



# SUMITOMO CHEMICAL AGRO EUROPE S.A.S.

## SAFETY DATA SHEET

### Esfenvalerate 5 EC

According to Regulation (EC) No 1907/2006 (REACH)

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

##### 1.1. Product identifier

Product name	Esfenvalerate 5 EC
Name	Esfenvalerate, 50 g/l emulsifiable concentrate
GIFAP Code	EC
Reference of the SDS	SA5ECsxR506EU/540gb
Product number	R506
Synonyms; trade names	SUMI ALPHA, Asana, Sumi-Alpha, SUMICIDIN TOP, Sumicidin Alpha EC, Sumi Alpha 5 EC, Sumicidin 5 EC, Sumi Alfa 5 EC, WIZARD, Caronte, Mustang EC, OASIS 5 EC, Sumi Alpha 050 EC, Sumialpha 5 EC, SUMI-ALPHA 5 EC, Sumicidin 050 EC

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

Identified uses	Insecticide (agricultural use)
Uses advised against	Not for public use

##### 1.3. Details of the supplier of the safety data sheet

Supplier	SUMITOMO CHEMICAL AGRO EUROPE S.A.S Parc d'affaires de Crécy 10A rue de la voie lactée 69370 Saint-Didier-Au-Mont-D'Or France +33 (0)4 78 64 32 60 sds@sumitomo-chem.fr
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##### 1.4. Emergency telephone number

Emergency telephone	24 hours/24 Europe: +44 (0) 1235 239 670 Middle East & Africa: +44 (0) 1235 239 671
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#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Classification (EC 1272/2008)

Classified as hazardous according to	regulation (EC) No 1272/2008 (CLP)
Physical hazards	Flam. Liq. 3 - H226
Health hazards	Acute Tox. 4 - H302 Acute Tox. 4 - H332 Eye Dam. 1 - H318 Skin Sens. 1 - H317 STOT RE 2 - H373 Asp. Tox. 1 - H304
Environmental hazards	Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

##### 2.2. Label elements

## Esfenvalerate 5 EC

## Pictogram



## Signal word

Danger

## Hazard statements

H226 Flammable liquid and vapour.  
 H302+H332 Harmful if swallowed or if inhaled.  
 H304 May be fatal if swallowed and enters airways.  
 H317 May cause an allergic skin reaction.  
 H318 Causes serious eye damage.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H410 Very toxic to aquatic life with long lasting effects.

## Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P261 Avoid breathing fume/gas/mist/vapours/spray.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 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): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
 P331 Do NOT induce vomiting.  
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
 P501 Dispose of contents/ container in accordance with local regulations.

## Supplemental label information

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

Special Risks and safety precautions (Commission Regulation (EU) 547/2011):  
 General provisions

SP1 : Do not contaminate water with the product or its container (Do not clean application equipment near surface water).

Special Risks and safety precautions (Commission Regulation (EU) 547/2011):  
 Specific safety precautions

SPo 2: Wash all protective clothing after use.  
 SPe 3: To protect aquatic organisms respect an unsprayed buffer zone of (as indicated on the label) to surface water bodies.

**2.3. Other hazards**

May cause a transient itching and/or burning sensation in exposed human skin (paresthesia).

<b>SECTION 3: Composition/information on ingredients</b>
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**3.1. Substances**

Classification according to  
 Regl 1272/2008

**3.2. Mixtures**

Classification according to  
 Regl 1272/2008

**Esfenvalerate 5 EC****AROMATIC HYDROCARBONS, C8; LIGHT OIL  
REDISTILLATE, HIGH BOILING****≥ 10%**

CAS number: 90989-38-1

EC number: 292-694-9

**Classification**

Flam. Liq. 3 - H226  
Acute Tox. 4 - H312  
Acute Tox. 4 - H332  
Skin Irrit. 2 - H315  
Eye Irrit. 2 - H319  
STOT SE 3 - H335  
STOT RE 2 - H373  
Asp. Tox. 1 - H304

