

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING****1.1. Product identifier****Trade Name:** KRUM

Generic name: PROSULFOCARB 80 EC

Technical Name: Prosulfocarb (ISO) 80% w/v, formulated as emulsifiable concentrate (EC)

**1.2. Relevant identified uses**

Herbicide for professional agricultural uses.

**1.3. Supplier of the safety data sheet**

Company : Proplan-Plant Protection Company.

Address: C/ Valle del Roncal, 12.  
28232-Las Rozas. Madrid- SPAIN

Telephone: + 34 91 626 60 97

e-mail: [info@proplanppc.es](mailto:info@proplanppc.es)**1.4. Emergency telephone number**

To be defined by distributor in the commercial area.

**2. HAZARDS IDENTIFICATION****2.1. Classification of the mixture****Classification and Hazard Statements. According to Regulation (EC) No. 1272/2008**

Aquatic Chronic 1 Chronic aquatic toxicity, Category 1 H410 : Very toxic to aquatic life with long lasting effects.

**2.2. Label elements****According to Regulation (EC) No1272/2008**

Marks &amp; Pictograms:



Signal word: Danger

Hazard statement(s): H304, H317, H410 (1)

Precautionary statement(s): P101, P102, P103, P234, P261, P262, P264, P270, P271, P273, P280, P302+P352, P304+P340, P305+P351+P338, P312, P337+P313, P362+P364, P403+P235, P405

(1) For the full text of the H-statements and R-phrases mentioned in this Section, see Section 16.

**Precautionary statements According to Regulation (EC) No. 1272/2008 and GHS.**

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of the reach of children.
P103	Read label before use.
P234	Keep only in original container.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash before reuse.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

**Adverse effects:**

Exposure may cause irritation to eye, skin and breathing tract.

If swallowed nausea and vomiting may occur.

May produce an allergic reaction in sensitive people.

Very toxic to aquatic life with long lasting effects.

**2.3 Other hazards – None known**

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Preparation/ Mixture.

Identity and classification of dangerous components:

Chemical identity	Classification and Sentences Reg (EC) 1272/2008	Classification and Phrases Dir. 1999/45/EC.	Content (% w/w)
Name Prsoulfocarb (ISO) CAS No.: 52888-80-9 EC No.: 401-730-6 EU Index No: - - - Reg. REACH: Exempt (active substance for phytosanitary use - Art. 15.1 REACH)	Acute Tox. 4 H302 Skin Sens. 1 H317 Aquatic Chronic 2 H411	Xn R22 R43 N R51/53	78.9
Name Solvent naphta (petroleum) Hydrocarbons, C10, aromatics, <1% naphthalene CAS No.: - - - - EC No.: 918-811-1 EU Index No: - - - - Reg. REACH: 01-2119463583-34	Asp. 1 H304 STOT-RE 3 (CNS) H336 Aquatic Chronic 2 H411	Xn R65 R66 R67 N R51/53	< 10.0
Name Surfactant mixture based on calcium dodecylbenzene sulphonate. CAS No.: 26264-06-2 EC No.: - - - - EU Index No: - - - - Reg. REACH: 01-2119560592-37	Skin Irrit. 2 H315 Eye Dam. 1 H318 Acute Tox. 4 H332 STOT-SE 3 (RS) H335 Aquatic Chronic 3 H412	Xn R22 Xi R41 R37/38	5 - 10

For the full text of the H-statements and R-phrases mentioned in this Section, see Section 16.

### 4. FIRST AID MEASURES

#### 4.1. Description of first measures

**General advice:**

Never give fluids or induce vomiting if patient is unconscious or is having convulsions.  
Consult a physician. Show the label or this safety data sheet to the doctor in attendance.

**If inhaled:**

If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or poison control center immediately.

**In case of skin contact:** Take off all contaminated clothing immediately. Wash off immediately with plenty of water, including hair and under fingernails. . If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

**In case of eye contact:** Rinse eyes with a large amount of running water as a precaution. Hold eye lids apart to rinse the entire surface of de eyes and lids for at least 15 minutes. Remove contact lenses. If effects occur, consult a physician.

**If swallowed:**

Do NOT induce vomiting; contains petroleum distillates and/or aromatic solvents.. Seek medical advice immediately and show the label or this safety sheet.

#### 4.2. Most important symptoms and effects

Aspiration may cause pulmonary edema and pneumonitis.  
Exposure may cause irritation to eye, skin and breathing tract. If swallowed nausea and vomiting may occur.

