




BUGUIS

HERBICIDE

MAPP 17151

 <p>Danger</p>	<p>May be fatal if swallowed and enters airways. May cause an allergic skin reaction. Causes serious eye reaction. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.</p> <p>Avoid breathing fumes or spray. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/eye protection/face protection. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Get medical advice/attention if you feel unwell. Do not induce vomiting. If eye irritation persists get medical advice/attention. Store locked up. Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste. To avoid risks to human health and the environment, comply with the instructions for use.</p>
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DIRECTIONS FOR USE

'IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.'

RESTRICTIONS

Do not use on barley or oats.

Do not spray crops under stress or crops suffering from waterlogging, pest attack, disease or frost.

Do not spray crops undersown with grass mixtures.

Rain within one hour after application may reduce grass weed control.

Avoid the use of hormone-containing herbicides in mixture or sequence with BUGUIS.

When BUGUIS is applied first, leave 7 days before applying hormone herbicides. If mecoprop-p or 2,4 DB containing products are applied first leave 14 days before BUGUIS is applied. If MCPA or 2,4-D containing products are applied first, leave 21 days before BUGUIS is applied.

WEED CONTROL

BUGUIS is a foliar acting grass weed killer for the control of wild oats which can be used post-emergence on all varieties of wheat and durum wheat. BUGUIS can be mixed with many broad-leaved weed and residual grass weed herbicides to widen the spectrum of weeds controlled. BUGUIS can contribute to the control of susceptible populations of black-grass as part of a herbicide resistance management strategy, involving mixtures and sequences with herbicides of alternative modes of action.

Activity is faster under good growing conditions and may appear relatively slow under cold or dry weather conditions.

BUGUIS has no residual activity. Optimum weed control will only be achieved when all grass weeds have emerged.

BUGUIS does not control broad-leaved weeds and if these are present a specific broad-leaved weed herbicide will be required.

BUGUIS can be used on all varieties of winter and durum wheat.

WEED RESISTANCE

Always follow WRAG guidelines for preventing and managing herbicide resistant grass weeds.

Do not use BUGUIS or any other ACCase inhibitor as the sole means of grass weed control in successive crops.

Use grass weed herbicides with different modes of action throughout the cropping rotation.

To reduce the risk of developing resistance applications should be made to young, actively growing weeds.

Use crop rotation and other cultural control measures to prevent and manage herbicide resistant grass weeds.

Use tank/product mixes or sequences of herbicides with different modes of action within individual crops, or successive crops.

Only apply BUGUIS once per crop and do not use in mixture or sequence

with any product containing clodinafop-propargyl. Monitor weed control effectiveness and investigate any odd patches of poor grass weed control. If unexplained contact your agronomist who may consider a resistance test appropriate.

This product contains clodinafop-propargyl which is an ACCase inhibitor, also classified by the Herbicide Resistance Action Committee as 'Group A'. Use only as part of a resistance management strategy that includes cultural methods of control and does not use ACCase inhibitors as the sole chemical method of grass weed control. Applying a second product containing an ACCase inhibitor to a crop will increase the risk of resistance development; only use a second ACCase inhibitor to control different weeds at a different timing.

Strains of some annual grasses (e.g. black-grass, wild oats and Italian rye-grass) have developed resistance to herbicides which may lead to poor control. A strategy for preventing and managing such resistance should be adopted. Guidelines have been produced by the Weed Resistance Action Group and copies are available from the HGCA, CPA, your distributor, crop adviser or product manufacturer.

SUSCEPTIBLE WEEDS

The susceptibility rating of weeds in the following table refer to good spray cover and good growing conditions. The weed control claims relate to control at 'before tillering' stage of the weeds. Weeds germinating after treatment may not be adequately controlled.

Weed species		Level of susceptibility
Common name	Scientific name	
Wild oats	<i>Avena fatua</i>	S

S=Susceptible; MS=Moderately susceptible; R=Resistant

BUGUIS may be used on all soil types. Weed control may be reduced in dry conditions.

VOLUME AND APPLICATION

Before using BUGUIS, spraying equipment must be clean and free from contamination with other pesticides.

Spray BUGUIS in 200-400 litres of water per hectare. Where there are dense weed populations or advanced growth stages the water volume should be 400 litres per hectare.

Use a conventional field crop sprayer at a pressure of 2 - 3 bars and apply as a MEDIUM spray (as defined by BCPC). Care should be taken not to overlap spray swaths.