**ETHYLBENZENE****≥ 10%**

CAS number: 100-41-4

EC number: 202-849-4

**Classification**

Flam. Liq. 2 - H225  
Acute Tox. 4 - H332  
Skin Irrit. 2 - H315  
Eye Irrit. 2 - H319  
STOT SE 3 - H335  
STOT RE 2 - H373  
Asp. Tox. 1 - H304

**XYLENE****≥ 10%**

CAS number: 1330-20-7

EC number: 215-535-7

**Classification**

Flam. Liq. 3 - H226  
Acute Tox. 4 - H312  
Acute Tox. 4 - H332  
Skin Irrit. 2 - H315  
Eye Irrit. 2 - H319  
STOT SE 3 - H335  
STOT RE 2 - H373  
Asp. Tox. 1 - H304

## Esfenvalerate 5 EC

(S)-.alpha.-Cyano-3-phenoxybenzyl (S)-2-(4-chlorophenyl)-3-methylbutyrate 5.0%

CAS number: 66230-04-4

M factor (Acute) = 10000

M factor (Chronic) = 100000

**Classification**

Acute Tox. 3 - H301

Acute Tox. 3 - H331

Skin Sens. 1 - H317

Aquatic Acute 1 - H400

Aquatic Chronic 1 - H410

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts ≥ 1 - < 3%

CAS number: 68953-96-8

EC number: 273-234-6

**Classification**

Acute Tox. 4 - H312

Skin Irrit. 2 - H315

Eye Dam. 1 - H318

Aquatic Chronic 2 - H411

2-PHENOXYETHANOL ≥ 1%

CAS number: 122-99-6

EC number: 204-589-7

**Classification**

Acute Tox. 4 - H302

Eye Irrit. 2 - H319

The full text for all hazard statements is displayed in Section 16.

**Composition comments** All percentages displayed expressed as weight/weight.

**Other information** Code ID : R506

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

<b>General information</b>	In all cases of doubt, or when symptoms persist, seek medical attention.
<b>Inhalation</b>	Move affected person to fresh air at once. If symptoms persist, seek medical advice.
<b>Ingestion</b>	Rinse mouth. Do NOT induce vomiting. Get medical attention.
<b>Skin contact</b>	Remove contaminated clothing and rinse skin thoroughly with water.
<b>Eye contact</b>	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.

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

<b>Human Health</b>	May be fatal if swallowed and enters airways. Harmful if swallowed or if inhaled. Causes serious eye damage. May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure.
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## Esfenvalerate 5 EC

**General information** 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.

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

**Notes for the doctor** Symptomatic treatment is advised.

### **SECTION 5: Firefighting measures**

#### 5.1. Extinguishing media

**Suitable extinguishing media** Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

#### 5.2. Special hazards arising from the substance or mixture

**Specific hazards** In case of fire: Thermal decomposition may evolve toxic and irritant vapours.

#### 5.3. Advice for firefighters

**Protective actions during firefighting** Water used to extinguish a fire should not be allowed to enter the drainage system or water courses.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

### **SECTION 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 of ignition sources. Evacuate the danger area.

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

#### 6.2. Environmental precautions

**Environmental precautions** Do not allow to escape into sewage system or water courses. 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 to escape into sewage system or water courses.

**Methods for cleaning up** 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

**Reference to other sections** For personal protection, see Section 8.

### **SECTION 7: Handling and storage**

#### 7.1. Precautions for safe handling

**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 (in presence of a flame).

## Esfenvalerate 5 EC

**Usage precautions** Follow precautions for safe handling described in this safety data sheet.  
Avoid spilling.  
Do not allow to escape into sewage system or water courses.

**Advice on general occupational hygiene** Do not eat, drink or smoke when using this product.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage precautions** Store in tightly-closed, original container in a dry and cool place. Keep container in a well-ventilated place. Keep away from food, drink and animal feeding stuffs.

**Other information** Do not mix with water (except for the normal preparation).  
Store away from incompatible materials (see Section 10).

### 7.3. Specific end use(s)

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

## SECTION 8: Exposure Controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

According to local regulations.  
No chemical safety report is required for this kind of product.

