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| <p style="text-align: center;"><b>MONSANTO Europe S.A.</b><br/>Safety Data Sheet<br/>Commercial Product</p> |
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## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name**

**Ecoplug® Max**

**CLP Annex VI Index No.**

Not applicable.

**C&L ID No.**

Not available.

**EC No.**

Not applicable.

**REACH Reg. No.**

Not applicable.

**CAS No.**

Not applicable.

**Product use**

Herbicide

**Chemical name**

Not applicable.

**Synonyms**

None.

**Company/(Sales office)**

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## 2. HAZARDS IDENTIFICATION

### 2.1 Classification

**Classification according to Regulation (EC) No. 1272/2008 (CLP) (Manufacturer self classification)**

|                          |  |
|--------------------------|--|
| Eye Damage –             | Category 1                                       |
| Aquatic Chronic-<br>H318 | Category 2<br>Causes serious eye damage          |
| H411                     | Toxic to aquatic life with long lasting effects. |

### 2.1.2 National classification – UK

|                          |  |
|--------------------------|--|
| Eye Damage –             | Category 1                                       |
| Aquatic Chronic-<br>H318 | Category 2<br>Causes serious eye damage          |
| H411                     | Toxic to aquatic life with long lasting effects. |

## 2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

### 2.2.1. Hazard pictogram/pictograms UK



### 2.2.2. Signal word

Danger

### 2.2.3. Hazard statement/statements

H318 Causes serious eye damage  
 H411 Toxic to aquatic life with long lasting effects

### 2.2.4. Precautionary statement/statements

P273 Avoid release to the environment.  
 P280 Wear protective eye/face protection.  
 P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a POISON CENTRE or doctor/physician.  
 P391 Collect spillage.  
 P501 Dispose of contents/container to an installation for the handling of hazardous waste approved by the competent authority

### 2.2.5. Supplemental hazard information

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

## 2.3. Other hazards

0% of the mixture consists of ingredient/ingredients of unknown acute toxicity.  
 0% of the mixture consists of ingredient/ingredients of unknown hazards to the aquatic environment.

### 2.3.1. Potential environmental effects

Toxic to aquatic organisms.  
 May cause long-term adverse effects in the aquatic environment.  
 Not a persistent, bioaccumulative or toxic (PBT) nor a very persistent, very bioaccumulative (vPvB) mixture.

## 2.4. Appearance and odour (colour/form/odour):

Whitish-Yellowish /Granules, (free-flowing), (dust free), (hygroscopic) / Slight, amines

Refer to section 11 for toxicological and section 12 for environmental information.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Active ingredient

Ammonium salt of N-(phosphonomethyl)glycine; { Ammonium salt of glyphosate }

### Composition

| Components                  | CAS No.     | EC No.    | EU Index No. / REACH Reg. No. / C&L ID No. | % by weight (approximate) | Classification                                   |
|-----------------------------|-------------|-----------|--|---------------------------|--|
| Ammonium salt of glyphosate | 114370-14-8 | 933-4405  | 015-184-00-8 / - / 02-2119694244-33-0000   | 75                        | Aquatic Chronic - Category 2; H411N; R51/53; {b} |
| Surfactant                  | 61791-26-2  | 500-153-8 | - /  | 21                        | Xi; R36; {a}                                     |

|                 |           |  |                 |       |  |
|-----------------|-----------|--|-----------------|-------|--|
|                 |           |  | - /<br>-        |       |  |
| Sodium sulphite | 7757-83-7 |  | - /<br>- /<br>- | <=0.5 |  |
| Impurities      |           |  | - /<br>- /<br>- | 3.5   |  |

Full text of classification code: See section 16.

## 4. FIRST AID MEASURES

Use personal protection recommended in section 8.

### 4.1. Description of first aid measures

#### 4.1.1. Eye contact

Immediately flush with plenty of water. Continue for at least 15 minutes. If easy to do, remove contact lenses. If there are persistent symptoms, obtain medical advice.

#### 4.1.2. Skin contact

Take off contaminated clothing, wristwatch, jewellery. Wash affected skin with plenty of water. Wash clothes and clean shoes before re-use.