MIXING

Quarter fill the spray tank with clean water, start the agitation and add the required quantity of BUGUIS directly to the tank without prior creaming. Continue agitation while topping up the tank and while spraying.

USE OF ADDITIVES

The maximum dose rate of BUGUIS is 0.3l/ha when used in mixture with a suitable additive e.g. Newton Cropspray 11E or Silwet L-77.

BUGUIS must always be applied with an authorised adjuvant from the adjuvant oils or wetting agent classes when used at 0.3 l/ha rate.

Always use adjuvants at their recommended rates.

COMPATABILITY

For up to date information on compatibilities please see the UPL Europe Ltd website: - www.upleurope.com

CROPS - CEREALS

Crop Safety

BUGUIS can be used on all winter and durum wheat varieties between three leaves up until before the flag leaf sheath extending stage.

Timing

BUGUIS must only be applied from 1 February, provided the crop has at least three leaves, until before the flag leaf sheath extending stage.

Dose

Apply BUGUIS at 0.6 litres per hectare alone OR 0.3 litres per hectare when used in mixture with an additive (see Use of Additives section).

Following Crops

The activity of BUGUIS is not affected by soil type, organic matter or straw residues. In the event of crop failure, any broad-leaved crop may be sown, or after an interval of 3 weeks, any cereal may be sown.

Following normal harvest of a treated crop, any broad-leaved or cereal crop may be sown.

Warnings

Extreme care should be taken to avoid damage by drift onto broad-leaved plants outside the target area or onto surface waters or ditches or land intended for cropping.

Spraying equipment should not be drained or flushed onto land planted with or intended for planting with trees or crops other than cereals.

Poor cleanout practices and insufficient water volumes used for the rinse procedure may result in inadequate removal of product deposits.

Subsequent use of application equipment in these circumstances may result in damage to non-cereal crops.

Spray tank clean-out

Poor cleanout practices and insufficient water volumes used for the rinse procedure may result in inadequate removal of product deposits.

Subsequent use of application equipment in these circumstances may result in damage to non-cereal crops.

To avoid subsequent damage to crops other than cereals, immediately after spraying BUGUIS thoroughly clean all spray equipment, including inside and outside of lid, using a proprietary sprayer cleaner that is recommended for use with sulfonyl ureas according to the following procedure:

1. Immediately after spraying, drain tank completely. Wash any contamination off the outside of the sprayer with clean water.
2. Rinse the inside of the tank with clean water and flush at least one tenth of the spray tank volume through the boom and hoses. Drain tank completely.
3. Half-fill the tank with clean water and add the correct quantity of a proprietary sprayer cleaner such as All Clear Extra or Tank and Equipment Cleaner, agitate and then flush the boom and hoses with the solution. Top up completely with water and allow to stand for 15 minutes with agitation. Again flush the booms and hoses and drain tank completely (if it is not possible to drain the tank completely, repeat step 3 before going on).
4. Remove nozzles and filters and soak in a bucket containing a proprietary sprayer cleaner at the same concentration as that used for the sprayer.
5. Rinse tank again with clean water and flush at least one tenth of the tank volume through the booms and hoses. Drain tank completely.

General notes

Consult label tank clean up procedures for all tank mix partners and be sure to use the most rigorous procedure recommended.

Do not use on crops grown for seed.

CONDITIONS OF SUPPLY

All goods supplied by us are of high grade and we believe them to be suitable but, as we cannot exercise control over their storage, handling, mixing or use, or the weather conditions before, during and after application which may affect the performance of the goods, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our goods are excluded, and no responsibility will be accepted by us or re-sellers for any failure in performance, damage or injury whatsoever arising from their storage, handling, application or use. Our staff or agents cannot vary these conditions whether or not they supervise or assist in the use of such goods.

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SAFETY DATA SHEET

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

1.1. Product identifier

Trade Name: BUGUIS
Technical Name: 100 g/L Clodinafop-propargyl (ISO) and 25 g/L Cloquintocet-mexyl (ISO) as emulsifiable concentrate formulation (EC)

1.2. Relevant identified uses

Herbicide for professional agricultural uses. Authorized uses are detailed on the label of the commercial containers.