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

There is no specific antidote available. Treat symptomatically.  
Do NOT induce vomiting; contains petroleum distillates and/or aromatic solvents.

### 5. FIRE-FIGHTING MEASURES

#### 5.1. Extinguishing media

For small fires, use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.  
For large fires, use alcohol-resistant foam, dry chemical or carbon dioxide.  
Do not use a solid water stream as it may scatter and spread fire.

#### 5.2. Special hazard arising from the substance or mixture

Hazardous decomposition products formed under fire conditions. Combustion products may include: carbon oxides, nitrogen oxides and sulfur oxides.

#### 5.3. Advice for firefighters

Wear full protective clothing and self-contained breathing apparatus for firefighting if necessary.

**Further information:**

Do not allow run-off from firefighting to enter drains or water courses.

Fire exposed containers should cool with water spray.  
Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

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## 6. ACCIDENTAL RELEASE MEASURES

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

#### 6.1.1. For non-emergency personnel

Wear suitable protective equipment (including personal protective equipment referred to under section 8 of this safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

Remove all ignition sources, avoid dust formation and ensure adequate ventilation.

Follow the emergency procedures established at the site (factory, warehouse) such as the need to evacuate the danger area or to consult an expert.

#### 6.1.2 For emergency personnel

There are not limited materials for personal protective clothing. Wear safety glasses with side shields or chemical goggles, rubber gloves, rubber boots, long-sleeved shirt, long pants, head covering and an approved dust or pesticide respirator.

### 6.2. Environmental precautions

Keep product away from drains, surface and ground water. Discharge into the environment must be avoided.

### 6.3. Methods and materials for containment and cleaning up

#### 6.3.1. Advice on how contain a spill.

Do not allow wash or firefighting water to contaminate water supplies or enter in public drainage: use bounders or covers to protect drains.

Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

#### 6.3.2. Advice on how to clean up a spill.

a) Neutralization techniques: not applicable.

b) Decontamination techniques: Contain and collect spillage with non-combustible adsorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).  
Wash the spill area with water containing a strong detergent, absorb with pet litter or other absorbent material, sweep up and place in a chemical container

c) Adsorbent materials: sand, earth, diatomaceous earth, vermiculite

d) Cleaning techniques: Wash the spill area with water containing a strong detergent, absorb with pet litter or other absorbent material, sweep up and place in a chemical container. Seal the container and handle in an approved manner (dispose as local regulatory management for dangerous residues). Flush the area with water to remove any residue.

e) Vacuuming techniques: not required.

f) Equipment required for containment/clean up: brooms, shovel and homologated container for dangerous residues.

### 6.4. Reference to other sections

See section 8 and 13 of this safety data sheet.

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## 7. HANDLING AND STORAGE

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### 7.1. Precautions for safe handling

The usual precautions for handling chemicals should be observed. Prevent handling of incompatible materials, such as acids, alkalis and strong oxidizing agents.

Prevent the release of the substance to the environment, such as avoiding spills or keeping away from drains. Provide bounders and/or covers to protect drains.

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. If airborne mists or vapours are generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit. Where necessary, seek additional occupational hygiene advice.

Not to eat, drink and smoke in work areas.

Avoid contact with skin and eyes. To wash hands after use and to remove contaminated clothing and protective equipment before entering eating areas.

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

Advices on specific storage to manage risks associated with:

- |   |  |
|---|--|
| i) Explosive atmospheres                | : Non-relevant risk.   |
| ii) Corrosive conditions                | : Non-relevant risk.   |
| iii) Flammability hazards               | : Non-relevant risk.   |
| iv) Incompatible substances or mixtures | : Non-relevant risk if the product is maintained in its closed containers. |
| v) Evaporative conditions               | : Non-relevant risk.   |

- vi) Potential ignition sources : Non-relevant risk.
- Advices on how to control the effects of:
- i) Weather conditions : Non-relevant effects.
- ii) Ambient pressure : Non-relevant effects.
- iii) Temperature : Non-relevant effects. However height temperature derived from fires can produce decomposition in toxic gases. Store in cool and dry place.
- iv) Sunlight : Non-relevant effects.
- v) Humidity : Non-relevant effects.
- vi) Vibration : Non-relevant effects.

Stabilizers and antioxidants are not required to maintain the integrity of the substance.

