SAFETY DATA SHEET
DURACID POLVERE

In accordance with Regulation (EC) 1907/2006, (EC) 1272/2008 and (EU) 453/2010 (Annex I)

SECTION 1.
IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY

1.1. Mixture identifier

Mixture name:	**DURACID POLVERE**

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

Relevant use(s)	Insecticide (powder) "Presidio medico chirurgico" product requiring Italian Ministry of Health approval for sale N. 19635
Uses advised against	Other uses are not expected.

1.3. Details of the supplier of the safety data sheet

Manufacturer: VEBI Istituto Biochimico S.r.l.
Via Desman, 43
35010 S. Eufemia di Borgoricco (PD) Italy
Tel. +39 0499337111
Fax. +39 0495798263

e-mail MSDS manager: info@vebi.it

1.4. Emergency telephone number

Emergency number of the company and/or official advisory body:
Milano Niguarda +39 0266101029 (Milan)
Roma Ospedale Gemelli +39 063054342 (Rome hospital)
Napoli Ospedale Caldarelli +39 0815453333 (Naples hospital)
Catania Ospedale Garibaldi +39 095767594120 (Catania hospital)

SECTION 2
HAZARDS IDENTIFICATION

2.1 Classification of the mixture

in accordance with Directive 1999/45/EEC	in accordance with Regulation n. 1272/2008/EC
N, R50/53	**Aquatic Acute 1, H400** **Aquatic Chronic 1, H410**

Main adverse effects
Physico-chemical effects Not foreseen
Health effects Ingestion: May cause adverse effects if swallowed.
Contact with skin: May cause irritation.
Contact with eyes: May cause irritation.
Inhalation: May cause irritation, cough, sore throat.
Environmental effects Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

See also sections from 9 to 12

2.2 Label elements

- Labelling in accordance with Directive 1999/45/EEC

Hazards symbols	

	N - Dangerous for the environment
Risk phrases (R)[1]	**R50/53**
Safety phrases (S) [1]	**S2, S13, S22, S29/35, S45, S61**

[1] For the explanation of R and S phrases: see Section 16

- **Labelling in accordance with regulation n. 1272/2008/EC**

Pictograms	
Signal Word	**Warning**
Hazard indication (H))[1]	**H400, H410**
Safety statements (P)[1] - *General* - *Prevention* - *Reaction* - *Storage* - *Disposal*	 **P101** **P260, P273** **P309 + P311, P391** - **P501**

[1] For the explanation of H and P statements: see Section 16

2.3 Other hazards (which do not results in the classification)

The mixture satisfy the PBT criteria	YES	NO
- PBT		X
- vPvB		X

- Health hazards: There are no other hazards to humans.
- Environmental hazards: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- Physico-chemical hazards: Substance can emit toxic fumes in case of fire.
- Specific effects: There are no other specific effects.

SECTION 3
COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients

Name	EINECS/ ELINCS Number	CAS n.	Conc. % (w/w)	Classification (67/548/CEE)	Classification (1272/2008/EC)	Occupation Exposure Limits
Cypermethrin cis/trans +/− 40/60 (*) (Index n° 607-421-00-4)	257-842-9	52315-07-8	0.6 %	Xn; R20/22 Xi; R37 N; R50-53	Acute Tox. 4 *, H332 Acute Tox. 4 *, H302 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	See section n° 8
2-butoxyethanol (EGBE) (*) (Index n° 603-014-00-0)	203-905-0	111-76-2	1.4 %	Xn; R20/21/22 Xi; R36/38	Acute Tox. 4 (*), H332 Acute Tox. 4 (*), H312 Acute Tox. 4 (*), H302 Eye Irrit. 2, H319 Skin Irrit. 2, H315	
Denatonium benzoate	223-095-2	3734-33-6	0.001 %	Xn; R22	Acute tox. 4, H302	

SECTION 4
FIRST AID MEASURES

4.1 Description of the first aid measures

- *Eye contact*: Wash immediately with large amounts of water or normal saline. Keep eyelid open with the finger. Get medical advice if adverse symptoms appear and show this safety data sheet.

