

**SAFETY DATA SHEET (SDS)**
**TITLE: DELTAMETHRIN 12.5 G/L ULV**
**1.0 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY / UNDERTAKING**
**1.1 Product Identifier**

Product Name : AG DELTAMETHRIN 12.5 G/L ULV  
 Common Name : Deltamethrin 12.5 G/L ULV  
 CAS No. : 52918-63-5  
 EC No. : 258-256-6  
 Chemical Name (IUPAC) : [(S)- $\alpha$ - cyano-(3-phenoxybenzyl) (1R,3R)-3-(2,2-dibromovinyl)-2,2-dimethyl-cyclopropane-1-carboxylate  
 Molecular Weight : 505.2

**1.2 Relevant identified uses of the substance: insecticide**
**1.3 Details of the Manufacturer / Supplier of the safety data sheet:**

Supplier AGROMECC SARL  
 P.O.Box: 462  
 Jounieh, Lebanon  
 Tel +961 9 226874  
 E-mail agromec@agromec-international.com  
 Webpage www.agromec-international.com

**1.4 Emergency Phone Number (24 hours)**

+961 3 980599

**2.0 HAZARDS IDENTIFICATION**
**2.1 Classification of the mixture:**
**2.1.1 Classification:**

The substance is classified as following according to 67/548/EEC and REGULATION (EC) No 1272/2008 (CLP).

1272/2008/EU	
Pictograms / Signal word code (s)	Hazard Statement Code (s)
GHS06, GHS08, GHS09	H331, H301, H400, H410, H304

For full text of H-phrases: see section 2.2.1

67/548/EEC (DSD)		
Classification and Indication of Danger (s)	R-Phrases	S-Phrases
T, N, Xn	R 10, 23/25, 50/53, 65	S(1/2), 23, 24, 28, 27/28, 38, 36/37/39, 45, 60/61, 62

For full text of R-phrases and S-phrases: see section 2.2.2

## 2.1.2 The most important adverse effects

The most important adverse human health effects: Health Hazards: harmful if swallowed, in contact with skin or if inhaled, may cause sensitisation by skin contact.

The most important adverse environmental effects: very toxic to aquatic organisms, with long lasting effects in the aquatic environment

## 2.1.3 According to 1272/2008/EU REGULATION

Pictograms / Signal word code (s)



GHS06



GHS08



GHS09

Hazard Statement code (s)

- H301 : Toxic if swallowed.
- H331 : Toxic if inhaled
- H410 : Very toxic to aquatic life with long lasting effects.
- H400 : Very toxic to aquatic life.
- H304 : May be fatal if swallowed and enters airways.

## 2.1.4 According to 67/548/EEC REGULATION

Indication (s) of Danger :



Xn – Harmful



N – Dangerous for the environment



T-Toxic

Risk phrases

- R 10 : Flammable
- R 23/25 : Toxic by inhalation and if swallowed

R 50/53	:	Very Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 65	:	Harmful: May cause lung damage if swallowed
<u>Safety phrases</u>		
S(1/2)	:	Keep locked up and out of the reach of children.
S 23	:	Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
S 24	:	Avoid contact with skin
S 28	:	Avoid contact with skin and eyes.
S27/28	:	After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water
S 38	:	In case of insufficient ventilation, wear suitable respiratory equipment
S 36/37/39	:	Wear suitable protective clothing, gloves and eye/face protection.
S45	:	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 60/61	:	This material and its container must be disposed of as hazardous waste /Avoid release to the environment. Refer to special instructions/Safety data sheets.
S 62	:	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label

### 2.1.5 Other hazards

Specific concentration Limits and M factors (for active substance): N/A

## 3.0 COMPOSITION/INFORMATION ON INGREDIENTS

Substance Name / CAS No	% w/w	Risk and Safety Phrases (67/548/EEC)	Hazard Symbol (67/548/EEC)	Hazard Pictograms (1272/2008/EC)	Hazard Statements (1272/2008/EC)
Deltamethrin / 52918-63-5	1.25	R23/25, 50/53 S (1/2), 24, 28, 36/37/39, 38, 45, 60, 61, 62	T, N	GHS06, GHS09	H331, H301, H400, H410
		S (2), 23, 24, 62			
Other ingredients determined not to be hazardous	to 100%				

## 4.0 FIRST AID MEASURES

### 4.1 Description of first aid measures

#### 4.1.1 General information

When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

#### 4.1.2 In case of inhalation

Wearing proper respiratory protection before rescues. Immediately remove the affected victim from exposure to an area of fresh air. If not breathing, give artificial respiration; if breathe difficult, give oxygen. Get medical attention.

