DELTAMETHRIN
Insecticide - Emulsifiable Concentrate (EC)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier: DELTAMETHRIN
Insecticide - Emulsifiable Concentrate (EC)

Contains 25g/L or 2.8 % (w/w) of Deltamethrin

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

Relevant uses: Insecticide for agricultural use. For professional user only.

Uses advised against: All uses not specified in this section or in section 7.3

1.3 Details of the supplier of the safety data sheet:

Ascenza Agro, SA
Avenida do Rio Tejo, Herdade das Praias
2910-440 Setúbal - Portugal - Setúbal
Phone.: +351265710100 - Fax: +351265710105
agroseguranca@ascenza.com
http://www.ascenza.com

1.4 Emergency telephone number: Local Poisons Information Centre

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

CLP Regulation (EC) No 1272/2008:

Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.

Acute Tox. 4: Acute toxicity, Category 4, H302+H332
Aquatic Acute 1: Hazardous to the aquatic environment, acute hazard, Category 1, H400
Aquatic Chronic 1: Hazardous to the aquatic environment, long-term hazard, Category 1, H410
Eye Dam. 1: Serious eye damage, Category 1, H318
Flam. Liq. 3: Flammable liquids, Category 3, H226
Skin Irrit. 2: Skin irritation, Category 2, H315
STOT SE 3: Respiratory tract toxicity, single exposure, Category 3, H335

2.2 Label elements:

CLP Regulation (EC) No 1272/2008:

Danger

Hazard statements:

Acute Tox. 4: H302+H332 - Harmful if swallowed or if inhaled
Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects
Eye Dam. 1: H318 - Causes serious eye damage
Flam. Liq. 3: H226 - Flammable liquid and vapour
Skin Irrit. 2: H315 - Causes skin irritation
STOT SE 3: H335 - May cause respiratory irritation

Precautionary statements:

P102: Keep out of reach of children.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P261: Avoid breathing vapours.
P270: Do not eat, drink or smoke when using this product.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection
P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P370+P378: In case of fire: Use ABC powder extinguisher to extinguish
P391: Collect spillage.
P501: Dispose of the contents/containers in accordance with the current legislation on waste treatment

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SECTION 2: HAZARDS IDENTIFICATION (continued)

Supplementary information:
EUH401: To avoid risks to human health and the environment, comply with the instructions for use
SP1: Do not contaminate water with the product or its container

2.3 Other hazards:

Product fails to meet PBT/vPvB criteria

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance:

Non-applicable

3.2 Mixture:

Chemical description: Organic compounds

Components:

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

Identification	Chemical name/Classification		Concentration
CAS: -- EC: 918-668-5 Index: -- REACH: 01-2119455851-35-XXXX	**Hydrocarbons, C9, aromatics (EC 200-753-7 <0,1%)[1]**	Self-classified	**75 - <100 %**
	Regulation 1272/2008	Aquatic Chronic 2: H411; Asp. Tox. 1: H304; Flam. Liq. 3: H226; STOT SE 3: H335; STOT SE 3: H336; EUH066 - Danger	
CAS: 52918-63-5 EC: 258-256-6 Index: 607-319-00-X REACH: **(i)**	**deltamethrin (ISO)[1]**	ATP ATP01	**2,8 %**
	Regulation 1272/2008	Acute Tox. 3: H301+H331; Aquatic Acute 1: H400; Aquatic Chronic 1: H410 - Danger	
CAS: Non-applicable EC: Non-applicable Index: Non-applicable REACH: 01-2119560592-37-XXXX	**Benzenesulfonic acid, C10-13-(linear)alkyl derivs., calcium salt[1]**	Self-classified	**1 - <2,5 %**
	Regulation 1272/2008	Aquatic Chronic 3: H412; Eye Dam. 1: H318; Skin Irrit. 2: H315 - Danger	
CAS: 78-83-1 EC: 201-148-0 Index: 603-108-00-1 REACH: NA	**Isobutanol[1]**	ATP CLP00	**1 - <2,5 %**
	Regulation 1272/2008	Eye Dam. 1: H318; Flam. Liq. 3: H226; Skin Irrit. 2: H315; STOT SE 3: H335; STOT SE 3: H336 - Danger	
CAS: 128-37-0 EC: 204-881-4 Index: Non-applicable REACH: 01-2119565113-46-XXXX	**2,6-di-tert-butyl-p-cresol[1]**	Self-classified	**<1 %**
	Regulation 1272/2008	Aquatic Acute 1: H400; Aquatic Chronic 1: H410 - Warning	
CAS: 64-19-7 EC: 200-580-7 Index: 607-002-00-6 REACH: 01-2119475328-30-XXXX	**Acetic acid[2]**	ATP CLP00	**<1 %**
	Regulation 1272/2008	Flam. Liq. 3: H226; Skin Corr. 1A: H314 - Danger	

[1] Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2015/830
[2] Substance with a Union workplace exposure limit

To obtain more information on the hazards of the substances consult sections 8, 11, 12, 15 and 16.