- *Skin contact*	Remove contaminated clothes and shoes immediately. Wash affected area with soap or mild detergent and large amount of water until no evidence of substance remains (15-20 minutes). Get medical advice if adverse symptoms appear and show this safety data sheet. Do not use solvents or thinners.
- *Ingestion*	If swallowed and if victim is conscious and alert wash mouth with water. Treat symptomatically and supportively. Get medical advice if adverse symptoms appear and show this safety data sheet.
- *Inhalation*	Remove patient from the contaminated area immediately and keep at rest in a well-ventilated area. Get medical advice.

4.2 Most important symptoms and effects (acute and delayed)

- *Acute effects*	INHALATION: May cause irritation, cough, sore throat.. SKIN: May cause redness and irritation. EYES: May cause redness, stinging sensation and irritation. INGESTION: May cause negative effects if swallowed. Mixture contains Cypermethrin, that is a pyrethroid compound. *Symptoms associated with exposure to pyrethroid compounds include* skin and eye irritation, irritability to sound or touch, abnormal facial sensation, sensation of prickling, tingling, or creeping on skin, numbness, headache, dizziness, nausea, vomiting, diarrhea, salivation, and fatigue. At very high levels of exposure, muscle twitching and fluid accumulation in the lungs may occur. (1)
- *Delayed effects:*	Delayed effects and symptoms related to this mixture are not foreseen.

4.3 Indication of any immediate medical attention and special treatment needed

- *Medical monitoring:*	To be undertaken in case of delayed effects known.
- *Antidotes, if known*	Unknown.
- *Contraindications*	Unknown.
- *Immediate treatment at workplace*	SKIN : Rinse and the wash skin with water and soap. EYES: First rinse with plenty of water for several minutes then take to a doctor. INGESTION: Rinse mouth. Refer for medical attention. INHALATION: Move person to fresh air. Refer for medical attention.

SECTION 5
FIREFIGHTING MEASURES

5.1 Extinguishing media

- *Suitable estinguishing media*	Water mist or spray, regular foam, CO_2, dry powder.
- *Unsuitable estinguishing media*	Unknown

5.2 Special hazards arising from the mixture

- *Hazardous combustion products*	May produce toxic fumes of CO_X, NO_X , HCl,
- *Other special hazards*	Special hazards related to this substance are not known.

5.3 Advice for firefighters

- *Technical actions for protection*	Water jets can be used successfully to cool containers exposed to the fire and disperse fumes.
- *Special protective equipment for firefighters*	Wear boots, overalls, gloves, eye and face protection and breathing apparatus. Equipment must conform with EN standard and used in highest condition of protection on the basis of the information reported in the previous sub-sections.

SECTION 6
ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

Ventilate areas. Remove all sources of ignition and heat.

For emergency responders:

Wear appropriate protective equipment (see Section 8) to minimize exposure to the product.

6.2 Environmental precautions

In case of accidental release in the environment prevent the substance from reaching drains, surface water and ground water. If the mixture has entered waterways, sewers or has contaminated the soil or the vegetation, notify the competent authorities

6.3 Methods and material for containment and clearing up

- *Containment procedures:*	Collect all of the material scattered on the ground with suitable protective equipment and put it in a clean and dry container. Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8.
- *Cleaning up procedures:*	Recover the substance by scooping up or vacuum, or with other suitable mechanical means and wash the area with plenty of water. Store the recovered product until it can be disposed of in accordance with all regulations and at a properly accredited facility. If the spill happened on a highway, or in a public place, take all measures necessary in order to protect people from any risk.

6.4 Reference to other sections

See also section 8 and 13.

SECTION 7
HANDLING AND STORAGE

7.1. Precautions for safe handling

- *Recommendation for handling:*	Handle away from sparks and flames and all sources of ignition. Handle in a well ventilated place. Suitable containment system must be adopted to prevent dispersion of vapour that could be released during handling. Avoid contact with incompatible materials. Wear suitable Personal Protection Equipment (see Section 8). Keep the mixture away from drains, surface or ground waters.
- *Recommendation for personal hygiene:*	Do not eat, drink and smoke in the working areas. Wash hands after handling the mixture. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Condition for safe storage including any incompatibilities

The risk management procedures described in this section are consistent with the physical and chemical properties reported in section 9.
The mixture is not classified for any physical and chemical properties and no risk management is foreseen.