### 8.2. Exposure controls

**Appropriate engineering controls** Provide adequate ventilation.

**Eye/face protection** Wear safety goggles or face shield.

**Hand protection** Wear protective gloves made of the following material: Nitrile rubber.

**Other skin and body protection** Wear appropriate clothing to prevent any possibility of skin contact.

**Hygiene measures** Wash contaminated clothing before reuse.

**Respiratory protection** The usual precautions for handling chemicals should be observed.

## SECTION 9: Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

**Name** Esfenvalerate, 50 g/l emulsifiable concentrate (Code ID : R506)

**Appearance** Clear liquid. (Visual assessment)

**Colour** Translucent pale yellow. (Visual assessment)

**Odour** Chemical odour. (Olfactory assessment)

**Odour threshold** Not determined.

**pH** pH (diluted solution): 5.82 (1%) @ 19°C (CIPAC MT 75.3)

**Melting point** Not determined.

**Initial boiling point and range** Not determined.

**Flash point** 28.5°C Closed cup. (EEC A.9, CIPAC MT 12.2)

**Evaporation rate** Not determined.

**Flammability (solid, gas)** Not determined.

## Esfenvalerate 5 EC

<b>Upper/lower flammability or explosive limits</b>	Not determined.
<b>Vapour pressure</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Relative density</b>	0.90 g/ml @ 20°C (EEC A.3)
<b>Bulk density</b>	Not applicable.
<b>Solubility(ies)</b>	Emulsifiable in water. (Esfenvalerate : Solubility : < 0.001 mg/l water @ 20°C (EEC A.6) )
<b>Solubility in other solvents</b>	Not applicable.
<b>Partition coefficient</b>	Not determined. (Esfenvalerate : log Pow: 6.24 @ 25°C (Pure substance) (OECD 107) )
<b>Auto-ignition temperature</b>	494°C (EEC A.15)
<b>Decomposition Temperature</b>	Not determined. (Esfenvalerate : Decomposition occurs at 356°C (boiling point) )
<b>Viscosity</b>	Dynamic viscosity: Not determined.  1.2862 mm <sup>2</sup> /s, Kinematic viscosity @ 20°C 0.9321 mm <sup>2</sup> /s, Kinematic viscosity @ 40°C (ASTM method D445-53T based on OECD 114)
<b>Explosive properties</b>	Not explosive. Expert judgement.
<b>Oxidising properties</b>	Not oxidising. Expert judgement.

### 9.2. Other information

**Relative vapour density (air = 1)** Not determined.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity** Stable under recommended storage and handling conditions. See also section 7.

### 10.2. Chemical stability

**Stability** Stable for a minimum of 2 years under recommended storage and handling conditions. See section 7.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** None known.

### 10.4. Conditions to avoid

**Conditions to avoid** Avoid high temperature, light, humidity. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

### 10.5. Incompatible materials

**Materials to avoid** Alkaline materials.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** In case of fire: Thermal decomposition may evolve toxic and irritant vapours. See also section 5.

## SECTION 11: Toxicological information

## Esfenvalerate 5 EC

### 11.1. Information on toxicological effects

<b>Name</b>	Esfenvalerate, 50 g/l emulsifiable concentrate (Code ID : R506)
<b><u>Acute toxicity - oral</u></b>	
<b>Acute toxicity oral</b>	LD <sub>50</sub> 399 mg/kg, Oral, Rat (OECD 401)
<b><u>Acute toxicity - dermal</u></b>	
<b>Acute toxicity dermal</b>	LD <sub>50</sub> > 2000 mg/kg, Dermal, Rat (OECD 402)
<b><u>Acute toxicity - inhalation</u></b>	
<b>Acute toxicity inhalation</b>	LC <sub>50</sub> , 4 hours: 2.6 mg/l, whole body, Inhalation, Rat (OECD 403)
<b><u>Skin corrosion/irritation</u></b>	
<b>Skin corrosion/irritation</b>	Mildly irritating. (OECD 404)
<b><u>Serious eye damage/irritation</u></b>	
<b>Serious eye damage/irritation</b>	Severe irritant. (OECD 405)
<b><u>Skin sensitisation</u></b>	
<b>Skin sensitisation</b>	Guinea pig maximization test (GPMT) - Guinea pig: Sensitising. (OECD 406)
<b>General information</b>	Based on the available data of these ingredients, the classification criteria are met for the following classes : acute toxicity. skin sensitisation. eye irritation. aspiration hazard. STOT RE. skin sensitisation.
<b>Route of exposure</b>	This product is for agricultural use; therefore the most probable routes of exposure are via skin or inhalation.

