SHARDA EUROPE B.V.B.A

MATERIAL SAFETY DATA SHEET

DELTA SUPER
(DELTAMETHRIN 26% + TETRAMETHRIN 31.2%+ PBO 62.4% SC)

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

1.1 Product details
Trade name: **DELTA SUPER**
1.2 Relevant identified uses of the substance or mixture and uses advised against
Concentrated insecticide in water micro emulsion for professional, domestic use.
Not applicable in other uses than the uses identified.
1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Sharda Europe BVBA-Italy
Jozef Mertensstraat 142, B-1702 Dilbeek (Belgium)

2. HAZARDS IDENTIFICATION

The product is classified as hazardous according to the Regulation (EC) 1272/2008 (CLP) (and subsequent amendments. The product requires a safety data sheet according to Regulation (EC) No. 1907/2006, as amended. Additional information regarding the risks for health and/or environmental hazards can be found in sections 11 and 12 of this sheet.

2.1 Classification of the substance or mixture
Classification according to the CLP Regulation N. 1272/2008 and subsequent modifications and adjustments

Classification	Hazardous to the aquatic environment;Carcinogenicity
	Category 1; Category 2
GHS Pictograms	GHS09 GHS09 
Signal Word	ATTENTION
Hazard statement	H351 H400 H410
Supplemental hazard information	--

2.2 – Label elements
Hazard labelling of the preparation according to CLP Regulation N. 1272/2008 and subsequent modifications and adjustments:
Hazard statements (H):
H351 Suspected of causing cancer.
H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements (P):
P101: If medical advice is needed, have product container or label at hand.
P102: Keep out of reach of children.
P103: Read label before use.
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P273: Avoid release to the environment.

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P281: Use personal protective equipment as required.
P308+P313: IF exposed or concerned: Get medical advice/attention.
P391: Collect spillage
P405: Store locked up
P501: Dispose of contents/container to an approved waste disposal plant
Supplemental hazard information
N.A.
2.3 – Other hazards
Not available information.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 – Substances: Not pertinent information.

3.2 – Mixture:

Name Commercial	Function	CAS No.	Content
Deltamethrin	Active Ingredient	52918-63-5	26 g / L to give 2.5% of Deltamethrin pure Active
Tetamethrin	Active Ingredient	7696-12-0	31.2 g / L to give 3% of Tetramethrin pure Active
Piperonyl butoxide	Active Ingredient	51-03-6	62.4 g /L To give 6% of pure Piperonyl butoxide
Glycol monopropylene	Solvent	57-55-6	70
Urea	Stabilizer	57-13-6	140
Soitem 131	Surfactant	ND	10
SOITEM 8 FLN	Surfactant	Blend	20
Soitem DS70	Surfactant	Blend	5
Xanthan gum	Thickener	11138-66-2	4
Water	Diluent	7732-18-5	631.4
Total			**1000 g / Liter = 100%**

The full text of hazard (H) phrases is given in section 16.

SECTION 4: FIRST-AID MEASURES

4.1 – Description of first-aid measures
General information: if symptoms persist, seek medical care, giving the information contained in the label and in this sheet. In case of accident, the first-aid measure should be performed by trained personnel, in order to avoid the injured further complication or damages.
After eye contact: Rinse opened eye with water for several minutes and get medical advice.
After skin contact: Immediately wash with plentiful running water.
After inhalation: remove the patient to fresh air; consult get medical advice if necessary.
After swallowing get medical advice, showing the safety sheet. Do not induce vomiting.
4.2 – Main symptoms and effects, both acute and retarded
For symptoms and effects caused by the substances see section 11. Symptoms of poisoning may even occur after several hours, therefore medical observation for at least 48 hours after the accident may be necessary.
4.3 – Indications about the possible need to get medical advice and special treatments
Symptomatic treatment and control of vital functions.