Risk Management measures related to:

- *Evaporative conditions:*	Keep containers tightly closed and labelled with the name of the product. Containers of this material may be hazardous when empty since they retain product residues (vapours, liquids).
- *Potential ignition sources:*	Don't expose to heat sources. Store separately from reactive or combustible materials.

Procedure to control other effects

- *Weather conditions:* Don't expose to high temperatures.
- *Ambient pressure:* No restrictive procedure expected.
- *Temperature* Store at room temperature.
- *Sunlight:* Avoid light and sunlight exposure.
- *Humidity:* Avoid humidity exposure.

The adoption of the Risk Management procedure related to the physical and chemical properties is also based on the local Risk Assessment done by the employer in its workplace conditions (use of the mixture), particularly when a standardized exposure scenario is not available (ingredients in the mixture are not yet REACH registered).

Material to keep the integrity of the mixture
- *Stabilisers:* Not involving the use of stabilizers.
- *Antioxidants:* Not involving the use of antioxidants.

Other advice
- *Ventilation requirements* Request based on the storage of the mixture.
- *Specific design of storage rooms* Not required on the basis of the classification.
- *Quantity limits for storage* Not required on the basis of the classification.
- *Packaging compatibilities* See also 10.5.

7.3. Specific end use(s)

- Recommendation for specific final use(s)

	YES	NO
- Exposure scenario attached		X
- Chemical Safety Assessment (CSA) attached		X
- Industry or sector specific guidance available and attached		X

SECTION 8
EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

- National/European Occupational Exposure Limits: 8-hour TWA = 98 mg/m3, 20 ppm; STEL, 15 min = 246 mg/m3, 50 ppm for 2-butoxyethanol (Directive 2000/39/CE of 8 June 2000) (11)
- Other Occupational Exposure Limits: Not established
- National/European Biological Limits (BEI): Biological exposure levels (BEL) (BAA in urine) = 100 mg/l (DFG, 2002), for 2-butoxyethanol (11)
  BEL (BAA in urine) = 60 mg/g creatinine for 2-butoxyethanol , NIOSH 1990(13)
  BEL (BAA in urine)=200 mg/g creatinine for 2-butoxyethanol, ACGIH 2010(13)
- Other National/European Biological Limits (BEI): Not established
- Recommended monitoring procedures: The measurements of the substance/s in the workplace must be carried out in accordance with standardized methods described by EN standard.
- DNEL values (components): Chemical Safety Report has not been compiled.
- PNEC values (components):
  PNECaqua = 10 mg/L, for 2-butoxyethanol (11)
  PNECsaltwater = 1 mg/L, for 2-butoxyethanol (11)
  PNECsediment = 13.7 mg/kg (ww), for 2-butoxyethanol (11)
  PNECmicro-organisms = 463 mg/L., for 2-butoxyethanol (11)
  PNECsoil = 6 mg/kg (ww), for 2-butoxyethanol (11)

8.2. Exposure controls

	YES	NO
- Exposure scenario attached		X
- Chemical Safety Assessment (CSA) attached		X

8.2.1. Appropriate engineering controls

The adoption of the most appropriate engineering controls is also based on the local Risk Assessment done by the employer in its workplace conditions (use of the mixture), particularly when a standardized exposure scenario is not available (ingredients in the mixture are not yet REACH registered)

8.2.2. Individual **protection** *measures, such as Personal Protective Equipment (PPE)*

The adoption of the most appropriate Personal Protective Equipment is also based on the local Risk Assessment done by the employer in its workplace conditions (use of the mixture), particularly when a standardized exposure scenario is not available (ingredients in the mixture are not yet REACH registered).
If the results of such risk evaluation done in accordance with Directive 98/24/EEC showed that the collective and general risk management measures are not sufficient to reduce the risks and, if the exposure to the mixture cannot be reduce by other containment means, appropriate PPE must be adopted in compliance with technical EN guidance indication.