Other information:

Identification		M-factor	
deltamethrin (ISO)		Acute	1000000
CAS: 52918-63-5	EC: 258-256-6	Chronic	1000000

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)

Identification	Specific concentration limit
Acetic acid CAS: 64-19-7 EC: 200-580-7	% (w/w) >=90: Skin Corr. 1A - H314 25<= % (w/w) <90: Skin Corr. 1B - H314 10<= % (w/w) <25: Skin Irrit. 2 - H315 % (w/w) >=25: Eye Dam. 1 - H318 10<= % (w/w) <25: Eye Irrit. 2 - H319

(i) Substance considered registered under Article 15 (1) of Regulation 1907/2006;
(ii) Substance considered as registered under Article 15 (2) of Regulation (EC) No 1907/2006;
(iii) Substance exempted from registration under Article 2 (9) of Regulation 1907/2006;
(iv) Substance exempt from registration under Article 2 (7) (a) of Regulation (EC) No 1907/2006;
(v) Substance exempted from registration under Article 6 (1) of Regulation (EC) No 1907/2006;
(vi) Substance exempted from registration under Article 2 (7) (b) of Regulation (EC) No 1907/2006;
(vii) Substance exempted from registration under Article 2 (7) (c) of Regulation (EC) No 1907/2006

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

Rinse eyes thoroughly with water for at least 15 minutes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case removal could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS for the product.

By ingestion/aspiration:

Request medical assistance immediately, showing the SDS of this product. Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. In the case of loss of consciousness do not administer anything orally unless supervised by a doctor. Rinse out the mouth and throat, as they may have been affected during ingestion. Keep the person affected at rest.

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

Acute and delayed effects are indicated in sections 2 and 11.

(associated to active ingredients): (Deltamethrin): Ingestion - gastrointestinal disorder: nausea, vomiting, diarrhea and abdominal pain; sialorrhea, tongue and lips paraesthesia; headache, weakness, vertigoes, muscular fasciculations; convulsions, coma; tachycardia; anaphylactic reaction. Inhalation – respiratory problems, difficulty breathing, cough, bronchospasm, dyspnoea, asthmatic episodes ; Contact - irritation of the eyes, skin and mucous, contact dermatitis with erythema, inflammation, contact paraesthesia.

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

Provide supportive care and symptomatic treatment. If swallowed provide a gastric wash avoiding aspiration, administrate activated charcoal or saline laxative (type: sodium or magnesium sulphate or similar); provide treatment of allergic signs if occurs.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

If possible use polyvalent powder fire extinguishers (ABC powder), alternatively use foam or carbon dioxide extinguishers (CO_2). IT IS RECOMMENDED NOT to use tap water as an extinguishing agent.

5.2 Special hazards arising from the substance or mixture:

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Advice for firefighters:

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SECTION 5: FIREFIGHTING MEASURES (continued)

Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...).

Additional provisions:

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Destroy any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

6.2 Environmental precautions:

Avoid at all cost any type of spillage into an aqueous medium. Contain the product absorbed appropriately in hermetically sealed containers. Notify the relevant authority in case of exposure to the general public or the environment.

6.3 Methods and material for containment and cleaning up:

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- Precautions for safe manipulation

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Transfer in well ventilated areas, preferably through localized extraction. Fully control sources of ignition (mobile phones, sparks,…) and ventilate during cleaning operations. Avoid the existence of dangerous atmospheres inside containers, applying inertization systems where possible. Transfer at a slow speed to avoid the creation of electrostatic charges. Against the possibility of electrostatic charges: ensure a perfect equipotential connection, always use groundings, do not wear work clothes made of acrylic fibres, preferably wearing cotton clothing and conductive footwear. Comply with the essential security requirements for equipment and systems defined in Directive 94/9/EC (ATEX 100) and with the minimum requirements for protecting the security and health of workers under the selection criteria of Directive 1999/92/EC (ATEX 137). Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations to prevent ergonomic and toxicological risks

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

Due to the danger of this product for the environment it is recommended to use it within an area containing contamination control barriers in case of spillage, as well as having absorbent material in close proximity.