#### 4.1.3 In case of skin contact

Flush with large amount of water; use soap or detergent if available. Remove grossly contaminated clothing, including shoes, and launder before reuse.

#### 4.1.4 In case of eyes contact

Flush eyes with large amount of water until irritation subsides. If irritation persists, get medical attention.

#### 4.1.5 In case of ingestion

If swallowed, rinse mouth with water. Keep patient at rest. Never give anything by mouth to an unconscious person. Do NOT induce vomiting unless told to by a poison control centre or doctor. Get immediate medical attention.

#### 4.1.6 Note to physician

No specific antidote. Treat symptomatically and supportively.

#### 4.1.7 Most important symptoms and effects, both acute and delayed :

This product or its components may have long term chronic health effects. No specific medical conditions are known which may be aggravated by exposure to this product. As with all materials which can cause upper respiratory tract irritation, persons with a history of asthma, emphysema or hyperactive airways disease may be more susceptible to overexposure.

## 5.0 FIRE – FIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing media : Foam, dry chemical, water spray or CO2 to extinguish fire.

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

Hazardous combustion products : N/A

### 5.3 Advice for fire-fighters

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Keep unnecessary people away. Use as little water as possible. Dike area of fire to prevent material run-off. Decontaminate

emergency personnel with soap and water before leaving the fire area. Avoid breathing dusts, vapours and fumes from burning materials. Control run-off water.

#### **5.4 Fire and Explosion Hazards:**

Flash point: >58°C. This product can form combustible mixtures at temperatures at or above the flash point. It may produce a floating fire hazard in extreme fire conditions.

## **6.0 ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal precautions, protective equipment and emergency procedures**

#### **6.1.1 Personal precautions**

Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.

### **6.2 Environmental precautions**

Do not discharge into drains or rivers. Do not allow to enter soil, waterways or waste water canal. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

### **6.3 Methods and material for containment and cleaning up**

Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental precautions.

#### **6.3.1 Other information**

N/A

### **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

### **6.5 Additional information**

In case materials are released, contact emergency response personnel. Keep unnecessary persons away. If emergency response personnel are unavailable, absorb small spills on spill pillows or other suitable absorbing material (sand or earth) and place in a sealed container for disposal. Dike large spills and transfer to an appropriate container for disposal. Avoid contact of spilled materials and runoff with soil and surface waterways. Use suitable protective equipment (Section 8). Follow all fire prevention procedures (Section 5).

## 7.0 HANDLING AND STORAGE

### 7.1 Precautions for safe handling

#### 7.1.1 Protective measures

Protect against physical damage. Use non-sparking type tools and equipment, including explosion proof ventilation. Do not contaminate lakes, streams, and ponds.

#### 7.1.2 Advice on general occupational by hygiene

Avoid contact with eyes, skin or clothing. Do not breathe spray mist. When using, do not eat, drink, or smoke. Wash hands and exposed skin before meals and afterwork. Wash out container thoroughly and dispose of safely.

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

Technical measures and storage conditions : Store in the original container and keep closed. Store in cool, dry and well-ventilated place. Do not use, pour, or store near heat or open flame.

Further information on storage conditions : Keep out of reach of children. Keep away from food, drink and animal feeding stuffs.

## 8.0 EXPOSURE CONTROL/PERSONAL PROTECTION

### 8.1 Control parameters

#### 8.1.1 Occupational exposure limits

Solvent naphtha (petroleum), heavy arom. 100 mg/m<sup>3</sup> (8 h, TWA)

#### 8.1.2 Additional exposure limits under the conditions of use: Not available

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust or process enclosure ventilation system.