a) Eye and Face protection	Safety goggles as for EN 166; facial shield or mask with approved filter.
b) Skin protection	
- hands protection	Gloves resistant to chemical agents as for the EN 374, parts 1, 2 and 3 and the European Directive 89/89/CEE (classified substances). The gloves material must be waterproof and stable against the mixture content. Use Polyvinyl alcohol or nitrile rubber gloves.
- other, body protection	Select the suitable protective equipment based on the activity of use and possible.
c) Respiratory protection	Special protections are not needed during the normal use of the product.

8.2.3 Environmental exposure controls

	YES	NO
- Exposure scenario attached		X
- Chemical Safety Assessment (CSA) attached		X

SECTION 9
PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:	Powder
Odor:	Characteristic
Color:	White
pH:	Not determined
Flammability:	Not determined
Melting point:	Not determined
Explosive properties:	Not determined
Oxidizing properties:	Not determined
Density:	Not determined
Water solubility:	Not determined

9.2. Other information

Data not available in the literature search carried out.

SECTION 10
STABILITY AND REACTIVITY

10.1. Reactivity

This substance is considered not reactive under the normal conditions of the usage.

10.2. Chemical stability

The mixture is stable at the normal condition of temperature and pressure and if stored in closed containers in well ventilated and cool place.

	NO	YES	Used stabiliser
- Stabilisers:	X	-	
- Change in physical appearance	X	-	
- Other hazards (temperature, pressure)	X	-	

10.3. Possibility of hazardous reactions

Under normal conditions of storage and use:

	NO	YES
- Possibility of an exothermic reaction:	X	-
- Possibility of a reaction releasing excessive pressure	X	-
- Possible degradation with instable product formation	X	-

10.4. Condition to avoid

Keep away from hot temperatures, ignition sources, from water and humidity and from light.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

If heated at high temperatures, decomposes releasing fumes and toxic gases of CO_X, NO_X , HCl,

SECTION 11
INFORMATION ON TOXICOLOGICAL EFFECTS

- Exposure routes:	YES	NO
- Inhalation:	X	
- Ingestion:	X	
- Skin contact:	X	
- Eye contact:	X	

- Effects (acute, delayed, chronic) following the exposure (short and/or prolonged):
- *Ingestion:* May cause negative effects if swallowed.
- *Skin contact:* May cause redness and irritation.
- *Eye contact:* May cause redness, stinning sensation and irritation.
- *Inhalation:* May cause irritation, cough, sore throat.

Mixture contains Cypermethrin, that is a pyrethroid compound.

- Toxico-kinetics information (ADME = Adsorption, Distribution, Metabolism, Excretion):
When radioactive pyrethroid is administered orally to mammals, it is absorbed from intestinal tract of the animals and distributed in every tissue examined. (2)
Cypermethrin is primarily absorbed from the gastrointestinal tract. It may be absorbed by inhalation of spray mist and only minimally through the intact skin. Both isomers are readily metabolized by liver microsomal esterases and oxidases. The cis -isomer is the more stable of the two and may undergo extensive hydroxylation prior to ester cleavage. In most animals, except dogs, urine was the major route of elimination (+80%). In rats and mice, only a small amount of unhydrolysed product was found in faeces. Elimination of cypermethrin was rapid in most animals, in most tissues the half-life was approximately one day; in adipose tissue it ranged from 10 to 30 days. (3)
EGBE is quite completely absorbed after oral administration. In human dermal studies with liquid EGBE (at 5 and 10 % in water), a percentage of absorption of about 12 % was calculated. EGBE reaches a maximum blood concentration rapidly after exposure whichever the route of exposure, and is rapidly metabolised (with a plasmatic half life of about an hour). Target organs are the liver, kidneys, thymus and stomach, in particular forestomach in the rat. The main metabolism pathway leads to the formation of 2-butoxyacetic acid (BAA), the common toxic urinary metabolite. Elimination is rapid and mainly via urinary route (80 to 90 % of the metabolites). The plasmatic half-life of metabolites

is about 4 hours. A small amount is eliminated as CO2 by the respiration (10 to 20 %). (11)