### Toxicological information on ingredients.

#### (S)-.alpha.-Cyano-3-phenoxybenzyl (S)-2-(4-chlorophenyl)-3-methylbutyrate

<b>Name</b>	esfenvalerate, technical grade
<b><u>Acute toxicity - oral</u></b>	
<b>Acute toxicity oral</b>	LD <sub>50</sub> 88.5 mg/kg, Oral, Rat (OECD 401)
<b><u>Acute toxicity - dermal</u></b>	
<b>Acute toxicity dermal</b>	LD <sub>50</sub> > 5000 mg/kg, Dermal, Rat (OECD 402)
<b><u>Acute toxicity - inhalation</u></b>	
<b>Acute toxicity inhalation</b>	LC <sub>50</sub> , 4 hours: 0.48 mg/l, whole body, Inhalation, male, Rat LC <sub>50</sub> , 4 hours: 0.57 mg/l, whole body, Inhalation, female, Rat (OECD 403)
<b><u>Skin corrosion/irritation</u></b>	
<b>Skin corrosion/irritation</b>	Weakly irritating. (OECD 404)
<b><u>Serious eye damage/irritation</u></b>	
<b>Serious eye damage/irritation</b>	Mildly irritating. (OECD 405)



## Esfenvalerate 5 EC

### Skin sensitisation

**Skin sensitisation** Guinea pig maximization test (GPMT) - Guinea pig: Sensitising. (OECD 406)

### Germ cell mutagenicity

**Genotoxicity - in vitro** Negative. (in house method)

**Genotoxicity - in vivo** Negative. (in house method)

### Carcinogenicity

**Carcinogenicity** (rats, mice) : No carcinogenic effect. (OECD 451)

### Reproductive toxicity

**Reproductive toxicity - fertility** Multi-generation study: Negative., Oral, Rat (OECD 416)

**Reproductive toxicity - development** Teratogenicity: Negative., Oral, Rat, Rabbit (US EPA 83-3)

**Acute Neurotoxicity** NOAEL 1.9 mg/kg, male, Rat NOAEL 1.75 mg/kg, female, Rat (OPPTS 870.6200)

**90d-neurotoxicity** NOAEL 3.0 mg/kg bw/day, Oral, Rat (OECD 424, US EPA)

**General information** Based on the available data of these ingredients, the classification criteria are met for the following classes :  
acute toxicity.  
skin sensitisation.

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

## SECTION 12: Ecological Information

### 12.1. Toxicity

**Name** Esfenvalerate, 50 g/l emulsifiable concentrate (Code ID : R506)

#### Acute aquatic toxicity

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: 3.4 µg/l, Daphnia magna (OECD 202)

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 4.5 µg/l, Oncorhynchus mykiss (Rainbow trout) (OECD 203)

**Acute toxicity - algae** ECb50, 96 hours: 135 µg/l, Scenedesmus subspicatus  
ECr50, 24-48 hours: 215 µg/l, Scenedesmus subspicatus  
NOEC, 24-48 hours: 0.05 mg/l, Scenedesmus subspicatus (OECD 201)

**Acute toxicity - terrestrial** LD<sub>50</sub>, 48 hours, oral: 0.21 µg a.s/bee, Apis Mellifera (Honeybee) (BBA guideline VI, 23-1)  
LD<sub>50</sub>, 48 hours, contact: 0.07 µg a.s/bee, Apis Mellifera (Honeybee) (BBA guideline VI, 23-1)  
LC<sub>50</sub>, 14 days: 212.5 mg/kg soil, Eisenia Fetida (Earthworm) (OECD 207)