Other advices:

- i) Areas where product be handled must be well ventilated.
- ii) Quantity limits under storage conditions: Non limited quantity. It depends from warehouse conditions according to the legal requirements.
- iii) Packaging compatibilities: Stanley-steel or coextruded high density polyethylene containers are recommended for packaging.

### 7.3. Specific end use(s)

Crop protection product for herbicide use. Professional use. All crop protection preparations put in the Union European market must be approved by the competent authorities and detailed labels are established for each case, including use and safety indications. For proper and safe use, final users (farmers) must read carefully the product label.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Components	Exposure limit(s)	Value type	Notes
Prosulfocarb	4 mg/m <sup>3</sup>	8 h TWA	auto-recommendation
Hydrocarbons, C10, aromatics, <1% naphthalene	17 ppm, 100 mg/m <sup>3</sup>	8 h TWA	by supplier
Benzenesulfonic acid, C10-13-(linear)alkyl derivs., calcium salt	Worker 1,7 mg/kg bw/day Consumer 85 mg/kg bw/day	DNEL (Derived No Effect Level)	by supplier

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering control

Monitoring plan should be established by an expert in occupational hazards, according to frequency, exposure time and prevention measures (ventilation, personal protection equipment, values obtained in previous controls, etc.).

#### 8.2.2. Personal protective equipment

Workers in manufacturing facilities should use the following Personal Protective Equipment (PPE). Applicators must follow instructions on the packaging label.

Protective measures: The use of technical measures should always have priority over the use of personal protective equipment.

When select personal protective equipment, seek appropriate professional advice. Personal protective equipment should be certified to appropriate standards. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

- Eye/face protection: Eye protection is not usually required. Safety glasses with side-shields are recommended. Use equipment for eye protection tested and approved under appropriate government standards.
- Skin protection:
  - Hand protection: Handle with gloves for chemical products Neoprene; Nitrile/butadiene rubber ("nitrile" or "NBR"); Polyethylene; Ethyl vinyl alcohol laminate("EVAL")]Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
  - Others: Work clothes (long-sleeved shirt, long pants, aprons, boots, etc.).
- Respiratory protection: For most conditions, no respiratory protection should be necessary. However, when airborne exposure guidelines and/or comfort levels may be exceeded use an approved air-purifying respirator (combination gas, vapor and particulate filter). Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.
- Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### 8.2.3. Environmental exposure controls

Rooms where product be handled must be well ventilated (natural or forced ventilation). Avoid formation of dust, mist and/or vapours.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

## 9.1 Information on basic physical and chemical properties

Appearance	
Form	: Liquid.
Color	: Yellow to brownish
Odour	: Aromatic
Odour threshold	: No available data
pH	: 5.7 – 6.5 (1% water solution at 20°C) (Method: CIPAC MT 75.3)
Melting point	: not applicable (liquid)
Boiling point	: not applicable (mixture)
Flash point	: 88.5°C – Non flammable. (Methods: EEC A9 and ASTM D93)
Evaporation rate	: no available data
Flammability (solid)	: not applicable (liquid)
Explosive limits	: no available data
Vapour pressure	: no available data
Vapour density	: no available data
Relative density	: 1,0127 at 20°C (Methods: EEC A3, OECD 109, CIPAC MT 3 and ISO 758-1987)
Solubility(ies)	: Insoluble in water but miscible: it forms stable emulsion with water at all concentrations.
Partition coefficient	: not applicable (mixture). Prosulfocarb Log P = 4.48 (from PPDB)
Auto-ignition temperature	: 377.1 °C ± 7.5 °C at 748.3 mmHg - Non auto-flammable Methods: EEC A15 and ASTM E 659 – 78 (2005)
Decomposition temperature	: not applicable (mixture)
Kinematic Viscosity	: at 20 °C: 1.28 x 10 <sup>-5</sup> m <sup>2</sup> /s - at 40 °C: 6.24 x 10 <sup>-6</sup> m <sup>2</sup> /s Methods: OECD 114, ISO 3104 and 3105
Surface tension	: 32.2 mN/m at 20.0 °C (Method EEC A5 / OECD 115)
Explosive properties	: non-explosive properties
Oxidizing properties	: non-oxidizing properties are expected according to the molecular structure of the mixture.
<b>9.2. Other information.</b>	
No other properties which are influence in safety are known.	

