GHS07	H302, H319	Xn	R22, R36
3	215-535-7	/	GHS02, GHS07, GHS08	H226, H332, H312, H315 H304, H319, H335, H373	Xn	R10, R20/21, 36/37/38, R65, R48/20
4	202-849-4	/	GHS02, GHS07, GHS08	H225, H332, H315, H319, H335, H373, H304	F, Xn	R11, R20, R36/37/38 R48/20, R65
5	292-694-9	/	GHS02, GHS07, GHS08	H226, H312, H332, H315, H319, H335, H373, H304	Xn	R10, R20/21, R36/37/38 R48/20, R65

Other information SCAE code : R707

4. FIRST AID MEASURES

4.1. Description of first aid measures

General	In all cases of doubt, or when symptoms persist, seek medical attention.
Inhalation	Move to fresh air. If symptoms persist, seek medical advice.
Skin	Remove contaminated clothing. Wash immediately with soap and water.
Eye	Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Always seek medical advice.
Ingestion	Rinse mouth. . Do NOT induce vomiting in unconscious or confused persons. Seek medical advice.

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

May cause a transient itching and/or burning sensation in exposed human skin. Synthetic pyrethroids can produce paresthesia. Typically, symptoms begin several hours after cutaneous exposure, peaks within 12 hours and resolves within about 24 hours.
Harmful by inhalation and if swallowed. Risk of serious damage to eyes. May cause sensitisation by skin contact. May be fatal if swallowed and enters airways. May cause damage to organs through prolonged or repeated exposure.

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

Symptomatic treatment is advised.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media	Dry chemical powder, carbon dioxide, sand, foam.
Unsuitable extinguishing media	Water with full waterjet

5.2. Special hazards arising from the substance or mixture

May emit toxic and irritating fumes under fire conditions.

5.3. Advice for fire-fighters — Wear self contained breathing apparatus. Wear suitable protective clothing and eye/face protection.

Other information — Water used to extinguish a fire should not be allowed to enter the drainage system or watercourses.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel — Do not breathe spray. Avoid contact with skin and eyes. Wear protective gloves, safety goggles or face shield, and suitable protective clothing.
Remove ignition sources.
Evacuate the danger area.

For emergency responders — Do not breathe spray. Avoid contact with skin and eyes. Wear protective nitrile gloves, safety goggles or face shield, and suitable protective clothing.
Remove ignition sources.
Evacuate the danger area or consult an expert.

6.2. Environmental precautions — Do not allow escape into sewage system or watercourses. Do not wash residues into drains or other waterways.

6.3. Methods and material for containment and cleaning up

Containment of a spill — Do not allow escape into sewage system or watercourses.

Clean-up procedures — In case of spill (liquid), soak it up immediately with suitable absorbent such as sawdust or granular absorbent clay. Sweep up and place into sealable containers. Dig up heavily contaminated soil and place into drums. Use a damp cloth to clean floors and other objects, and also place in sealable container. Dispose of all waste and contaminated clothing in the same manner as waste chemicals (i.e. via an authorized disposal facility). Do not wash residues into drains or other waterways.

6.4. Reference to other sections — For personal protection see section 8.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling — The usual precautions for handling chemicals should be observed. For personal protection see section 8.

Fire and explosion prevention — Keep away from sources of ignition – No smoking. Prevent electrostatic discharges. Above the flash point an explosive mixture can be formed.

7.2. Conditions for safe storage, including any incompatibilities

Storage requirements — Store in a dry and cool place. Keep container in a well-ventilated place. Keep away from heat. Keep container tightly closed. Keep away from food, drink and animal feedingstuffs. Do not drink, eat and smoke in work areas.

Other information — Do not mix with water (except for the normal preparation).