#### 4.1.3. Inhalation

Remove to fresh air.

#### 4.1.4. Ingestion

Rinse mouth thoroughly with water. Remove particles from mouth. Immediately offer water to drink. Do NOT induce vomiting unless directed by medical personnel. If symptoms occur, get medical attention.

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

#### 4.2.1. Potential health effects

**Likely routes of exposure:** Skin contact

**Eye contact, short term:** Irreversible eye effects observed in laboratory animals.

Not expected to produce significant adverse eye effects as contact with the granule is unlikely when recommended use instructions are followed.

**Skin contact, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed.

**Inhalation, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed.

#### 4.2.2. Medical conditions aggravated by exposure

Hypersensitivity to sulphiting agents.

**Note:** A very small percentage of particularly sensitive people may suffer skin or respiratory reactions.

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

#### Advice to doctors

This product is not an inhibitor of cholinesterase.

#### Antidote

Treatment with atropine and oximes is not indicated.

## 5. FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

5.1.1. Recommended: Water, foam, dry chemical, carbon dioxide (CO<sub>2</sub>)

### 5.2. Special hazards.

5.2.1. Unusual fire and explosion hazards

Minimise use of water to prevent environmental contamination.  
Environmental precautions: see section 6.

### 5.2.2. Hazardous products of combustion

Carbon monoxide (CO), phosphorus oxides (PxOy), nitrogen oxides (NOx), ammonia (NH3)

### 5.3. Fire fighting equipment

Self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use. Section 5 IS common. All changes can be done in 1 template and copied to the other.

### 5.4 Flash point

Not applicable.  
Not classified as a flammable solid.

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## 6. ACCIDENTAL RELEASE MEASURES

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

### 6.1. Environmental precautions

SMALL QUANTITIES: Low environmental hazard. LARGE QUANTITIES: Minimise spread.  
Keep out of drains, sewers, ditches and water ways.

### 6.2. Methods for cleaning up

Dig up heavily contaminated soil. Collect in containers for disposal. Refer to section 7 for types of containers. Flush spill area with water. Minimise use of water to prevent environmental contamination.

Refer to section 13 for disposal of spilled material.

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## 7. HANDLING AND STORAGE

Good industrial practice in housekeeping and personal hygiene should be followed.

### 7.1. Precautions for safe handling

Avoid contact with eyes.  
When using do not eat, drink or smoke.  
Wash hands thoroughly after handling or contact.  
Thoroughly clean equipment after use.  
Do not contaminate drains, sewers and water ways when disposing of equipment rinse water.  
Refer to section 13 of the safety data sheet for disposal of rinse water.  
Wash contaminated clothing before re-use.

### 7.2. Conditions for safe storage

Compatible materials for storage: stainless steel, fibreglass, plastic, glass lining  
Keep out of reach of children.  
Keep away from food, drink and animal feed.  
Keep only in the original container.  
Keep container off wet floors.  
Keep container dry.  
Minimum shelf life: 2 years.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Airborne exposure limits

| Components                  | Exposure Guidelines   |
|-----------------------------|---|
| Ammonium salt of glyphosate | No specific occupational exposure limit has been established. |
| Surfactant                  | No specific occupational exposure limit has been established. |
| Sodium sulphite             | No specific occupational exposure limit has been established. |
| Impurities                  | No specific occupational exposure limit has been established. |

## 8.2. Engineering controls

Have eye wash facilities immediately available at locations where eye contact can occur.

## 8.3. Recommendations for personal protective equipment

### 8.3.1. Eye protection:

If there is potential for contact: Wear dust goggles.

### 8.3.2. Skin protection:

If repeated or prolonged contact:

Wear chemical resistant gloves.

### 8.3.3. Respiratory protection:

No special requirement when used as recommended.