- Acute toxicity effects:

- *Oral:* LD_{50} female rat = 891mg/kg for Cypermethrin of cis:trans isomer ratio 40:60. The toxic signs were characterised by salivation, increased startle response, ataxia, splayed gait, tremors and convulsions. (2) LD50 also varies from 367 to 2000 mg/kg in female rats, and from 82 to 779 mg/kg in mice, depending on the ratio of cis/trans-isomers present (4)
  LD_{50} rat 584 mg/kg for Denatonium Benzoate (5)
  LD_{50} rat = 470 - 2420 mg/kg, for 2-butoxyethanol (11)
- *Dermal:* LD_{50} rat > 1600 mg/kg for Cypermethrin (4)
  LD_{50} rabbit > 2400 mg/kg for Cypermethrin (14)
  LD_{50} rabbit = 500 mg/kg (administered occlusively; signs of irritation were noted), for 2-butoxyethanol (11)
- Inhalation: LC_{50} rat = 7889 mg/m3/4 hour for Cypermethrin (6)
  LC_{50} rat = 2214 mg/m3/4H, for 2-butoxyethanol (11)

- Corrosion/Irritation effects: Moderate skin irritation and mild eye irritation were produced by single applications of undiluted technical cypermethrin in rabbits. (3)
On the basis of the results of some studies performed on rabbits and Guinea-pigs, EGBE can be considered to be a skin irritant. In studies on rabbit, EGBE was irritant or severely irritant to the eyes, with effects both on conjunctivae, iris and cornea. Animal studies available (including repeated dose toxicity studies performed by inhalation on rats and mice) did not show any signs of significant respiratory irritation with EGBE. (11)

- Severe ocular lesion *:* Data not available in the literature search carried out.

- Sensitization:

- *Dermal:* Cypermethrin was observed to have a weak sensitization potential in guinea-pigs. (3)
  No signs of skin sensitisation with EGBE were seen in two animal studies or in a human patch test. (11)
- *Respiratory:* Data not available in the literature search carried out.

- Repeated dose toxicity (experimental.):

Related to 2-butoxyethanol :

- For the dermal route, a NOAEL of 150 mg/kg bw/d (the highest dose tested) has been determined from a 13-week study in rabbits. (11)
- For the oral route, a LOAEL of 69 and 82 mg/kg/day for male and female rats respectively, was found in a 13 -week drinking water study (haemolytical effects). (11)
- In rats and mice, haemolysis was consistently observed (whichever the route of administration) and was sometimes associated with hepatic effects, effects on body weight gain, hyaline degeneration of the olfactive epithelium (by inhalation), effects on the forestomach and effects on the white blood cells sub-populations (T lymphocyte). In these studies and for the inhalation route, no NOAEC was identified for mice, whereas a NOAEC value of 25 ppm (121 mg/m3) in rats was identified. In a separate study a LOAEC value of 31 ppm (150 mg/m3) can be established in rats, based on haemolysis and Kupffer cell pigmentation. (11)

- CMR effects:

- Germinal cell mutagenicity: Cypermethrin was not mutagenic in in vitro assays for gene mutation in bacteria and in Chinese hamster cells, in a cytogenetics assay and in a sister chromatid exchange assay in human lymphocytes. In vivo assays for mutagenicity gave conflicting results. The overwhelming evidence suggested that cypermethrin is not mutagenic. (3)
  EGBE did not pose a significant mutagenic potential in vivo and in vitro. (11)
- Carcinogenicity: No increase in tumour incidence was observed in a 2-year study in rats fed dietary concentrations of cypermethrin equivalent to approximately 0, 0.05, 0.5, 5 or 50 mg/kg bw/day, The NOEL was 5 mg/kg bw/day, based on reduced bodyweight gain at the higher dose. (7).
  IARC evaluation (2004 and 2006) has classified EGBE in the list 3 of carcinogens : not classifiable as to their carcinogenicity to humans (Group 3) on the basis of limited evidence in experimental animals and inadequate evidence in humans. (11)
- Reproductive toxicity: Cypermethrin was not teratogenic or foetotoxic in rats or rabbits at dose levels which