7.3. Specific end use(s) — See label on the container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters — There is no national exposure limit for this product.
No chemical safety report is required for this kind of product. The following exposure limit(s) apply for:

Name		
Xylene	WEL-TWA (UK)	220.000 mg/m^3 Can be absorbed through skin
	WEL-STEL (UK)	441.000 mg/m^3 Can be absorbed through skin
Ethylbenzene	WEL-TWA (UK)	441.000 mg/m^3 Can be absorbed through skin
	WEL-STEL (UK)	552.000 mg/m^3 Can be absorbed through skin

8.2. Exposure controls

Appropriate engineering controls — Provide adequate ventilation.
Individual protection measures
Personal protection

Respiratory	The usual precautions for handling chemicals should be observed.
Hand	Wear protective nitrile gloves.
Eye	Wear safety goggles or face shield.
Skin and body	Wear suitable protective clothing.
Other information	Launder clothes before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Name	***Esfenvalerate, 25 g/l emulsifiable concentrate***
Appearance	clear liquid (visual inspection)
Colour	pale yellow (visual inspection)
Odour	faint characteristic (In-house method)
Odour threshold	not determined
pH value	5.7 (1% in water, CIPAC MT 75)
Melting point/freezing point	not applicable
Initial boiling point & boiling range	not determined
Flash point	27 °C (Tag closed tester method, ASTM D 56)
Evaporation rate	not applicable
Flammability	flammable (expert assessment)
Upper/lower flammability or explosive limits	not determined
Vapour pressure	not determined
Vapour density	not applicable
Relative density	0.89 g/ml (20°C) (EEC A3)
Bulk density	not applicable
Solubility in water	emulsifiable in water (solubility of Esfenvalerate: < 0.001 mg/l, 20°C, EEC A.6)
Solubility in other solvents	not applicable
Partition coefficient n-octanol/water	not determined (Esfenvalerate: log Pow = 6.24, 25°C, OECD 107)
Autoignition temperature	437°C (xylene) (EEC A.15)
Decomposition temperature	the active substance does not decompose below 360°C (boiling point)
Dynamic viscosity	1.2 mPa.s (20°C) (OECD 114)
Kinematic viscosity	0.8835 mm^2/s, 40°C (ASTM D445, based on OECD 114)
Explosive properties	vapours may form explosive mixtures with air (xylene)
Explosion limits	1.1 – 6.1 vol % (xylene)
Oxidising properties	not oxidizing (expert statement)

9.2. Other information

Relative vapour density (air = 1)	not determined
Surface tension	25.2 mN/m (25°C), 24.3 mN/m (40°C) (EEC A.5)

10. STABILITY AND REACTIVITY

10.1. Reactivity	Stable under recommended storage and handling conditions (see also section 7).
10.2. Chemical stability	Stable for a minimum of 2 years under recommended storage and handling conditions (see section 7).
10.3. Possibility of hazardous reactions	Vapours may form explosive mixtures with air (xylene).
10.4. Conditions to avoid	Avoid high temperature, light, humidity. Keep away from sources of ignition – No smoking.
10.5. Incompatible materials	Alkaline materials.
10.6. Hazardous decomposition products	May emit toxic and irritating fumes under fire conditions (see also section 5).

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Name	***Esfenvalerate, 25 g/l emulsifiable concentrate***

Acute toxicity	
Oral	LD50 rat: 436 mg/kg (OECD 401)
Dermal	LD50 rat: >2000 mg/kg (OECD 402)
Inhalation	LC50 rat (4 hours, whole body): 4.8 mg/l (OECD 403)
Irritation	
Skin	moderately irritating (EPA 81-5)
Eye	severely irritating (EPA 81-4)
Sensitisation	sensitising (maximisation test, OECD 406)

The following data are applicable to the ingredient listed below:

Name	**Active substance *Esfenvalerate technical grade***:
Other toxicological information	**-** Genotoxicity: negative (in-house methods) - Carcinogenicity (rats, mice): no carcinogenic effect. (US EPA 40 CFR Part 160, OECD 451) - Multigeneration reproduction study (rat): negative (OECD 416) - Teratogenicity studies (rat, rabbit): negative (US EPA 83-3) - Acute neurotoxicity (rat): NOAEL = 1.9 mg/kg for males and 1.75 mg/kg for females (OPPTS 870.6200, US EPA 712-C-98-238) - 90d-neurotoxicity (rat): NOAEL = 3.0 mg/kg bw/day (US EPA; OECD)

Based on the available data, the classification criteria are met for the acute toxicity, irritation and skin sensitization hazard classes.