## 10. STABILITY AND REACTIVITY

<b>10.1. Reactivity</b>	Stable mixture; nonhazardous properties derived of its reactivity are expected according to its molecular structure.
<b>10.2. Chemical stability</b>	Stable mixture under normal conditions. Physically and chemically stable for at least 2 years when stored in the original unopened sales container at room temperatures (15-30°C).
<b>10.3. Possibility of hazardous reactions</b>	None known. Hazardous polymerization does not occur.
<b>10.4. Conditions to avoid</b>	Keep out of high temperatures and heat sources
<b>10.5. Incompatible materials</b>	Oxidizing agents react with organic substances liberating excessive heat and other toxic substances.
<b>10.6. Hazardous decomposition products</b>	Hazardous combustion products formed under fire conditions: carbon oxides (CO <sub>x</sub> ) nitrogen oxides (NO <sub>x</sub> ) and sulfur oxides (SO <sub>x</sub> ).

## 11. TOXICOLOGICAL INFORMATION

Unless otherwise specified (preparation) all data in this section correspond to active ingredient (a.i.) Prosulfocarb	
<b>Acute toxicity</b>	
LD50 Oral – rat	: >2000 mg/kg bw (preparation) (GLP experimental study)
LD50 Dermal – rat	: >4000 mg/kg bw (preparation) (GLP experimental study)
LC50 Inhalation – rat (4 h)	: >4.7 mg/L air (calculated from components)
<b>Skin corrosion/irritation</b>	: Not classified as skin irritant (preparation) (GLP experimental study)
<b>Serious eye damage/eye irritation</b>	: Not classified as eye irritant (preparation) (GLP experimental study)
<b>Respiratory or skin sensitization</b>	: Not positive as skin sensitizer (preparation) (GLP experimental study)
<b>Germ cell mutagenicity</b>	: Did not show mutagenic effects in animal experiments. (a.i.)

<b>Carcinogenicity</b>	: Did not show carcinogenic effects in animal experiments (a.i.)
<b>Reproductive toxicity</b>	: Did not show reproductive toxicity effects in animal experiments (a.i.)
<b>Teratogenic effects</b>	: Did not show teratogenic effects in animal experiments (a.i.)
<b>STOT - single exposure</b>	: No adverse effects has been observed (a.i.)
<b>STOT - repeated exposure</b>	: No adverse effects has been observed in chronic toxicity tests (a.i.)
<b>Aspiration hazard</b>	: Aspiration hazard if swallowed - can enter lungs and cause damage (from similar composition)
<b>Other information</b>	: No other relevant information is known