When recommended, consult manufacturer of personal protective equipment for the appropriate type of equipment for a given application.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

|   |   |
|---|---|
| Colour/colour range:                            | Whitish - Yellowish                                   |
| Odour:  | Slight, amines  |
| Form:   | Granules, (free-flowing), (dust free), (hygroscopic)  |
| Physical form changes (melting, boiling, etc.): |   |
| Melting point:                                  | No data.  |
| Boiling point:                                  | Not applicable.                                       |
| Flash point:                                    | Not applicable., Not classified as a flammable solid. |
| Explosive properties:                           | No explosive properties                               |
| Auto ignition temperature:                      | Does not self-ignite.                                 |
| Specific gravity:                               | Not applicable.                                       |
| Particle size:                                  | 700 µm; (granule diameter)                            |
| Vapour pressure:                                | No significant volatility.                            |
| Vapour density:                                 | Not applicable.                                       |
| Evaporation rate:                               | No data.  |
| Dynamic viscosity:                              | Not applicable.                                       |
| Kinematic viscosity:                            | Not applicable.                                       |
| Density:  | 0.70 g/cm <sup>3</sup> ; (tapped bulk density)        |
| Solubility:                                     | Water: Soluble  |
| pH:   | 4.2 @ 20 °C @ 10 g/l                                  |
| Partition coefficient:                          | log Pow: < -3.2 @ 25 °C (glyphosate)                  |

## 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

### 10.2. Stability

Stable under normal conditions of handling and storage.

### 10.3. Possibility of hazardous reactions

Reacts with galvanised steel or unlined mild steel to produce hydrogen, a highly flammable gas that could explode.

### 10.4. Incompatible materials

Incompatible materials for storage: galvanised steel, unlined mild steel

Compatible materials for storage: see section 7.2.

### 10.5. Hazardous decomposition

Thermal decomposition: Hazardous products of combustion: see section 5.

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## 11. TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals.

Data obtained on product, similar products and on components are summarized below.

### Acute oral toxicity

**Rat, LD50:** 2,814 mg/kg body weight

Target organs/systems: forestomach, gastro-intestinal tract, kidneys, liver, lung, spleen

Other effects: breathing difficulty, decreased activity, soft stools

### Acute dermal toxicity

**Rabbit, LD50:** > 5,000 mg/kg body weight

Target organs/systems: skin

Other effects: soft stools, decrease of food consumption

### Skin irritation

**Rabbit, 6 animals, OECD 404 test:**

Redness, mean EU score: 0.11

Swelling, mean EU score: 0.00

Days to heal: 3

### Eye irritation

**Rabbit, 6 animals, OECD 405 test:**

Conjunctival redness, mean EU score: 2.00

Conjunctival swelling, mean EU score: 2.50

Corneal opacity, mean EU score: 1.00

Iris lesions, mean EU score: 0.00

Days to heal: > 21

Other effects: tearing of iris, pannus

### Skin sensitization

**Guinea pig, 3-induction Buehler test:**

Positive incidence: 0 %

### Analogous liquid formulation

## EXPERIENCE WITH HUMAN EXPOSURE

### Ingestion, excessive, intentional misuse:

**Respiratory effects:** pneumonitis (aspiration)

**Gastro-intestinal effects:** nausea/vomiting, diarrhoea, abdominal pain, bloody vomiting (haematemesis)

**Cardiovascular effects:** abnormal heart rhythm (cardiac dysrhythmia), decreased heart output (myocardial depression)

**General/systemic effects:** disturbances of fluid and electrolyte regulation, abnormally decreased blood volume (hypovolaemia), elevated serum amylase, fluid loss (haemoconcentration), no cholinesterase inhibition

**Laboratory effects - blood chemistry:** elevated serum transaminases, mild acidosis

### Eye contact, short term, epidemiological:

**Note:** No cases of irreversible eye effects could be attributed to glyphosate formulations in an extensive epidemiological survey of reported accidental eye contact with these formulations.

### N-(phosphonomethyl)glycine: {glyphosate}

#### Mutagenicity

**In vitro and in vivo mutagenicity test(s):**

Not mutagenic.