7.2 Conditions for safe storage, including any incompatibilities:

A.- Technical measures for storage

Maximum time: 24 Months

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

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SECTION 7: HANDLING AND STORAGE (continued)

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:
(Deltamethrin): ADI: 0.01 mg/kg of b.w./day; AOEL: 0.0075 mg/ kg of b.w./day

Substances whose occupational exposure limits have to be monitored in the workplace

Identification	Environmental limits		
Acetic acid	IOELV (8h)	10 ppm	25 mg/m³
CAS: 64-19-7 EC: 200-580-7	IOELV (STEL)	20 ppm	50 mg/m³

DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Hydrocarbons, C9, aromatics (EC 200-753-7 <0,1%)	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
CAS: --	Dermal	Non-applicable	Non-applicable	25 mg/kg	Non-applicable
EC: 918-668-5	Inhalation	Non-applicable	Non-applicable	150 mg/m³	Non-applicable
Isobutanol	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
CAS: 78-83-1	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
EC: 201-148-0	Inhalation	Non-applicable	Non-applicable	Non-applicable	310 mg/m³
2,6-di-tert-butyl-p-cresol	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
CAS: 128-37-0	Dermal	Non-applicable	Non-applicable	0,5 mg/kg	Non-applicable
EC: 204-881-4	Inhalation	Non-applicable	Non-applicable	3,5 mg/m³	Non-applicable
Acetic acid	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
CAS: 64-19-7	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
EC: 200-580-7	Inhalation	Non-applicable	25 mg/m³	Non-applicable	25 mg/m³

DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Hydrocarbons, C9, aromatics (EC 200-753-7 <0,1%)	Oral	Non-applicable	Non-applicable	11 mg/kg	Non-applicable
CAS: --	Dermal	Non-applicable	Non-applicable	11 mg/kg	Non-applicable
EC: 918-668-5	Inhalation	Non-applicable	Non-applicable	32 mg/m³	Non-applicable
Isobutanol	Oral	Non-applicable	Non-applicable	25 mg/kg	Non-applicable
CAS: 78-83-1	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
EC: 201-148-0	Inhalation	Non-applicable	Non-applicable	Non-applicable	55 mg/m³
2,6-di-tert-butyl-p-cresol	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
CAS: 128-37-0	Dermal	Non-applicable	Non-applicable	0,25 mg/kg	Non-applicable
EC: 204-881-4	Inhalation	Non-applicable	Non-applicable	0,86 mg/m³	Non-applicable
Acetic acid	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
CAS: 64-19-7	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
EC: 200-580-7	Inhalation	Non-applicable	25 mg/m³	Non-applicable	25 mg/m³

PNEC:

Identification				
Isobutanol	STP	10 mg/L	Fresh water	0,4 mg/L
CAS: 78-83-1	Soil	0,0699 mg/kg	Marine water	0,04 mg/L
EC: 201-148-0	Intermittent	11 mg/L	Sediment (Fresh water)	1,52 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	0,152 mg/kg
2,6-di-tert-butyl-p-cresol	STP	0,17 mg/L	Fresh water	0,000199 mg/L
CAS: 128-37-0	Soil	0,04769 mg/kg	Marine water	0,0000199 mg/L
EC: 204-881-4	Intermittent	0,00199 mg/L	Sediment (Fresh water)	0,0996 mg/kg
	Oral	8,33 g/kg	Sediment (Marine water)	0,00996 mg/kg

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Identification				
Acetic acid	STP	85 mg/L	Fresh water	3,058 mg/L
CAS: 64-19-7	Soil	0,47 mg/kg	Marine water	0,3058 mg/L
EC: 200-580-7	Intermittent	30,58 mg/L	Sediment (Fresh water)	11,36 mg/kg
	Oral	Non-applicable	Sediment (Marine water)	1,136 mg/kg

8.2 Exposure controls:

A.- General security and hygiene measures in the work place

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<CE marking>> in accordance with Directive 89/686/EC. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1.
All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours	CE CAT III	EN 405+A1 EN140	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment.