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SECTION 5: FIRE-FIGHTING MEASURES

5.1 – Extinguishing agents:
Suitable extinguishing agents: CO2, dry chemical extinguisher, sand.
Unsuitable extinguishing agents: Water with full jet. Water is not effective for fire-extinguishing; however it can be used to cool down containers exposed to flames, in order to prevent bursts and explosions.
5.2 – Special hazards arising from the substance or mixture
Particular fire dangers: In case of fire, toxic gas and irritating vapours emission.
5.3 – Advice for firefighters
Protective equipment: Wear suitable rebreather (especially in indoor locals) and complete protection outfit.
Special procedures: Contain the spread. Stay upwind. Avoid to breathe vapours. Cool down the containers exposed to fire with nebulized water. Avoid extinguishing water to release to the environment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 –Personal precautions, protective equipment and emergency procedures
Use suitable personal protective equipment (see section 8). Ensure adequate ventilation.
6.2 Environmental precautions
Keep the product away from sewers, fluvial and marine water to avoid environmental pollution (in that case, inform respective authorities).
6.3 – Methods and material for containment and cleaning up
In case of spreading on the ground, stem with sand or soil and collect with absorbing material.
Dispose the collected material in disposal container (see Section 13).
6.4 – Reference to other sections
Further information regarding individual protection and disposal are reported in section 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 - Precautions for safe handling
Ensure good ventilation. Avoid eating, drinking and smoking. Use suitable protective clothes (see Section 8). Wash with water and soap after handling: ensure good ventilation of the workplace. Do not smoke and do not use on naked flame. Do not spray onto a naked flame or any incandescent material. Keep ignition sources away – Do not smoke. Protect against electrostatic charges. Pressurized container. Protect form sunlight and do not expose to temperatures exceeding 50°C, for example incandescent lamps. Do not pierce or burn. Even after use.
7.2 - Conditions for safe storage, including any incompatibilities
Store in the original tightly sealed receptacle, away from food and beverages and away from the reach of children and domestic animals. Store in a cool location. Protect from direct sunlight. Where applicable, observe official regulations on storing packaging with pressurized containers.
7.3 - Specific end use(s)
No further relevant information available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 – Control parameters

Substance identifier	Values
Tetramethrin	PNOC breathable fraction: 3 mg/m3; PNOC inhalable fraction: 10 mg/m3
PBO	PNEC in fresh water: 0,003 mg/l PNEC in marine water: 0,0003 mg/l PNEC for freshwater sediment: 0,0194 mg/kg PNEC for marine water sediment: 0,00194 mg/kg PNEC for water, intermittent release: 0,0003 mg/l PNEC for the terrestrial compartment: 0,136 mg/kg **DNEL** Consumers – Inhalation; Acute local effects: 1,937 mg/m³ Consumers – Dermal; Acute local effects: 0,222 mg/cm2

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	Consumers - Oral; Acute systemic effects: 2,286 mg/kg/d Consumers – Inhalation; Acute systemic effects: 3,874 mg/m³ Consumers – Dermal; Acute systemic effects: 27,776 mg/kg/d Consumers – Inhalation; Chronic local effects: 1,937 mg/m³ Consumers – Dermal; Chronic local effects: 0,222 mg/cm2 Consumers - Oral; Chronic systemic effects: 1,143 mg/kg/d Consumers – Inhalation; Chronic systemic effects: 1,937 mg/m³ Consumers – Dermal; Chronic systemic effects: 13,888 mg/kg/d Workers – Inhalation; Acute local effects: 3,875 mg/m³ Workers – Dermal; Acute local effects: 0,444 mg/cm2 Workers – Inhalation; Acute systemic effects: 7,750 mg/m³ Workers – Dermal; Acute systemic effects: 55,556 mg/kg/d Workers – Inhalation; Chronic local effects: 0,222 mg/m³ Workers – Dermal; Chronic local effects: 0,444 mg/cm2 Workers – Inhalation; Chronic local effects: 3,875 mg/m³ Workers – Dermal; Chronic local effects: 27,778 mg/kg/d
Docusate Sodium	PNEC Target: Fresh water - Value: 0.0066 mg l Target: Sea water - Value: 0.00066 mg/l Target: Sediment freshwater - Value: 0,653 mg/kg Target: Sediment seawater - Value: 0.0653 mg/kg DNEL Industrial worker: 313 mg/kg - Exposure: Oral Human - Frequency: Long term, systemic effects. Industrial worker: 44.1 mg/m3 - Consumer: 13 mg/m3 - Exposure: Inhalation Human - Frequency: Long term, systemic effects. Consumer: 18.8 mg/kg - Exposure: Dermal Human - Frequency: Long term, systemic effects.

8.2 – Exposure controls

General protective measures: Use the preparation according to the indication contained in this safety sheet. Use individual protective devices recommended in this section.

Respiratory protection: In not so ventilated environments, where high percentage of product could be present, protect adequately the respiratory tract (mask with suitable filter against gas and solvents).

Protection of hands: Use impermeable and chemical substances resistant gloves (EN 374).

Eye protection: Use safety glasses with side protection, in case of possible contact to eyes.