#### Repeated dose toxicity

**Rabbit, dermal, 21 days:**

NOAEL toxicity: > 5,000 mg/kg body weight/day

Target organs/systems: none

Other effects: none

**Rat, oral, 3 months:**

NOAEL toxicity: > 20,000 mg/kg diet

Target organs/systems: none

Other effects: none

#### **Chronic effects/carcinogenicity**

##### **Rat, oral, 24 months:**

NOAEL toxicity: ~ 8,000 mg/kg diet

Target organs/systems: eyes

Other effects: decrease of body weight gain, histopathologic effects

NOEL tumour: > 20,000 ppm

Tumours: none

#### **Toxicity to reproduction/fertility**

##### **Rat, oral, 2 generations:**

NOAEL toxicity: 10,000 ppm

NOAEL reproduction: > 30,000 mg/kg diet

Target organs/systems in parents: none

Other effects in parents: decrease of body weight gain

Target organs/systems in pups: none

Other effects in pups: decrease of body weight gain

Effects on offspring only observed with maternal toxicity.

#### **Developmental toxicity/teratogenicity**

##### **Rat, oral, 6 - 19 days of gestation:**

NOAEL toxicity: 1,000 mg/kg body weight

NOAEL development: 1,000 mg/kg body weight

Other effects in mother animal: decrease of body weight gain, decrease of survival

Developmental effects: weight loss, post-implantation loss, delayed ossification

Effects on offspring only observed with maternal toxicity.

##### **Rabbit, oral, 6 - 27 days of gestation:**

NOAEL toxicity: 175 mg/kg body weight

NOAEL development: 175 mg/kg body weight

Target organs/systems in mother animal: none

Other effects in mother animal: decrease of survival

Developmental effects: none

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## **12. ECOLOGICAL INFORMATION**

This section is intended for use by ecotoxicologists and other environmental specialists.  
Data obtained on product and components are summarised below.

#### **Aquatic toxicity, fish**

##### **Rainbow trout (*Oncorhynchus mykiss*):**

Acute toxicity, 96 hours, static, LC50: 20 mg/L

#### **Aquatic toxicity, invertebrates**

##### **Water flea (*Daphnia magna*):**

Acute toxicity, 48 hours, static, EC50: 42 mg/L

#### **Aquatic toxicity, algae/aquatic plants**

##### **Green algae (*Selenastrum capricornutum*):**

Acute toxicity, 72 hours, ErC50 (growth rate): 6.0 mg/L

#### **Avian toxicity**

##### **Bobwhite quail (*Colinus virginianus*):**

Acute oral toxicity, LD50: 1,651 mg/kg body weight

#### **Arthropod toxicity**

##### **Honey bee (*Apis mellifera*):**

Oral/contact, 48 hours, LD50: > 146 µg/bee

#### **Soil organism toxicity, invertebrates**

##### **Earthworm (*Eisenia foetida*):**

Acute toxicity, 14 days, LC50: > 1,250 mg/kg dry soil

#### **Soil organism toxicity, microorganisms**

##### **Nitrogen and carbon transformation test:**

12.7 kg/ha, 28 days: Less than 25% effect on nitrogen or carbon transformation processes in soil.

#### **N-(phosphonomethyl)glycine: {glyphosate}**

#### **Avian toxicity**

##### **Bobwhite quail (*Colinus virginianus*):**

Dietary toxicity, 5 days, LC50: > 4,640 mg/kg diet

**Mallard duck (*Anas platyrhynchos*):**

Dietary toxicity, 5 days, LC50: > 4,640 mg/kg diet

**Bobwhite quail (*Colinus virginianus*):**

Acute oral toxicity, single dose, LD50: > 3,851 mg/kg body weight

**Bioaccumulation**

**Bluegill sunfish (*Lepomis macrochirus*):**

Whole fish: BCF: < 1

No significant bioaccumulation is expected.

**Dissipation**

**Soil, field:**

Half life: 2 - 174 days

Koc: 884 - 60,000 L/kg

Adsorbs strongly to soil.

**Water, aerobic:**

Half life: < 7 days

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## 13. DISPOSAL CONSIDERATION

### 13.1. waste treatment methods

#### 13.1.1. Product

Keep out of drains, sewers, ditches and water ways.