caused maternal toxicity. Reduced litter size and weights were observed in a 3 - generation study in rats at dose levels which also caused reduced bodyweight gain in the parents. The NOEL was 5 mg/kg bw/day. (7)
For developmental toxicity of EGBE, studies performed on animals via various administration routes did not demonstrate any teratogenic potential, but foetotoxicity and embryotoxicity (lethality and resorptions) were often observed in relation with maternal toxicity (regenerative haemolytic anaemia). It can be assumed that developmental toxicity due to EGBE in humans could not be expected without maternal toxicity. (11)

- Specific Target Organ Toxicity (STOT)-single exposure:
Data not available in the literature search carried out.

- Specific Target Organ Toxicity (STOT)-repeated exposure:
Pyrethroids may cause adverse effects on the central nervous system. Long-term feeding studies have caused increased liver and kidney weights and adverse changes to liver tissues in test animals. (4)
Signs of central nervous system toxicity of Cypermethrin were observed in 3-month repeated dose studies in rats and dogs. The NOELs were 100 and 50 mg/kg feed, respectively, corresponding to 5 and 12.5 mg/kg bw/day. (7)
Mechanistic studies have shown that EGBE causes haematotoxicity in vivo in rats and that BAA causes the same effects in vitro at very low concentration. When metabolic pathways leading to the formation of BAA were blocked, no effects were seen on red blood cells. It can be concluded that BAA is responsible of haematotoxicity in vivo. (11)

- Aspiration hazards:
Data not available in the literature search carried out.

- Epidemiological information:
Data not available in the literature search carried out.

- Reasons for the lack of classification:
Where the mixture resulted in a non-classification, this may be due to the availability of data which does not impose a classification for that specific end-point, or due to lack of data, or due to availability of inconclusive data or data which are not sufficient to get a classification as for the criteria adopted in Directives mentioned in this data sheet.

SECTION 12
ECOLOGICAL INFORMATION

12.1. Toxicity

Acute toxicity with fish	LC_{50} (*Salmo trutta m.lacustris*) = 0.002	mg/l/96h	for Cypermethrin	(8)
	LC_{50} *(Salmo gairdneri)* = 0.0005	mg/l/96h	for Cypermethrin	(8)
	LC_{50} (*Oncorhynchus mykiss*) = 1145-1840	mg/l/96h	for 2-butoxyethanol	(11)
Acute toxicity with	LC_{50} = 0.002	mg/L/24h	for Cypermethrin	(8)
Daphnia magna	EC_{50} = 835	mg/L/48h	for 2-butoxyethanol	(11)
Acute toxicity with algae	IC_{50} = 1840	mg/L/72h	for 2-butoxyethanol	(12)

12.2. Persistence and degradability

Cypermethrin has a very low vapor pressure and is not readily volatilized into the atmosphere. Experimental results indicate that there is practically no movement of the substance from contaminated soils to the surrounding air. It readily adsorbs to suspended matter in natural waters, and is therefore unlikely to cause groundwater contamination. (9)
Under normal environmental temperatures and pH, cypermethrin is relatively stable to hydrolysis and photolysis with the half-lives being >50 and >100 days, respectively (hydrolyzes slowly in water at pH 7 and below, with hydrolysis and photolysis more quickly in a basic environment.). In soil cypermethrin is degraded by hydrolysis of the ester linkage, leading to 3-phenoxybenzoic acid (PBA) and 3-(2,2-dichlorovinyl)-2,2-dimethyl cyclopropanecarboxylic acid (DCVA), with a small amount of 3-phenoxybenzaldehyde as a minor photoproduct. Cypermethrin is relatively non-persistent in soils with the typical half-life in sandy soils of 2-4 weeks. The persistence of the metabolites is unknown. Increased cypermethrin persistence was observed in soil with high organic matter, high clay content, reduced microbial activity and anaerobic conditions. Microbes play a significant role in the degradation of cypermethrin (degrades more slowly in sterilized versus natural soils, with a (9)