C.- Specific protection for the hands

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	Protective gloves against minor risks	CE CAT I	EN ISO 374-1 EN 420+A1	Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional users/industrials, we recommend using CE III gloves.

"As the product is a mixture of several substances, the resistance of the glove material can not be predicted in advance with total reliability and has therefore to be checked prior to the application"

D.- Ocular and facial protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.	CE CAT II	EN 166	Clean daily and disinfect periodically according to the manufacturer´s instructions. Use if there is a risk of splashing.

E.- Body protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory complete body protection	Antistatic and fireproof protective clothing	CE CAT III	EN 1149-5 EN 13034+A1 EN ISO 13688	Limited protection against flames.
 Mandatory foot protection	Safety footwear with antistatic and heat resistant properties	CE CAT III	EN ISO 20347 EN ISO 20345 EN 13832-3	Replace boots at any sign of deterioration.

F.- Additional emergency measures

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1	 Eyewash stations	DIN 12 899 ISO 3864-1

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

Volatile organic compounds:

With regard to Directive 2010/75/EU, this product has the following characteristics:

V.O.C. (Supply):	90,86 % weight
V.O.C. density at 20 ºC:	Non-applicable
Average carbon number:	8,91
Average molecular weight:	119,21 g/mol

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance:	
Physical state at 20 ºC:	Liquid
Appearance:	Not available
Colour:	Light yellow
Odour:	Not available
Odour threshold:	Not available
Volatility:	
Boiling point at atmospheric pressure:	Not available
Vapour pressure at 20 ºC:	Not available
Vapour pressure at 50 ºC:	Not available
Evaporation rate at 20 ºC:	Not available
Product description:	
Density at 20 ºC:	Not available
Relative density at 20 ºC:	0.90
Dynamic viscosity at 20 ºC:	1.30 cP
Kinematic viscosity at 20 ºC:	Not available
Kinematic viscosity at 40 ºC:	Not available
Concentration:	Not available
pH:	4,6
Vapour density at 20 ºC:	Not available
Partition coefficient n-octanol/water 20 ºC:	Not available
Solubility in water at 20 ºC:	Not available
Solubility properties:	Not available
Decomposition temperature:	Not available
Melting point/freezing point:	Not available
Explosive properties:	Not explosive (based on components)
Oxidising properties:	Not oxidant (based on components)
Flammability:	Flammable
Flash Point:	42 ºC
Flammability (solid, gas):	Not available
Autoignition temperature:	>419 ºC
Lower flammability limit:	Not available
Upper flammability limit:	Not available

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Explosive:

Lower explosive limit:	Not available
Upper explosive limit:	Explosion limits of components with explosive hazard: CAS 64742-95: 0,8 to 7.3 % Volume; Isobutanol: 1.6 to 12.4 % Volume

9.2 Other information:

Surface tension at 20 ºC:	Not available
Refraction index:	Not available

As for the remaining characteristics, data is not presented because they are not available, in accordance with the registration studies and intrinsic characteristics of the products.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

10.2 Chemical stability:

Chemically stable under the conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Risk of combustion	Avoid direct impact	Not applicable

10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO2), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity : The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.
- Corrosivity/Irritability: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

B- Inhalation (acute effect):

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

- Acute toxicity : Exposure in high concentration can interfere with the central nervous system causing headache, dizziness, vertigo, nausea, vomiting, confusion, and in serious cases, loss of consciousness.
- Corrosivity/Irritability: Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Produces skin inflammation.
- Contact with the eyes: Produces serious eye damage after contact.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for the effects mentioned. For more information see section 3.
  IARC: deltamethrin (ISO) (3); 2,6-di-tert-butyl-p-cresol (3)
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous with sensitising effects. For more information see section 3.
- Cutaneous: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

F- Specific target organ toxicity (STOT) - single exposure:

Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Skin: Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

H- Aspiration hazard:

Based on available data, the classification criteria are not met. However, it does contain substances classified as dangerous for this effect. For more information see section 3.