#### Chronic aquatic toxicity

**Chronic toxicity - fish** NOEC, 21 days: 0.18 µg/l, Oncorhynchus mykiss (Rainbow trout) (OECD 204)

## Esfenvalerate 5 EC

Chronic toxicity - aquatic invertebrates      Reproduction test, NOEC, 21 days: 0.056 µg/l, Daphnia magna (OECD 202)

### Ecological information on ingredients.

#### (S)-.alpha.-Cyano-3-phenoxybenzyl (S)-2-(4-chlorophenyl)-3-methylbutyrate

<b>Name</b>	esfenvalerate, technical grade
<b><u>Acute aquatic toxicity</u></b>	
<b>LE(C)<sub>50</sub></b>	0.00001 < L(E)C <sub>50</sub> ≤ 0.0001
<b>M factor (Acute)</b>	10000
<b>Acute toxicity - aquatic invertebrates</b>	EC <sub>50</sub> , 48 hours: 27 µg/l, Daphnia magna (OECD 202)
<b>Acute toxicity - fish</b>	LC <sub>50</sub> , 96 hours: 0.1 µg/l, Oncorhynchus mykiss (Rainbow trout) (OECD 203) LC <sub>50</sub> , 96 hours: 0.205 µg/l, Lepomis macrochirus (Bluegill) (OECD 203)
<b>Acute toxicity - algae</b>	ECb50, 96 hours: 6.5 µg/l, Scenedesmus subspicatus ECr50, 24-48 hours: 10 µg/l, Scenedesmus subspicatus NOEC, 96 hours: 1.0 µg/l, Scenedesmus subspicatus (OECD 201)
<b>Acute toxicity - microorganisms</b>	EC <sub>50</sub> , 3 hours: > 1000 mg/l, Activated sludge (OECD 209)
<b>Acute toxicity - terrestrial</b>	LC <sub>50</sub> , single dose oral: > 2250 mg/kg bw, Anas Platyrhynchos (Mallard duck) (FIFRA 71-1) LC <sub>50</sub> , single dose oral: 1312 mg/kg bw, Colinus Virginianus (Bobwhite Quail) (FIFRA 71-1) LD <sub>50</sub> , 48 hours, contact: 0.06 µg/bee, Apis Mellifera (Honeybee) (in house method) No significant impact on carbon mineralization or nitrogen transformation at up to 0.4 mg/kg dry soil, Soil micro-organisms (BBA guideline )  Esfenvalerate, 50 g/l emulsifiable concentrate (Code ID : R506) LC <sub>50</sub> , 14 days: 10.6 mg/kg soil, Eisenia Fetida (Earthworm) (OECD 207)
<b><u>Chronic aquatic toxicity</u></b>	
<b>NOEC</b>	0.0000001 < NOEC ≤ 0.000001
<b>Degradability</b>	Non-rapidly degradable
<b>M factor (Chronic)</b>	100000
<b>Chronic toxicity - fish</b>	NOEC, 21 days: 0.001 µg/l, Oncorhynchus mykiss (Rainbow trout) (OECD 204)
<b>Chronic toxicity - aquatic invertebrates</b>	NOEC, 21 days: 0.052 µg/l, Daphnia magna (EPA /600/4-85/013) NOEC, 28 days: 0.160 µg/l, Chironomus riparius (Sediment dwelling midge) (BBA guideline )

### 12.2. Persistence and degradability

#### Ecological information on ingredients.

## Esfenvalerate 5 EC

### (S)-.alpha.-Cyano-3-phenoxybenzyl (S)-2-(4-chlorophenyl)-3-methylbutyrate

<b>Name</b>	esfenvalerate, technical grade
<b>Stability (hydrolysis)</b>	pH4: stable pH7 - DT <sub>50</sub> : 427.7 days @ 20°C pH9 - DT <sub>50</sub> : 5.3 days @ 20°C (OECD 111)
<b>Biodegradation</b>	Not readily biodegradable.