half-life of 20 to 25 weeks). The anaerobic half-life reported at <14 days is similar to the half-life in aerobic soils ranging from 6-20 days.
Since EGBE does not absorb ultraviolet radiation within the solar spectrum (> 290 nm), direct photolysis in the atmosphere is not expected to occur. Its volatilisation from surface water and moist soil is expected to be very low. The hydrosphere is the preferential target of the substance in the environment. EGBE can be regarded as readily biodegradable. (11)

12.3. Bioaccumulative potential

Because of its high lipoaffinity and low solubility, cypermethrin has a strong potential to bioaccummulate in aquatic animals. (9)
A BCF of 420 in golden ide fish (Leuciscus idus melanotus and 430 in rainbow trout (Oncorhynchus mykiss), suggests the potential for bioconcentration of Cypermenthrin in aquatic organisms is high. (10)
Partition coefficient measurements have been performed: 0.77 is the mean value of three determinations. Therefore, EGBE is expected to have a low bioaccumulation potential. (11)

12.4. Mobility in soil

Koc values ranging from 5,800 to 160,000, indicate that cypermethrin is expected to be immobile in soil. (10)
Very little cypermethrin insecticide would move through the soil profile, its major metabolites are very polar, and move readily through the soil. (9)

12.5. Results of PBT e vPvB assessment

Data not available.

12.6. Other adverse effects

Cypermethrin is highly toxic to bees. (4)

SECTION 13
DISPOSAL CONSIDERATION

13.1. Waste treatment methods

Any disposal practice must be in compliance with all local and national laws and regulations. Do not dump into any sewers, on the ground, or into any body of water.

SECTION 14
TRANSPORT INFORMATION

- ONU Number: **- UN proper shipping name:**	**3077** **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CYPERMETHRIN)**

ADR	**RID**
 Class, Code, Group: 9 M7 III Hazard identification number: 90 LQ: 5 Kg Tunnel Restriction code: (E)	 Class, Code, Group: 9 M7 III Hazard identification number: 90 LQ: 5 Kg
IMDG	**IATA**
 Class: 9 Packaging group: III	 Class: 9 Hazard Label(s): Miscellaneous

EmS sheet: F-A, S-F Marine Pollutant: YES	Packaging group: III Erg code: 9L Passenger and cargo: (LIMITED QUANTITY) P.I.: Y956; max net q.ty per pack: 30 kg G; Passenger and cargo: P.I.: 956; max net q.ty per pack: 400 kg; Cargo only: P.I.: 956; max net q.ty per pack: 400 kg.

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 regulation/legislation specific for the mixture or its ingredients

Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work (Official Journal L 183 , 29/06/1989 P. 0001 – 0008) and following amendment and National reinforcements.

Council Directive 89/686/EEC of 21 December 1989 on the approximation of the laws of the Member States relating to the personal protective equipment.

Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC) Official Journal L 131 , 05/05/1998 P. 0011 – 0023.

Directive 98/8/EC of the European Parliament and of the Council of 16 February 1998 concerning the placing of biocidal products on the market.

15.2. Chemical Safety Assessment

	YES	NO
- Exposure scenario attached		X
- Chemical Safety Assessment (CSA) attached		X

SECTION 16
OTHER INFORMATION

Revisions:
- **Edition dated 12/12/2011**
- **Revision n. 00**

The classification of this product is based, where possible, on the data related to the mixture itself. Where no or inadequate test data on the mixture itself are available, the classification is based upon other available information on individual substances and similar tested mixtures which may also be considered relevant for the purposes of determining whether the mixture is hazardous.