Information on likely routes of exposure

This product is for agricultural use, therefore the most probable routes of exposure are via skin or inhalation.

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Name ***Esfenvalerate, 25 g/l emulsifiable concentrate***

No experimental ecological data are available on the preparation as such. The following data are applicable to a close formulation or ingredient(s) listed below:

Name	***Esfenvalerate, 50 g/l emulsifiable concentrate***
Fish	Acute toxicity, 96h-LC50 (*Oncorhynchus mykiss*) : 4.5 µg/l (OECD 203) 21 days-LC50 (*Oncorhynchus mykiss)* : 0.36 µg/l (No Observed Effect Concentration (NOEC) : 0.18 µg/l) (OECD 204)
Daphnia	Acute toxicity, 48h-EC50 *(Daphnia magna)* : 3.4 µg/l (static) (OECD 202) Reproduction test, 21d-EC50 *(Daphnia magna)* : 0.41 µg/l (No Observed Effect Concentration (NOEC) : 0.056 µg/l) (OECD 202)
Algae	Acute toxicity (*Scenedesmus subspicatus)* : 96h -EC50 (biomass) : 0.135 mg/l ; 24-48h EC50 (growth rate): 0.215 mg/l (No Observed Effect Concentration (NOEC) : 0.05 mg/l) (OECD 201)
Bees	Acute toxicity, 48h-oral LD50 *(Apis mellifera)* : 0.21 µg a.s./bee Acute toxicity, 48h-contact LD50 *(Apis mellifera)* : 0.07 µg a.s./bee Not expected to present a significant risk to honey bees under field conditions.
Earthworm	Acute toxicity, 14d-LC50 (*Eisenia foetida*): 212.5 mg/kg soil (i.e.10.6 mg a.s./kg soil) (OECD 207)

Name	**Active substance *Esfenvalerate, technical grade***
Fish	Acute toxicity, 96h-LC50 (*Oncorhynchus mykiss*): 0.1 µg/l (flow through) (OECD 203) Acute toxicity, 96h-LC50 (*Lepomis macrochirus*): 0.205 µg/l (flow through) (OECD 203)
Daphnia	Acute toxicity, 48h-EC50 *(Daphnia magna)*: 0.9 µg/l (EPA/600/4-85/013) Chronic toxicity, 21d-NOEC *(Daphnia magna)* : 0.052 µg/l (EPA/600/4-85/013)
Algae	Acute toxicity, (*Scenedesmus subspicatus)*: (OECD 201) 96h-EC_b50 = 6.5 µg/l (24-48h)-EC_r50 = 10 µg/l
Birds	Acute toxicity, LD50 (Mallard duck): > 2250 mg/kg b.w. (FIFRA 71-1) Acute toxicity, LD50 (Bobwhite quail): 1312 mg/kg b.w (FIFRA 71-1)
Bees	Acute contact toxicity, 48h-LD50 (*Apis mellifera)*: 0.06 µg/bee (in-house method) Not expected to present a significant risk to honey bees under field conditions.