Body protection: If need use protective coats.

SECTION 9: EXPOSURE PHYSICAL AND CHEMICAL PROPERTIES

9.1 - Information on basic physical and chemical properties

Form	Liquid
Color	White
Odor	Characteristic
pH	7
Melting point/freezing point:	N.A
Initial boiling point and boiling range:	N.A
Flash point:	N.A
Evaporation rate:	N.A
Flammability (solid, gas):	N.A
Upper/lower flammability or explosive limits:	N.A
Vapor pressure	43.0 hPa
Vapor density	N.A
Relative density	1,04 g/cm3 at 20 °C
Solubility	Miscible
Partition coefficient: n-octanol/water:	N.A
Auto-ignition temperature:	N.A
Decomposition temperature	N.A

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Viscosity	N.A
Explosive properties:	N.A
Oxidising properties:	N.A

9.2 – Other information
N.A.

SECTION 10. STABILITY AND REACTIVITY

10.1 – Reactivity
Not particular reactivity danger with other substances under normal operating conditions.
10.2 – Chemical Stability
Stable under normal operating and storage conditions.
10.3 – Possibility of hazardous reactions
No dangerous reactions known.

SECTION 11. TOXICAL INFORMATION

11.1 – Information on toxicological effects
Mechanism of action: DELTAMETHRIN and TETRAMETHRIN, (pyrethroid) acts on the central nervous system and peripheral at the level of neuronal membranes leading to a closing of the sodium channels.
Inhalation
For prolonged exposure, respiratory irritation and headaches, nausea, drowsiness and dizziness.
Swallowing
May cause irritation of the digestive mucosa, salivation, nausea, vomiting, diarrhea, abdominal pain, depression of the central nervous system, muscle spasms, convulsions, dyspnea; swallowing the liquid may cause the formation of droplets, entering into the lungs, may cause chemical pneumonitis.
Skin contact: For frequent and prolonged contact, persistent irritation and dermatitis, chapping and dryness of the skin.
Eye contact: Conjunctival redness and irritation.

Toxicological data:

Substance identifier	Acute Oral Toxicity	Acute Dermal Toxicity	Acute Inhalation Toxicity
Deltamethrin	LD50 Rat >50-300 mg/kg bw	LD50 Rabbit >2000mg/kg	N.A

-SKIN CORROSION/IRRITATION
Not irritating.
-SERIOUS EYE DAMAGE/IRRITATION
Not irritating.
-RESPIRATORY OR SKIN SENSITISATION
Not sensitising.
-GERM CELL MUTAGENICITY
Non-mutagenic.
-CANCEROGENICITY
Non-cancerogenic.
-REPRODUCTIVE TOXICITY
Non-toxic to riproduction.
-STOT SE
N.A.
-STOT RE
N.A.
-ASPIRATION HAZARD
Chemical pneumonitis resulting from aspiration of the solvent into the lungs is a danger that occurs when liquid formulations are used.

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Substance identifier	Acute Oral Toxicity	Acute Dermal Toxicity	Acute Inhalation Toxicity
Tetramethrin	LD50 Rat >2000mg/kg bw	LD50 Rat >2000mg/kg	LD50 Rat >5.63 mg/l 4h

-SKIN CORROSION/IRRITATION
Not irritating.
-SERIOUS EYE DAMAGE/IRRITATION
Not irritating.
-RESPIRATORY SENSITISATION
N.A.
-SKIN SENSITISATION
Not sensitising.
-GERM CELL MUTAGENICITY
Non-mutagenic.
-CANCENOGENICITY
Suspected of causing cancer.
-REPRODUCTIVE TOXICITY
Non-toxic to riproduction.
-STOT SE
May cause damage to organs.
-STOT RE
N.A.
-ASPIRATION HAZARD
N.A.

Substance identifier	Acute Oral Toxicity	Acute Dermal Toxicity	Acute Inhalation Toxicity
PBO	LD50 Rat >4570mg/kg	LD50 Rabbit >2000mg/kg	LC50 Rat >5.9 mg/l 4h

-SKIN CORROSION/IRRITATION
Not irritating.
-SERIOUS EYE DAMAGE/IRRITATION
Not irritating.
-RESPIRATORY SENSITISATION
Not sensitising.
- SKIN SENSITISATION
N.A.
-GERM CELL MUTAGENICITY
Non-mutagenic.
-CANCEROGENICITY
Non-cancerogenic.
-REPRODUCTIVE TOXICITY
Non-toxic to riproduction.
-STOT SE
None detected.
-STOT RE
None detected.
-ASPIRATION HAZARD
N.A.