## 12. ECOLOGIC INFORMATION

Unless otherwise specified (preparation) all data in this section correspond to active ingredient (a.i.) Prosulfocarb	
<b>12.1. Toxicity</b>	
<b>Aquatic organisms:</b>	Prosulfocarb is classified as Aquatic Chronic, category 2: Toxic to aquatic life with long lasting effects.
Toxicity in fish	
Fish - Acute LC50 - 96 h	: 3 mg/L <i>Oncorhynchus mykiss</i> (rainbow trout) (from similar composition)
Toxicity to <i>daphnia</i> and other aquatic invertebrates.	
Acute EC50- 48 h	: 0.81 mg/L <i>Daphnia magna</i> (water flea) (preparation) (GLP experimental study)
Chronic 21 day NOEC	: 0.045 mg/L <i>Daphnia magna</i> (water flea) (a.i.)
Toxicity in algae and aquatic plants	: EyC50 = 0.099 mg/L, 72 h; ErC50 = 0.179 mg/L, 72 h; NOErC = 0.025 mg/L 72 h For <i>Pseudokirchneriella. Subcapitata</i> (preparation) (GLP experimental study)
Toxicity in higher plants	
Acute EC <sub>50</sub> (7 days) fronds	: EyC50 = 0.60 mg/L <i>Lemna minor</i> (preparation) (GLP experimental study) ErC50 = 1.13 mg/L <i>Lemna minor</i> (preparation) (GLP experimental study)
<b>Terrestrial organisms</b>	
Acute toxicity – EC50 2 weeks	: 71.8 mg/kg dry soil (Earthworm - <i>Eisenia foetida</i> ) (a.i.) Moderate
Soil micro-organisms	: Nitrogen mineralization - No significant effects at 53.3 mg kg <sup>-1</sup> soil 42 days Carbon mineralization - No significant adverse effect (a.i.)
<b>Effects on honeybees</b>	
Acute oral toxicity LD50 (48 h)	: >80 µg/bee (a.i.)
<b>Effects on other arthropod species</b> <i>Aphidius rhopalosiphi</i>	: LR50 = 41.8 g/ha (48 hour) (a.i.) - Harmful at 1 kg/ha - Moderately harmful at 0.1 kg/ha - Harmless at 0.01 kg/ha
<b>Effects on birds</b>	
Acute oral toxicity LD50	: >2250 mg/kg ( <i>Colinus virginianus</i> - bobwhite quail) (a.i.)
Short-term dietary LD50/LC50	: >1506 mg/kg bw/day ( <i>Anas platyrhynchos</i> - mallard duck) (a.i.)
<b>Effect on mammals</b>	
Acute oral toxicity LD50	: >2000 mg/kg bw (preparation)
Long-term NOEL	: >200 mg/kg bw/day (rat two generation reproduction) (a.i.)
<b>12.2. Persistence and degradability</b>	
Soil degradation (aerobic) DT50 (typical)	: 11.9 days (a.i.) Non-persistent
Aqueous photolysis (20°C) pH 7- DT50	: Stable (a.i.) Stable
Aqueous hydrolysis	: Stable (a.i.) Very persistent. (stable pH 5 to 9 at 25 and 40°C).
<b>12.3. Bioaccumulative potential</b>	: Prosulfocarb (a.i.) bioaccumulates.
Octanol-water partition coefficient, K <sub>ow</sub>	: log Pow= 4.48 (20°C; pH 7) (a.i.)
Bio-concentration factor (BCF)	: 700 (Whole fish) (a.i.)
<b>12.4. Mobility in soil</b>	
Freundlich isotherm constant (mean values)	: Sorption coefficient K <sub>f</sub> = 23.1 (a.i.) Affinity K <sub>loc</sub> = 1693 (a.i.) Slightly mobile 1/n = 0.96 (a.i.)
GUS leaching potential index (calculated)	: 0.83 (calculated) (a.i.) Low leachability. This parameter is an indicator and given here to provide a general indication of hazard only.
Field leaching studies	: no available data
<b>12.5. PBT and vPvB assessment</b>	: Not required (according to available data of BCF and K <sub>ow</sub> ) None of the ingredients of the preparation is considered to be PBT and vPvB
<b>12.6. Other adverse effects</b>	: None known

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable product to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. 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.

**Contaminated packaging**

Empty remaining contents. Triple rinse containers. Empty containers should be taken for local recycling or waste disposal in accordance with applicable regulations. Do not re-use empty containers. The preferred options are to send to licensed declassifier or permitted incinerator.

**Information relevant for the safety of persons conducting waste management activities**

Apply in every case the necessary protection equipment. See information given in Section 8 of this safety data sheet.

**14. TRANSPORT INFORMATION**

**UN Number** : UN 3082  
**UN proper shipping name** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(prosulfocarb and aromatic hydrocarbons)

**ADR/RID/ADN (European Agreement concerning the International Carriage of Dangerous Goods by Road/ Regulation concerning the International Carriage of Dangerous Goods by Rail / European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)**

Class ADR/RID/ADN : 9 H.I. Number : 90  
 Classification code : M6 Transport category : 3  
 Packaging group : III Tunnel restriction code : (E) - only for ADR  
 Marking and labeling : Class 9 hazard label + Environmentally hazardous mark

**IMDG-Code (International Maritime Dangerous Goods Code)**

Class IMO : 9 Packaging group : III  
 Marine pollutant : YES  
 Marking and labeling : Class 9 hazard label + Environmentally hazardous mark  
 Transport in bulk : International Bulk Chemical Code (IBC 03)

**IATA-ICAO (Technical Instructions for the Safe Transport of Dangerous Goods by Air)**

IATA-ICAO Class : 9 Packaging group : III  
 Marking and labeling : Class 9 hazard label + Environmentally hazardous mark

**15. REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

PHITOSANITARY preparation (herbicide use). Therefore, this preparation has been approved according to procedures described on Dir. (CE) 91/414 and its later modifications, the latest modifications, the latest: Regulation (CE) 1107/2009 and their active ingredients are included into the Annex 1 of pesticides substances of said Directive.