Soil micro organisms	No significant impact on carbon mineralization or nitrogen transformation at up to 1278 g a.s./ha (BBA guidelines, VI, 1-1)
Earthworm	Acute toxicity, 14d-LC50 (*Eisenia foetida*): 10.6 mg a.s./kg soil. (OECD 207)

12.2. Persistence and degradability

The following data are applicable to ingredient(s) listed below:

Name	**Active substance *Esfenvalerate, technical grade***
Degradation Biotic	Not readily biodegradable (OECD 301C)
Degradation Abiotic	Hydrolysis (in house method) pH5: DT50 = 129 days at 25°C pH7: DT50 = limited hydrolysis pH9: DT50 = 65 days at 25°C
Biological methods for sewage treatment	3h-EC50 activated sludge: > 1000 mg/L (OECD 209)

12.3. Bioaccumulative potential

The following data are applicable to ingredient(s) listed below:

Name	**Active substance *Esfenvalerate, technical grade***
Bioaccumulation	Partition coefficient n-octanol/water log Pow : 6.24 (25°C) (OECD 107) Bio Concentration Factor (BCF), exposure 28 days (*Cyprinus carpio*): 2850 – 3650 (depuration time: CT50 = approx. 7 - 8 days)

12.4. Mobility in soil

The following data are applicable to ingredient(s) listed below:

Name	**Active substance *Esfenvalerate, technical grade***
	Adsorption K_{oc} values: 85,700 - 596,200 ; Desorption $K_{oc\text{-}des}$ values: 600-15000 for 6 soils. log Koc for esfenvalerate was 5.8 ; Therefore the substance is immobile (OECD 106).

12.5. Results of PBT and vPvB assessment

Not required (no chemical safety report required).

12.6. Other adverse effects No other known adverse effects on the environment.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Substance and/or Mixture	According to local regulations. For further advice contact manufacturer.
Contaminated packaging	According to local regulations.

14. TRANSPORT INFORMATION

Land transport ADR/RID, Sea transport IMO/IMDG, Air transport ICAO-TI/IATA-DGR:

14.1. UN Number 1993

14.2. UN proper shipping name FLAMMABLE LIQUID, N.O.S. (contains: approx. 85% xylene)

14.3. Transport hazard class(es)

Land transport ADR/RID class:	3	label:	3
IMO/IMDG code class:	3		
Air transport ICAO-TI/IATA-DGR class:	3		

14.4. Packing group III

14.5. Environmental hazards	Marine pollutant:	yes
14.6. Special precautions for user	EMS:	F-E, S-E
	No other special precaution required.	

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

Not applicable

15. REGULATORY INFORMATION

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

There is no specific regulation/legislation for this mixture.

15.2. Chemical safety assessment

No chemical safety assessment is required for this mixture.

16. OTHER INFORMATION

Method for evaluating information referred to in Article 9 of Regulation (EC) No 1272/2008 used for the purpose of classification:

Classification based on tests, properties of the active substance and of a close formulation (R506), classification of ingredients.

Changes made to the previous version: Sections 2, 3 & 16 were modified to introduce CLP hazard information and to declare hazardous ingredients according to CLP. Sections 9, 11, 12 & 16 were modified to include new data and the new voluntary classification for xylene, and consequences for the CLP classification of the mixture. Other sections were updated to meet the requirements of Regulation 453/2010. [Based on SA2.5ECxCLP/EU/510gb from SCAE]

Full text of risk phrase(s) used in this document)

R10: Flammable
R11: Highly flammable.
R20: Harmful by inhalation.
R22: Harmful if swallowed.
R20/21: Harmful by inhalation and in contact with skin
R20/22: Harmful by inhalation and if swallowed
R23/25: Toxic by inhalation and if swallowed
R36: irritating to eyes
R36/37/38: Irritating to eyes, respiratory system and skin.
R41: Risk of serious damage to eyes
R43: May cause sensitization by skin contact
R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R65: Harmful: may cause lung damage if swallowed.
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Full text of hazard statement(s) used in this document:

H225: Highly flammable liquid and vapour.
H226: flammable liquid and vapour
H301: toxic if swallowed
H302: Harmful if swallowed.
H304: May be fatal if swallowed and enters airways.
H312: harmful in contact with skin.
H332: harmful if inhaled
H315: causes skin irritation.
H317: may cause an allergic skin reaction
H318: Causes serious eye damage.
H319: Causes serious eye irritation
H331: toxic if inhaled
H335: May cause respiratory irritation.
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

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.