Substance identifier	Acute Oral Toxicity	Acute Dermal Toxicity	Acute Inhalation Toxicity
Docusate Sodium	LD50 Rat >3000mg/kg	LD50 Rat 2000mg/kg	N.A

-SKIN CORROSION/IRRITATION
Irritating to the skin.
-SERIOUS EYE DAMAGE/IRRITATION
Irritating to the eyes.
-RESPIRATORY OR SKIN SENSITISATION
N.A.
-GERM CELL MUTAGENICITY
N.A.
-CANCEROGENICITY
N.A.
-REPRODUCTIVE TOXICITY
N.A.
-STOT SE
N.A.
-STOT RE
N.A.
-ASPIRATION HAZARD
N.A.

SECTION 12. ECOLOGICAL INFORMATION

The mixture is very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

12.1- Toxicity

Substance	Species	Time scale	Final point	Toxicity
		FISH		
Deltamethrin	Poecilia reticulata	96 h	LC50	1.74 µg/l
Tetramethrin	Brachydanio rerio	96 h	LC50	0.033 mg/l
PBO	Cyprinodon variegatus	96 h	LC50 NOEC	3.94 mg/l 0.053 mg/l
Docusate Sodium	Fish	24 h 48 h	LC50 LC50	48 mg/l 369 mg/l
		INVERTEBRATES		
Deltamethrin	Daphnia magna	24 h	EC50	4.15 µg/l
Tetramethrin	Daphnia magna	48 h	EC50	0.47 mg/l
PBO	Daphnia magna	48 h	EC50 NOEC	0.51 mg/l 0.03 mg/l
Docusate Sodium	Daphnia magna	24 h	EC50	24.8 mg/l
		ALGAE		
Deltamethrin	Chlorella vulgaris	N.A	EC50	22.77 µg/ml
Tetramethrin	Scenedesmus subspicatus	72 h	EC50 NOEC	1.36 mg/l 0.72 mg/l
PBO	Selenastrum capricornutum	72 h	EC50	3.89 mg/l 0,824 mg/l
Docusate Sodium	N.D	72 h	EC50	39.3 mg/l
		BIRDS		
Deltamethrin	Japanese quails	N.A	LC50	>5000 ppm
		OTHER ORGANISMS		
Deltamethrin	Apis indica, bee	N.A	LD50	0.52 ppm
	Lampito mauritii, worm	N.A	LD50	> 1000 mg/kg dry soil weight

12.2 - Persistence and degradability
Deltamethrin: in the soil, it undergoes a microbial degradation within 1-2 weeks. Kd 3790-30 000, Koc 4.6x · 105- 1.63x · 107 cm3 / g, confirms a strong absorption by soil colloids and no risk of leaching. DT50 (laboratory, aerobic) 21-25d, (anaerobic) 31-36 d. In the field, DT50 <23 d. Soil photolysis DT50 9 d.

Tetramethrin: the substance is moderately biodegradable under the conditions tested in 28 days. The substance is biodegradable at term for about 20% based on the BOD measurement. Solubility in water. 0.25 mg / l (20 ° C).
PBO: not readily biodegradable.
Docusate Sodium: N.A.

12.3 – Bioaccumulative potential

Deltamethrin: pyrethroids have bioconcentration factors (BCF) that are much lower than those predicted by the correlation between the partition coefficient of Kow and BCF
Tetramethrin: Partition coefficient: n-octanol / water. > 4.09 Log Kow
PBO: BCF: 91, 260, 380 – Log Kow > 4.8 (pH 6.5)
Docusate Sodium: N.A.

12.4 – Mobility in soil

Deltamethrin: low mobility
Tetramethrin: the values of Koc (2045; 2754) indicate that the substance is immobile and remains mainly in the soil. **Coefficient:** 3.3 - 3.4 (Log Koc).
PBO: mobility of the soil between low and moderate.
Docusate Sodium: N.A.

12.5 – Results of PBT and vPvB assessment

Does not contain any substances classified as PBT or vPvB

12.6 – Other adverse effects

No further information available

SECTION 13. DISPOSAL CONSIDERATION

13.1 – Waste treatment methods

General recommendation: Recover if possible. Operate according to local and national dispositions in force. Containers, even if completely emptied, must not be released to the environment. If they contain residues, they must be classified, stored, and sent to an appropriate waste management plant. For a non-professional use the completely empty container can be disposed with household garbage, according to the local dispositions for waste separation.
Classification: The classification of waste is an obligation of the producer. Possible EWC codes: 16 05 04 (gas in pressurized container containing dangerous substances) if the container is not completely emptied of contents, or 15 01 04 (containers in metal) if the containers are completely emptied of contents).