#### 8.2.2 Personal protection equipment

See section 8.2.3-8.2.5

#### 8.2.3 Eye / Face protection

To protect against accidental eye contact, goggles/face-shield should be worn.

#### 8.2.4 Skin Protection

Rubber gloves should be worn. Wash thoroughly with soap and water after handling.

#### 8.2.5 Respiratory protection

Ensure good ventilation. For maximum protection, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus.

### 8.2.6 Other information

Follow all label instructions. Train employees in safe use of the product. Follow manufacturer's instructions for cleaning/maintaining personal protection equipment. Keep and wash personal protection equipment separately from other laundry.

## 9.0 PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	:	Colorless to light yellow liquid
Odor	:	Aromatic odor
Colour	:	Colorless to light yellow liquid
Flash point (°C)	:	>58°C
pH value	:	4.0-8.0 (1% aqueous solution)
Water Solubility	:	Disperse in water
Ignition temperature (°C)	:	N/A
Oxidizing properties	:	Not oxidizing
Explosive properties	:	Not explosive
Upper/lower flammability/explosive limits	:	N/A
Auto-ignition temperature	:	N/A
Decomposition temperature	:	N/A

### 9.2 Other information

N/A

## 10.0 STABILITY AND RELIABILITY

### 10.1 Reactivity

No information available

### 10.2 Chemical stability

Stable under normal handling and storage conditions.

### 10.3 Possibility of hazardous reactions

No hazardous reactions known

### 10.4 Conditions to avoid

**Avoid extreme heat**

### 10.5 Incompatible materials

Avoid mix with strong oxidizing agent and alkaline substance.

## 10.6 Hazardous decomposition products

The substance decomposes on burning, and producing toxic and corrosive fumes.

## 10.7 Hazard Polymerization

Will not occur.

## 11.0 TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity (for deltamethrin)

- LD50 (Dermal,Rabbits) : >2000 mg/kg
- LD50 (Oral, Rat) : >135 mg/kg
- LC<sub>50</sub>(4h,inhalation, rats) : 2.2 mg/l air

Skin corrosion/Irritation : Moderately irritating to rabbits

Eye damage/irritation : Causes irreversible eye damage to rabbits

Toxicity Class: : II (WHO), Moderately hazardous

Respiratory or skin sanitization : N/A

Repeated exposure : N/A

#### Other information

Germ cell mutagenicity : Non mutagenic (mice,rats,rabbits)

Carcinogenicity : Deltamethrin was not carcinogenic in lifetime feeding studies in rats and mice

Reproductive toxicity : Not available

STOT- single exposure : Not available

STOT- repeated exposure : Not available

Aspiration hazard : Not available

## 12.0 ECOLOGICAL INFORMATION

### 12.1 Toxicity (applies to deltamethrin)

#### 12.1.1 Aquatic Toxicity

The product is very toxic to fish and other aquatic organisms. Use with care when applying in areas adjacent to any body of water, do not apply directly to water, to area where surface water is present or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas, drift or runoff from treated fields may kill fish and other aquatic organisms. Referenced technical active ingredient ecological information list as below:



### 12.1.2 Avian Toxicity

**Bees:** Toxic to bees, LD50 (oral) 79 ng/bee; (contact) 51 ng/bee. Low LD50 and LC50 values under laboratory conditions do not represent a significant hazard to bees in normal field use.

**Birds:** Acute oral LD50 for mallard ducks >4640 mg/kg. Dietary LC50 (8 d) for mallard ducks >8039, quail >5620 mg/kg diet. NOEL for reproduction for mallard ducks >70, bobwhite quail >55 mg/kg daily.

**Fish:** Toxic to fish under laboratory conditions; LC50 (96 h) for rainbow trout 0.91, bluegill sunfish 1.4 mg/l. Not toxic to fish under natural conditions.

### 12.1.3 Environmental Fate

**Animals:** In rats, following oral administration, elimination occurs within 2-4 days. The phenyl ring is hydroxylated, the ester bond hydrolyzed, and the acid moiety is eliminated as the glucuronide and glycine conjugates.