Recycle if appropriate facilities/equipment available.

Dispose of as hazardous industrial waste.

Burn in proper incinerator.

Follow all local/regional/national/international regulations.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

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## 14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

**Note**

This UN 3077 product when carried in a single or combination packaging containing a net quantity per single or inner packaging of 5 kg or less, is not subject to any other provision of ADR/RID or IMDG as the packaging provided meet the general provisions of 4.1.1.1, 4.1.1.2, and 4.1.1.4 to 4.1.1.8

**ADR/RID**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , (glyphosate, ethoxylated tallowamine)

UN No.: UN3077

Class: 9

Kemler: 90

Packing Group: III

**IMO**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , (glyphosate, ethoxylated tallowamine)

UN No.: UN3077

Class: 9

Packing Group: III

MARINE POLLUTANT

**IATA/ICAO**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. , (glyphosate, ethoxylated tallowamine)

UN No.: UN3077

Class: 9

Packing Group: III



## 15. REGULATORY INFORMATION

### 15.1. Other Regulatory Information

SP1: Do not contaminate water with the product or its container.

### 15.2. Chemical Safety Assessment

A Chemical Safety Assessment per Regulation (EC) No. 1907/2006 is not required and has not been performed.

A Risk Assessment has been performed under Directive 91/414/EC.

## 16. OTHER INFORMATION

The information given here is not necessarily exhaustive but is representative of relevant, reliable data.

Follow all local/regional/national/international regulations.

Please consult supplier if further information is needed.

In this document the British spelling was applied.

|| Significant changes versus previous edition.

This Safety Data Sheet has been prepared following the Regulation (EC) No. 1907/2006 (Annex II) as last amended by Regulation (EC) No. 453/2010

### Classification of components

| Components                  | Classification  |
|-----------------------------|---|
| Ammonium salt of glyphosate | Aquatic Chronic - Category 2<br>H411 Toxic to aquatic life with long lasting effects.   |
| Surfactant                  | Acute toxicity - Category 4<br>Skin irritation - Category 2<br>Eye irritation - Category 2A<br>Aquatic Acute - Category 2<br>H302 Harmful if swallowed.<br>H315 Causes skin irritation.<br>H319 Causes serious eye irritation.<br>H411 Toxic to aquatic life with long lasting effects. |
| Sodium sulphite             |   |
| Impurities                  |   |

### Endnotes:

- {a} EU label (manufacturer self-classification)
- {b} EU label (Annex I)
- {c} EU CLP classification (Annex VI)
- {d} EU CLP (manufacturer self-classification)

Full denomination of most frequently used acronyms. BCF (Bioconcentration Factor), BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), EC50 (50% effect concentration), ED50 (50% effect dose), I.M. (intramuscular), I.P. (intraperitoneal), I.V. (intravenous), Koc (Soil adsorption coefficient), LC50 (50% lethality concentration), LD50 (50% lethality dose), LDLo (Lower limit of lethal dosage), LEL (Lower Explosion Limit), LOAEC (Lowest Observed Adverse Effect Concentration), LOAEL (Lowest Observed Adverse Effect Level), LOEC (Lowest Observed Effect Concentration), LOEL (Lowest Observed Effect Level), MEL (Maximum Exposure limit), MTD (Maximum Tolerated Dose), NOAEC (No Observed Adverse Effect Concentration), NOAEL (No Observed Adverse Effect Level), NOEC (No Observed Effect Concentration), NOEL (No Observed Effect Level), OEL (Occupational Exposure Limit), PEL (Permissible Exposure Limit), PII (Primary Irritation Index), Pow (Partition coefficient n-octanol/water), S.C. (subcutaneous), STEL (Short-Term Exposure Limit), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit)

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, MONSANTO Company or any of its subsidiaries makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for the purposes prior to use. In no event will MONSANTO Company or any of its subsidiaries be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR TO THE PRODUCT TO WHICH INFORMATION REFERS.

## Safety Data Sheet (SDS) Annex

Chemical Safety Report: Read and follow label instructions.  
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