#### 12.3. Bioaccumulative potential

<b>Name</b>	Esfenvalerate, 50 g/l emulsifiable concentrate (Code ID : R506)
<b>Partition coefficient</b>	Not determined. (Esfenvalerate : log Pow: 6.24 @ 25°C (Pure substance) (OECD 107) )

#### Ecological information on ingredients.

### (S)-.alpha.-Cyano-3-phenoxybenzyl (S)-2-(4-chlorophenyl)-3-methylbutyrate

<b>Name</b>	esfenvalerate, technical grade
<b>Bioaccumulative potential</b>	BCF, Exposure 28 days: 3110, Cyprinus carpio (Common carp) ( CT50, depuration time: 7.9 days, Cyprinus carpio (Common carp) )
<b>Partition coefficient</b>	log Pow: 6.24 @ 25°C (Pure substance) (OECD 107)

#### 12.4. Mobility in soil

<b>Name</b>	Esfenvalerate, 50 g/l emulsifiable concentrate (Code ID : R506)
<b>Surface tension</b>	25.4 mN/m @ 25°C (Neat test item) 23.8 mN/m @ 40°C (Neat test item) (equivalent to EEC A.5)

#### Ecological information on ingredients.

### (S)-.alpha.-Cyano-3-phenoxybenzyl (S)-2-(4-chlorophenyl)-3-methylbutyrate

<b>Name</b>	esfenvalerate, technical grade
<b>Mobility</b>	Immobile.
<b>Adsorption/desorption coefficient</b>	Soil - Koc, Adsorption: 85 700 - 596 200 @ 20-25°C (OECD 106)
<b>Surface tension</b>	Not applicable.

#### 12.5. Results of PBT and vPvB assessment

#### Ecological information on ingredients.

### (S)-.alpha.-Cyano-3-phenoxybenzyl (S)-2-(4-chlorophenyl)-3-methylbutyrate

<b>Name</b>	esfenvalerate, technical grade
<b>Results of PBT and vPvB assessment</b>	Not required. (no chemical safety report required)

#### 12.6. Other adverse effects

#### Ecological information on ingredients.

### (S)-.alpha.-Cyano-3-phenoxybenzyl (S)-2-(4-chlorophenyl)-3-methylbutyrate

## Esfenvalerate 5 EC

**Name** esfenvalerate, technical grade

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

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

**Disposal methods** According to local regulations. For further advice, contact manufacturer.

### SECTION 14: Transport information

#### 14.1. UN number

UN No. (ADR/RID) 1993

UN No. (IMDG) 1993

UN No. (ICAO) 1993

#### 14.2. UN proper shipping name

**Proper shipping name (ADR/RID)** FLAMMABLE LIQUID, N.O.S. (xylene)

**Proper shipping name (IMDG)** FLAMMABLE LIQUID, N.O.S. (xylene)

**Proper shipping name (ICAO)** FLAMMABLE LIQUID, N.O.S. (xylene)

#### 14.3. Transport hazard class(es)

ADR/RID class 3

ADR/RID label 3

IMDG class 3

ICAO class/division 3

#### 14.4. Packing group

ADR/RID packing group III

IMDG packing group III

ICAO packing group III

#### 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



#### 14.6. Special precautions for user

No other special precaution required.

**EmS** F-E, S-E

#### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78  
and the IBC Code

### SECTION 15: Regulatory information

## Esfenvalerate 5 EC

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

EU legislation                      There is no specific regulation/legislation for this mixture.

### 15.2. Chemical safety assessment

No chemical safety assessment is required for this mixture.