**Plants:** No uptake through leaves and roots - non-systemic compound. No major metabolites, except in oily crops, where trans-deltamethrin is part of the residue definition.

**Soil/Environment:** In soil, undergoes microbial degradation within 1-2 weeks.  $K_d$  3790-30000,  $K_{oc}$   $4.6 \times 10^5$ - $1.63 \times 10^7$  cm<sup>3</sup>/g, confirms strong adsorption by soil colloids and no risk of leaching. DT50 (lab., aerobic) 21-25 d, (anaerobic) 31-36 d, in field, DT50 <23 d. Soil photolysis DT50 9 d. No incidence on soil micro flora and nitrogen cycle.

### 12.1.4 Persistence and degradability

Deltamethrin in soil undergoes microbial degradation within 1-2 weeks.  $K_D$  3790-30000,  $K_{OC}$   $4.6 \times 10^5$ - $16.3 \times 10^5$  cm<sup>3</sup>/g, confirms strong absorption by soil colloids and no risk of leaching. No incidence on soil microflora and nitrogen cycle.

## 13.0 DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Container and washing must be disposed to an approved facility.

### 13.2 Product / Packaging disposal

#### 13.2.1 Product waste disposal

Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

#### 13.2.2 Packing waste disposal

Empty remaining contents. Triple rinse containers. Empty containers should be taken for local recycling or waste disposal. Do not re-use empty containers.

## 14.0 TRANSPORT INFORMATION

### 14.1 Land transport (ADR/RID/GGVSE)

UN No : 3352

Proper shipping name	:	Pyrethroid Pesticide, liquid, toxic (Deltamethrin, solvent naphtha)
Class(es)	:	6.1
Packing group	:	III
Hazard label(s)	:	6.1, marine pollutant

#### 14.2 Sea transport (IMDG-Code/GGVSee)

UN-No	:	3352
Proper shipping name	:	Pyrethroid Pesticide, liquid, toxic (Deltamethrin, solvent naphtha)
Class(es)	:	6.1
Packing group	:	III
Marine Pollutant	:	YES
Label	:	6.1, marine pollutant

#### 14.3 Air transport (ICAO-IATA/DGR)

UN No	:	3352
Proper shipping name	:	Pyrethroid Pesticide, liquid, toxic (Deltamethrin, solvent naphtha)
Class(es)	:	6.1
Packing group	:	III
Hazard label(s)	:	6.1, marine pollutant

### 15.0 REGULATORY INFORMATION

#### 15.1 Risk and safety phrases in accordance with the Directive 2001/58/EC

Hazard Symbol	See section 2.2.2 and 2.1.1
R-Risk Phrases	See section 2.2.2 and 2.1.1
S- Safety Phrases	See section 2.2.2 and 2.1.1

#### 15.2 Hazard and Precautionary statements in accordance with the regulation 1272/2008/EC

Pictograms and Signal Word Code(s)	See section 2.2.1 and 2.1.1
Hazard Statement Code (s)	See section 2.2.1 and 2.1.1

### 16.0 OTHER INFORMATION

#### 16.1 Hazard symbols mentioned in section 3 in accordance with the Directive 2001/58/EC

See section 2.1.4.

**16.2 Risk phrases mentioned in section 3 in accordance with the Directive 2001/58/EC:**

See section 2.1.4.

**16.3 Safety phrases mentioned in section 3 in accordance with the Directive 2001/58/EC:**

See section 2.1.4.

**16.4 Pictograms and Signal Word Code(s) mentioned in section 3 in accordance with the regulation 1272/2008/EC**

See section 2.1.3.

**16.5 Hazard statements mentioned in section 3 in accordance with the regulation 1272/2008/EC:**

**See section 2.1.3**

**16.6 Further Information**

The information contained herein relates only to the specified material identified. AGROMECC believes that such information is accurate and reliable as of the data of this material safety data sheet, but no representation, guarantee or warranty, expressed or implied, is made as to the accuracy, reliability, or completeness of the information. AGROMECC urges persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application.

This material safety data sheet adopts the provisions of the European Commission Directive 2001/58/EC and Regulations 1272/2008 (CLP) and 453/2010 (REACH).