Other information:

Acute toxicity:
Acute Oral LD50: >300 - 2000 mg/kg b.w. (Rats)
Acute Dermal LD50: >2000 mg/kg b.w. (Rats) (*)
Acute Inhalation LC50 (4h): >1.59 mg/l air (Rats)

Acute Effects:
Skin corrosion/ irritation: Irritant (Rabbits)
Serious eye damage/irritation: Irritant (Rabbits)
Respiratory sensitisation: No information available
Skin sensitisation: Not a skin sensitizer (Guinea pig) (*)

Chronic effects (Deltamethrin):
Mutagenicity: Not observed
Carcinogenicity: Not observed
Reproductive toxicity: Not observed
STOT- single exposure: Not demonstrated
STOT- repeated exposure: Not demonstrated
Aspiration hazard: No information available

(*) Based on available data, the classification criteria are not met.

Specific toxicology information on the substances:

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SECTION 11: TOXICOLOGICAL INFORMATION (continued)

Identification	Acute toxicity		Genus
deltamethrin (ISO)	LD50 oral	87 mg/kg	Rat
CAS: 52918-63-5	LD50 dermal	>2000 mg/kg	Rat
EC: 258-256-6	LC50 inhalation	0,6 mg/L (4 h) (ATEi)	Rat
Benzenesulfonic acid, C10-13-(linear)alkyl derivs., calcium salt	LD50 oral	>2000 mg/kg	
CAS: --	LD50 dermal	>2000 mg/kg	
EC: --	LC50 inhalation	Non-applicable	
Isobutanol	LD50 oral	3350 mg/kg	Rat
CAS: 78-83-1	LD50 dermal	2460 mg/kg	Rabbit
EC: 201-148-0	LC50 inhalation	24,6 mg/L (4 h)	Rat
Hydrocarbons, C9, aromatics (EC 200-753-7 <0,1%)	LD50 oral	>2000 mg/kg	
CAS: --	LD50 dermal	>2000 mg/kg	
EC: 918-668-5	LC50 inhalation	>20 mg/L (4 h)	
2,6-di-tert-butyl-p-cresol	LD50 oral	10000 mg/kg	Rat
CAS: 128-37-0	LD50 dermal	>2000 mg/kg	
EC: 204-881-4	LC50 inhalation	>5 mg/L	
Acetic acid	LD50 oral	>2000 mg/kg	
CAS: 64-19-7	LD50 dermal	>2000 mg/kg	
EC: 200-580-7	LC50 inhalation	>20 mg/L	

SECTION 12: ECOLOGICAL INFORMATION

The experimental information related to the eco-toxicological properties of the product itself is not available

12.1 Toxicity:

Identification	Acute toxicity		Species	Genus
Hydrocarbons, C9, aromatics (EC 200-753-7 <0,1%)	LC50	1 - 10 mg/L (96 h)		Fish
CAS: --	EC50	1 - 10 mg/L		Crustacean
EC: 918-668-5	EC50	1 - 10 mg/L		Algae
deltamethrin (ISO)	LC50	0.00026 mg/L (96 h)	Oncorhynchus mykiss	Fish
CAS: 52918-63-5	EC50	0.00056 mg/L (48 h)	Daphnia magna	Crustacean
EC: 258-256-6	EC50	>9,1 mg/L (72h)	selenastrum capricornutum)	Algae
Benzenesulfonic acid, C10-13-(linear)alkyl derivs., calcium salt	LC50	10 - 100 mg/L (96 h)		Fish
CAS: --	EC50	10 - 100 mg/L		Crustacean
EC: --	EC50	10 - 100 mg/L		Algae
Isobutanol	LC50	2030 mg/L (96 h)	Carassius auratus	Fish
CAS: 78-83-1	EC50	1439 mg/L (48 h)	Daphnia magna	Crustacean
EC: 201-148-0	EC50	1250 mg/L (48 h)	Scenedesmus subspicatus	Algae
2,6-di-tert-butyl-p-cresol	LC50	0.57 mg/L (96 h)	Brachydanio rerio	Fish
CAS: 128-37-0	EC50	0.61 mg/L (48 h)	Daphnia magna	Crustacean
EC: 204-881-4	EC50	Non-applicable		
Acetic acid	LC50	75 mg/L (96 h)	Lepomis macrochirus	Fish
CAS: 64-19-7	EC50	47 mg/L (24 h)	Daphnia magna	Crustacean
EC: 200-580-7	EC50	Non-applicable		

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SECTION 12: ECOLOGICAL INFORMATION (continued)