Bibliographic sources:

(1) http://toxipedia.org/display/toxipedia/Tetramethrin
(2) TETRAMETHRIN - National Library of Medicine HSDB Database
(3) IPCS INCHEM, DATA SHEET ON PESTICIDES No. 58 CYPERMETHRIN
(4) EXTOXNET, Pesticide Information Profile, Cypermethrin, Publication Date: 9/93
(5) ChemID Lite Plus for Denatonium Benzoate (CAS 3734-33-6).
(6) RTECS:GZ1250000 The Registry of Toxic Effects of Chemical Substances, CAS #: 52315-07-8
(7) European Medicines Agency, CYPERMETHRIN (Extrapolation to all ruminants) SUMMARY REPORT (4), EMEA/MRL/890/03-FINAL June 2004
(8) Data bank of environmental properties of chemicals, Cypermethrin
(9) ENVIRONMENTAL FATE OF CYPERMETHRIN, DeeAn Jones, Environmental Monitoring & Pest Management, Department of Pesticide Regulation Sacramento, CA 95814-3510

(10) CYPERMETHRIN - National Library of Medicine HSDB Database
(11) European Union Risk Assessment Report, 2-BUTOXYETHANOL, Final Report, 2006
(12) UNIVAR spa, 2-butoxyethanol, MSDS, Revision date 16.07.2010
(13) TLVs and BEIs Based on the Documentation of the Threshold limit values for Chemical Substances and Physical Agents & Biological Exposure Indices ACGIH, 2010
(14) ChemID plus Lite, Cypermethrin, full record
(*) Classification in Annex I of Dir 67/548/EEC and in Annex VI of the 1272/2008/EC Regulation

Acronyms
- ACGIH: American Conference of Governmental Industrial Hygienists
- ADR: Agreement concerning the carriage of dangerous goods by Road
- BCF: Bioaccumulative factor
- BEI : Biological Esposure Indices (Indici di esposizione biologica)
- CAS: Chemical Abstract Service (division of the American Chemical Society
- CHETAH : Computer programme for chemical termodynamics and energy release evaluation
- CLP: Classification, Labelling and Packaging
- CMR: Carcinogens, Mutagens, Toxic for re production substances
- EINECS: European Inventory of existing Commercial Substances
- EPA: US Environmental Protection Agency
- GHS: Globally Harmonised System
- IARC: International Agency for Research on Cancer
- IATA: International Air Transport Association Code
- IMDG: International Maritime Dangerous Goods Code
- IUPAC: International Union of Pure and Applied Chemistry
- LOEL: Lowest Observed Effect Level
- N.A.: Not Applicable
- N.A.: Not Available
- NOAEL: No Observed Adverse Effect Level)
- NTP: National Toxicology Program
- OEL: Occupational Exposure Limit
- OSHA: Occupational Safety and Health Administration
- PPE : Personal protective Equipment
- PBT: Persistent, Bioaccumulative and Toxic substances
- RID: Regulation concerning the International carriage of Dangerous goods by rail
- TLV/TWA: Threshold Limit Value/Threshold Weighted Average
- vPvB: very Persistent, very Bioaccumulative

Information related to the regulation EC/1272/2008
List of hazards statements

H332	Harmful if inhaled.
H302	Harmful if swallowed.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H312	Harmful in contact with skin.
H319	Causes serious eye irritation.
H315	Causes skin irritation.

List of precautionary statements

P102	Keep out of reach of children.
P260	Do not breathe dust.
P273	Avoid release to the environment
P391	Collect spillage.
P309 + P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
P501	Dispose of contents/container in accordance with local/regional/national/ international regulation.

Information related to the Directive 67/548/EEC, Directive 1999/45/EC and Regulation (EC) n. 1907/2006

R20/22	Harmful by inhalation and if swallowed.
R37	Irritating to respiratory system.

R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R36/38	Irritating to eyes and skin.
R22	Harmful if swallowed.
S2	Keep out of the reach of children.
S13	Keep away from food, drink and animal feedingstuffs.
S22	Do not breathe dust.
S29/35	Do not empty into drains; dispose of this material and its container in a safe way.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label were possible).
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.

Information on workers training
Follow criteria of Directive 98/24/EC, its amendments and National reinforcements.
Restriction of use (for ingredients): None.
Mixture which contains a substance under authorisation: **NO.**

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