## SECTION 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(s) , ingredients .

### Classification abbreviations and acronyms

Acute Tox. = Acute toxicity  
Aquatic Acute = Hazardous to the aquatic environment (acute)  
Aquatic Chronic = Hazardous to the aquatic environment (chronic)  
Asp. Tox. = Aspiration hazard  
Eye Dam. = Serious eye damage  
Eye Irrit. = Eye irritation  
Flam. Liq. = Flammable liquid  
Skin Sens. = Skin sensitisation  
Skin Irrit. = Skin irritation  
STOT RE = Specific target organ toxicity-repeated exposure  
STOT SE = Specific target organ toxicity-single exposure

## Esfenvalerate 5 EC

### Abbreviations and acronyms used in the safety data sheet

ASTM : American Society for Testing Material  
CAS: Chemical Abstracts Service.  
CFR : Code of Federal Regulations  
CLP : Classification, Labelling and Packaging  
EC : European Community  
EEC : European Economic Community  
EPA : Environmental Protection Agency (USA)  
EPPO : European and Mediterranean Plant Protection Organization  
EU : European Union  
GIFAP : International Group of National Associations of manufacturers of Agrochemical Products  
GHS: Globally Harmonized System.  
ID : identification  
i.e. : shortening of the Latin expression id est, which is translated as "that is."  
OECD : Organisation for Economic Co-operation and Development  
PBT: Persistent, Bioaccumulative and Toxic substance.  
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.  
Regl : Regulation  
US EPA : United States Environmental Protection Agency  
vPvB: Very Persistent and Very Bioaccumulative.  
w/w : weight per weight  
FIFRA : Federal Insecticide, Fungicide and Rodenticide Act of 1972  
LD<sub>50</sub>: Lethal Dose to 50% of a test population (Median Lethal Dose).  
LC<sub>50</sub>: Lethal Concentration to 50 % of a test population.  
EC<sub>50</sub>: 50% of maximal Effective Concentration.  
NOEC: No Observed Effect Concentration.  
NOAEL: No Observed Adverse Effect Level.  
ECb50 : 50% of maximal Effective Concentration on biomass.  
NOECb : No Observed Effect Concentration on biomass.  
EC50fd : 50% of maximal Effective Concentration on frond density.  
NOECfd : No Observed Effect Concentration on frond density.  
DT<sub>50</sub> : degradation time for 50% of a compound  
log Pow : Octanol-water partition coefficient.  
Koc : organic carbon adsorption coefficient  
BCF: Bioconcentration Factor.  
UN: United Nations.  
No. : number  
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.  
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.  
IMDG: International Maritime Dangerous Goods.  
ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.  
N.O.S. : Not Otherwise Specified  
EmS : Emergency Response Procedures for Ships Carrying Dangerous Goods  
MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.  
IBC: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code).  
SDS : Safety Sata Sheet  
CT50 : clearance time  
ECr&b50 : 50% of maximal Effective Concentration on growth rate and biomass.  
ECr50 : 50% of maximal Effective Concentration on growth rate.  
NOECr : No Observed Effect Concentration on growth rate.

## Esfenvalerate 5 EC

NOECr&b : No Observed Effect Concentration on growth rate and biomass.

Vol. = volume

CIPAC : Collaborative International Pesticides Analytical Council

USP : United States Pharmacopeia

SETAC: Society of Environmental Toxicology And Chemistry

OPPTS : Office of Prevention, Pesticides & Toxic Substances

a.s. : active substance

bw: bodyweight

MAFF : Ministry of Agriculture, Forestry and Fisheries (Japan)

ISO : International Organization for Standardization

v/v : volume per volume

w/v : weight per volume

BBA : Biologische Bundes Ansladt für Land und Fortwirtschaft (German Federal Biological Research Centre for Agriculture and Forestry)

subsp. = subspecies

cfu : colony-forming unit

EC : Emulsifiable concentrate

**Revision comments** Sections were modified as follows : update of data , update of classification (ingredients) .

NOTE: Lines within the margin indicate significant changes from the previous revision.

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**Revision** 5.40

**Revision number of the previous version** 5.30

**Supersedes date** 19/02/2016

**SDS number** 20341

**Hazard statements in full**

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.  
 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.  
 H332 Harmful 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.  
 H411 Toxic to aquatic life with long lasting effects.

**Reference of the SDS** SA5ECsxR506EU/540gb

This information only concerns the above mentioned product for the specific use mentioned and is not valid for such product used in combination with any other product. The information is to our best knowledge correct and complete and is given in good faith as of the date indicated. It is the user's responsibility to use this information as appropriate for his own particular use of this product.