Acute toxicity:
Fish acute LC50 (96 h): 1.4 µg/l (Bluegill sunfish); 0.26 µg/l (Rainbow trout) (Deltamethrin)
Aquatic invertebrates acute EC50 (96 h): 0.56 µg /l (Daphnia magna) (Deltamethrin); 0.0028 µg F.P /l (Gammarus pulex)
Algae acute EC50 (72 h): >9.1 mg/l (Selenastrum capricornutum) (Deltamethrin)
Birds acute Oral LD50: >4640 mg/kg b.w. (Mallard ducks); 2250 mg/kg b.w. (Bobwhite quail) (Deltamethrin)
Bee oral LD50: 2.43x10-3 µl F.P./bee
Bee contact LD50: 1.88x10-3 µlF.P./bee
Aquatic plants CE50 (7 d): NA

Chronic toxicity (Deltamethrin):
Fish chronic NOEC (28 d): <0.032 µg /l (Rainbow trout)
Aquatic invertebrates chronic NOEC (21 d): 0.0041 µg /l (Daphnia magna)
Algae chronic NOEC (28d): 0.010 µg /l (Selenastrum capricornutum)

12.2 Persistence and degradability:

Identification	Degradability		Biodegradability	
Isobutanol	BOD5	0.4 g O2/g	Concentration	100 mg/L
CAS: 78-83-1	COD	2.41 g O2/g	Period	14 days
EC: 201-148-0	BOD5/COD	0.17	% Biodegradable	90 %
2,6-di-tert-butyl-p-cresol	BOD5	Non-applicable	Concentration	50 mg/L
CAS: 128-37-0	COD	Non-applicable	Period	28 days
EC: 204-881-4	BOD5/COD	Non-applicable	% Biodegradable	4,5 %
Acetic acid	BOD5	Non-applicable	Concentration	100 mg/L
CAS: 64-19-7	COD	Non-applicable	Period	14 days
EC: 200-580-7	BOD5/COD	Non-applicable	% Biodegradable	74 %

(Deltamethrin):
- Soil: Non persistent in soil. DT50 (typical): 13 d; DT50 (lab): 26 d; DT50 (field): 21 d. - Water: Moderately fast chemical degradation in water-sediment systems, DT50: 65 d. Slow chemical degradation in water phase only, DT50: 17 d. In pond water, deltamethrin was rapidly absorbed, mostly by sediment, in addition to uptake by plants and evaporation into the air.

12.3 Bioaccumulative potential:

Identification	Bioaccumulation potential	
deltamethrin (ISO)	BCF	1400
CAS: 52918-63-5	Pow Log	4.6
EC: 258-256-6	Potential	High
Isobutanol	BCF	3
CAS: 78-83-1	Pow Log	0.76
EC: 201-148-0	Potential	Low
2,6-di-tert-butyl-p-cresol	BCF	1365
CAS: 128-37-0	Pow Log	5.1
EC: 204-881-4	Potential	Very High
Acetic acid	BCF	3
CAS: 64-19-7	Pow Log	-0.71
EC: 200-580-7	Potential	Low

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
deltamethrin (ISO)	Koc	46000	Henry	5,066E-1 Pa·m³/mol
CAS: 52918-63-5	Conclusion	Immobile	Dry soil	No
EC: 258-256-6	Surface tension	Non-applicable	Moist soil	Yes
Isobutanol	Koc	Non-applicable	Henry	Non-applicable
CAS: 78-83-1	Conclusion	Non-applicable	Dry soil	Non-applicable
EC: 201-148-0	Surface tension	2,378E-2 N/m (25 ºC)	Moist soil	Non-applicable
2,6-di-tert-butyl-p-cresol	Koc	8183	Henry	3,42E-1 Pa·m³/mol
CAS: 128-37-0	Conclusion		Dry soil	Yes
EC: 204-881-4	Surface tension	1,255E-2 N/m (258,85 ºC)	Moist soil	Yes

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SECTION 12: ECOLOGICAL INFORMATION (continued)

Identification		Absorption/desorption		Volatility	
Acetic acid		Koc	Non-applicable	Henry	Non-applicable
CAS: 64-19-7		Conclusion	Non-applicable	Dry soil	Non-applicable
EC: 200-580-7		Surface tension	2,699E-2 N/m (25 ºC)	Moist soil	Non-applicable

12.5 Results of PBT and vPvB assessment:

Product fails to meet PBT/vPvB criteria

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Code	Description	Waste class (Regulation (EU) No 1357/2014)
02 01 08*	agrochemical waste containing hazardous substances	Dangerous

Type of waste (Regulation (EU) No 1357/2014):

HP3 Flammable, HP14 Ecotoxic, HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommended disposal down the drain. See paragraph 6.2.