SECTION 14. DISPOSAL CONSIDERATION

14.1 – UN number

3082

14.2 – UN proper shipping name

Hazardous substance for the environment, liquid (solution of Deltamethrin, Tetramethrin, PBO)

14.3 – Transport hazard class(es)

Class 9

14.4 – Packing group

III

14.5 – Environmental hazards

Marine pollutant

14.6 – Special precautions for user

N.A.

14.7 – Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

N.A.

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SECTION 15. REGULATORY INFORMATION

15.1 – Specific standards and legislation on health, safety and environment for the preparation/substance
Substances in Candidate List (Art. 59 REACH): None
Restrictions on the product or the substances contained according to EC-Regulation 1907/2006 Enclose XVII: None.
Substances subject to authorization (REACH Enclose XIV): None.

Regulations:

- Regulation (CE) 1272/2008 of European Parliament (CLP).
- Direttiva 98/24/CE - D.Lgs 81/2008;
- Regulation (CE) 1907/2006 (REACH);
- Regulation (CE) 790/2009 of European Parliament (I Atp. CLP).
- Regulation (CE) 453/2010 of European Parliament;
- Banca dati sulle sostanze GESTIS – IFA (Institute für Arbeitsschutz der Deutschen Gesetzlichen Unfalversicherung).
- Regulation (CE) 830/2015 of European Parliament
- *Regulation (UE) 1179/2016 (9° ATP CLP).*
- *Biocidal Products Committee (BPC) opinion June 2016*
- *The E-Pesticide Manual Versione 2.1 (2001)*
- *Directive 2006/8/CE*
- *Regulation 1907/2006/CE*
- *Regulation (CE) 1272/2008*
- *Regulation (CE) 2016/918*
- *Regulation (UE) 528/2012*
- *Regulation (CE) 790/2009 (1° ATP CLP)*
- *Regulation (UE) 286/2011 (2° ATP CLP)*
- *Regulation (UE) 618/2012 (3° ATP CLP)*
- *Regulation (UE) 487/2013 (4° ATP CLP)*
- *Regulation (UE) 944/2013 (5° ATP CLP)*
- *Regulation (UE) 605/2014 (6° ATP CLP)*
- *Regulation (UE) 1221/2015 (7° ATP CLP)*
- *Regulation (UE) 918/2016 (8° ATP CLP)*
- *Regulation (UE) 918/2016 (8° ATP CLP)*
- *Regulation(UE) 1179/2016 (9° ATP CLP)*
- *Regulation (UE) 776/2017 (10° ATP CLP)*
- *Directive 2012/ 18/ UE (Sevesso III)*

15.2 – Chemical safety assessment
A chemical safety assessment for the product has been not elaborated.

SECTION 16. OTHER INFORMATION

Notes (section 8):
TLV-TWA (Threshold Limit Value –Time Weighted Average): limit values weighted in 8 hours. **TLV-STEL** (Threshold Limit Value – Short Time Exposure Limit). **ACGIH** (American Conference of Governmental Industries Hygienists).

Hazard indication text (H) mentioned on sheet section 2-3

Aquatic Acute 1:	Hazardous to the aquatic environment, acute toxicity Category 1
Aquatic Chronic 1:	Hazardous to the aquatic environment, chronic toxicity Category 1
Acute Toxicity, Oral 3:	Acute toxicity, Category 3
Acute Toxicity, Inhalation 3:	Acute toxicity, Category 3
Aquatic Chronic 3:	Chronic toxicity, Category 3
Eye Damage 1:	Eye irritant; Category 1
Eye Irritation 2:	Eye irritant; Category 2
Skin Irritant 2:	Skin irritante; Category 2
STOT SE 2:	Specific Target Organ Toxicity After Single Exposure, Category 2
Carc. 2:	Carcinogenicity, Category 2

H301: Toxic if swallowed.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H319: Causes serious eye irritation.
H331: Toxic if inhaled.
H351: Suspected of causing cancer.
H371: May cause damage to organs (nervous system, inhalation).
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long-lasting effects.
H412: Harmful to aquatic life with long-lasting effects.

Modify sections: 2, 3, 8, 11, 12, 16.
This sheet cancels and replaces all previous versions.