**15.2. Chemical safety assessment** : Not required.

**16. OTHER INFORMATION**

- a) Changes to the previous version:  
 No previous version related to the Regulations (EC) No. 1907/2006 and (EU) N° 453/2010.
- b) Key or legend to abbreviations and acronyms used in this safety data sheet.
- |      |                                      |       |   |
|------|--------------------------------------|-------|---|
| ADI  | : acceptable daily intake            | LC50  | : median lethal concentration                     |
| AOEL | : acceptable operator exposure level | LD50  | : median: lethal dose; <i>dosis letalis media</i> |
| ARfD | : acute reference dose               | LR50  | : lethal rate, median                             |
| a.i. | : active ingredient                  | LEL   | : lower explosion limit                           |
| b.w. | : body weight                        | NOAEL | : no observed adverse effect level                |
| CL   | : concentration limit                | NOEC  | : no observed effect concentration                |

EAC	: Environmentally Acceptable Concentration	NAD	: no available data
ECHA	: European Chemical Agency	OECD	: Organization for Economic Cooperation and Development
EC50	: median effective concentration	PBT	: persistent, bio-accumulative and toxic
EbC50	: median effective concentration (biomass)	STOT	: specific target organ toxicity
ErC50	: median effective concentration (growth rate)	RTECS	: registry of toxic effects of chemical substances (USA)
ED50	: median effective dose	SCL	: specific concentration limit
EFSA	: European Food Safety Authority	TLV-TWA	: threshold limit value – time weighted average
DT50	: period required for 50 percent dissipation	UEL	: upper explosion limit
GHS	: Global Harmonized System (for labeling)	vPvB	: very persistent and very bio-accumulative
IC50	: median immobilization concentration		

## c) Key literature references and sources for data

The FOOTPRINT Pesticide Properties Data Base. <http://www.eu-footprint.org/ppdb.html>

ECHA. Registered substances data base <http://apps.echa.europa.eu/registered/registered-sub.aspx#search>

ECHA: C&L Database : <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

## d) This formulated product was tested according to the established methods and approved by European Union Authority.

## e) List of classification codes and other risk phrases and hazards statements presented in this data sheet.

According to Regulation (EC) No1272/2008			According to European Directive 67/548/EEC and Directive 1999/45 as amended.	
Acute Tox 4	Acute toxicity, Category 4	H302	Xn	: Harmful
Asp. Tox.1	Aspiration hazard, Hazard Cat 1	H304	Xi	: Irritant
Skin Irrit. 2	Skin irritation, category 2	H315	N	: Dangerous for the environment
Skin Sens. 1	Skin sensitizer, Cat. 1	H317		
Eye Dam.1	Eye damage, Cat.1	H318		
Eye Irrit. 2	Eye irritant, Cat. 2A	H319		
Asp. 1	Aspiration toxicity, cat. 1	H304		
STOT SE 3	STOT, single exposure, Cat. 3	H335		
Aq. Acute 1	Aquatic acute toxicity, Cat.1	H400		
Aq. Chronic 1	Aquatic chronic toxicity, Cat.1	H410		
Aq. Chronic 2	Aquatic chronic toxicity, Cat.2	H411		

Hazard statements. According to Regulation (EC) No. 1272/2008		R- Phrases. According to European Directive 67/548/EEC and Directive 1999/45 as amended	
H332	Harmful if inhaled	R22	Harmful if swallowed.
H302	Harmful if swallowed.	R38	Irritating to skin.
H304	May be fatal if swallowed and enters airways.	R37/38	Irritating to respiratory system and skin.
H315	Causes skin irritation	R43	May cause sensitization in contact with skin.
H317	May cause an allergic skin reaction	R41	Risk of serious damage to eyes.
H318	Causes serious eye damage.	R65	Harmful: may cause lung damage if swallowed.
H304	May be fatal if swallowed and enters airways	R66	Repeated exposure may cause skin dryness or cracking.
H335	May cause respiratory irritation	R67	Vapours may cause drowsiness and dizziness.
H400	Very toxic to aquatic life	R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
H410	Very toxic to aquatic life with long lasting effects.	R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
H411	Toxic to aquatic life with long lasting effects.		
H412	Harmful to aquatic life with long lasting effects		

## f) Advice on any training appropriate for workers (health and environment protection)

Training in handling chemicals. Training in the choice and use of personal protective clothing. Training on first aid to other workers and themselves (e.g. Use of showers and eyewash; artificial respiration, healing of minor injuries, etc.); Training for Emergency intervention including the use of fire extinguishers and other firefighting media. Training for using barriers and covers to protect drains and to avoid contaminated water from firefighting raise surface water or groundwater and enters public sewer.

## Note

The information in this document is based on the present state of our knowledge and it is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the product. PROPLAN PLANT PROTECTION COMPANY, S.L. shall not be held liable for any damage resulting from handling or from contact with the above product.