Regulations related to waste management:

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land:

With regard to ADR 2019 and RID 2019:

14.1	**UN number:**	UN1993
14.2	**UN proper shipping name:**	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics (EC 200-753-7 <0,1%))
14.3	**Transport hazard class(es):**	3
	Labels:	3
14.4	**Packing group:**	III
14.5	**Environmental hazards:**	Yes
14.6	**Special precautions for user**	
	Special regulations:	274, 601
	Tunnel restriction code:	D/E
	Physico-Chemical properties:	see section 9
	Limited quantities:	5
14.7	**Transport in bulk according to Annex II of Marpol and the IBC Code:**	Non-applicable

Transport of dangerous goods by sea:

With regard to IMDG 39-18:

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SECTION 14: TRANSPORT INFORMATION (continued)

14.1	**UN number:**	UN1993
14.2	**UN proper shipping name:**	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics (EC 200-753-7 <0,1%))
14.3	**Transport hazard class(es):**	3
	Labels:	3
14.4	**Packing group:**	III
14.5	**Environmental hazards:**	Yes
14.6	**Special precautions for user**	
	Special regulations:	223, 274, 955
	EmS Codes:	F-E, S-E
	Physico-Chemical properties:	see section 9
	Limited quantities:	5
	Segregation group:	Non-applicable
14.7	**Transport in bulk according to Annex II of Marpol and the IBC Code:**	Non-applicable

Transport of dangerous goods by air:

With regard to IATA/ICAO 2020:

14.1	**UN number:**	UN1993
14.2	**UN proper shipping name:**	FLAMMABLE LIQUID, N.O.S. (Hydrocarbons, C9, aromatics (EC 200-753-7 <0,1%))
14.3	**Transport hazard class(es):**	3
	Labels:	3
14.4	**Packing group:**	III
14.5	**Environmental hazards:**	Yes
14.6	**Special precautions for user**	
	Physico-Chemical properties:	see section 9
14.7	**Transport in bulk according to Annex II of Marpol and the IBC Code:**	Non-applicable

SECTION 15: REGULATORY INFORMATION

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

Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable

Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable

Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable

Article 95, REGULATION (EU) No 528/2012: deltamethrin (ISO) (Product-type 18)

REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

Seveso III:

Section	Description	Lower-tier requirements	Upper-tier requirements
P5c		5000	50000
E1		100	200

Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc ....):

Non-applicable

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

Other legislation:

The product could be affected by sectorial legislation

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SECTION 15: REGULATORY INFORMATION (continued)

Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products

15.2 Chemical safety assessment:

The supplier has not carried out evaluation of chemical safety.

SECTION 16: OTHER INFORMATION

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (Regulation (EC) No 2015/830)

Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.:

Non-applicable

Texts of the legislative phrases mentioned in section 2:

H226: Flammable liquid and vapour
H315: Causes skin irritation
H318: Causes serious eye damage
H335: May cause respiratory irritation
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects
H302+H332: Harmful if swallowed or if inhaled

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

CLP Regulation (EC) No 1272/2008:

Flam. Liq. 3: H226 - Flammable liquid and vapour
Skin Irrit. 2: H315 - Causes skin irritation
Eye Dam. 1: H318 - Causes serious eye damage
STOT SE 3: H335 - May cause respiratory irritation
Aquatic Acute 1: H400 - Very toxic to aquatic life
Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects
Acute Tox. 4: H302+H332 - Harmful if swallowed or if inhaled

Advice related to training:

Minimal training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

http://echa.europa.eu
http://eur-lex.europa.eu

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SECTION 16: OTHER INFORMATION

Abbreviations and acronyms:
ADR: European agreement concerning the international carriage of dangerous goods by road
IMDG: International maritime dangerous goods code
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
COD: Chemical Oxygen Demand
BOD5: 5-day biochemical oxygen demand
BCF: Bioconcentration factor
LD50: Lethal Dose 50
LC50: Lethal Concentration 50
EC50: Effective concentration 50
Log-POW: Octanol-water partition coefficient
Koc: Partition coefficient of organic carbon

Other information:

Content review: The sections / sub sections marked with (➢) were changed with relevant information, from the previous version.

Cod.: PF-581-C (Deltametrina 25EC) (GR)

- END OF SAFETY DATA SHEET -