1.3. Supplier of the safety data sheet

Company: Proplan-Plant Protection Company.
Address: C/ Valle del Roncal, 12.
28232-Las Rozas. Madrid- SPAIN
Phone: + 34 91 626 60 97
e-mail: info@proplanppc.es

1.4. Emergency telephone number (Spain)

Instituto Nacional de Toxicología: +34 91 562 04 20

2. HAZARDS IDENTIFICATION

2.1. Classification of the mixture

Classification and Hazard Statements. According to Regulation (EC) No. 1272/2008 and GHS

Asp. 1: Aspiration toxicity, Category 1.
H304: May be fatal if swallowed and enters airways.
Eye Irrit. 2: Eye irritant, Category 2.
H319: Causes serious eye irritation.
Skin Sens. 1: Skin sensitization, Category 1.
H317: May cause an allergic skin reaction.
STOT-RE 2: Specific target organs toxicity-Repetitive exposure, category 2.
H373: May cause damage to organs through prolonged exposure.
Aq. Chronic 1: Chronic aquatic toxicity Cat.1.
H411: Toxic to aquatic life with long lasting effects.

2.2. Label elements

According to Regulation (EC) No1272/2008



Signal word: Danger
Hazard statement(s): H304, H317, H319, H373, H411 (1)
Precautionary statement(s): P261, P264, P272, P280, P314, P301+P310, P331, P337 + P313, P405, P501
Precautionary statements According to Regulation (EC) No. 1272/2008 and GHS.
P261: Avoid breathing fumes of sprays.
P264: Wash hands thoroughly after handling.
P272: Contaminated work clothing should not be allowed out the workplace.
P280: Wear protective gloves/eye protection /face protection.

P301+P310:	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P305+P351+P338:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314:	Get medical advice/attention if you feel unwell.
P331:	Do NOT induce vomiting.
P337+P313:	If eye irritation persists get medical advice/attention.
P405:	Store locked up.
P501:	Dispose of contents/container to ... a licensed disposal company ... in accordance with local regulation.

Supplementary statements

EUH401: To avoid risks to man and the environment, comply with the instructions for use.

Adverse effects:

May be fatal if swallowed and enters airways.

Causes serious eye irritation.

May cause an allergic skin reaction.

Toxic to aquatic life with long lasting effects.

2.3 Other hazards

No additional information available.

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Preparation/ Mixture.

Identity and classification of dangerous components:

Chemical identity	CAS-No.	EC-No.	Classification and Sentences Reg (EC) 1272/2008	Conc. (w/w)
ISO Name: clodinafop-propargyl IUPAC Name: 2-propynyl (R)-2-[4-(5-chloro-3-fluoro-2-pyridinyloxy)-phenoxy]-propionate	105512-06-9	600-662-6	Acute Tox. 4 H302 STOT RE 2 H373 Skin Sens. 1 H317 Aquatic Acute 1 H400 Aquatic Chronic 1 H410	10,4%
ISO Name: Cloquintocet-mexyl IUPAC Name: (RS)-1-methylhexyl (5-chloroquinolin-8-yloxy) acetate (IUPAC)	99607-70-2	619-447-3	Skin Sens. 1 H317	2,6%
Surfactant (mixture containing anionic sulphonate)	Proprietary		Skin Irrit. 2 H315 Eye Dam. 1 H318 Acute Tox. 4 (Inh) H332 STOT-SE 3 (Resp. S.) H335 Aq. Chronic. 3 H412	>1;<5%
Solvents (mixture containing solvent naphtha*)	*64742-94-5	*265-198-5	Asp. Tox. 1 H304 STOT SE 3 (CNS) H336 Eye Irrit.2 H319 Aq. Chronic 2 H411	>60%; <85%

For the full text of the H-statements 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 this safety data sheet to the doctor in attendance.
If inhaled:	If breathed in, move person into fresh air. Consult a physician.
In case of skin contact:	Wash with plenty of soap and water, including hair and under fingernails. Consult a physician if irritation occurs.
In case of eye contact:	Immediately rinse eyes with a large amount of running water as a precaution. Hold eye lids apart to rinse the entire surface of the 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 this safety sheet.

4.2. Most important symptoms and effects

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

Small fires: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Large fires: Use alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons: 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 include: carbon oxides, nitrogen oxides, hydrogen chloride and hydrogen fluoride

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. Cool closed containers exposed to fire with water spray.

Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

6. ACCIDENTAL RELEASE MEASURES

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 vapour or mists formation and ensure adequate ventilation.

Follow the emergency procedures established at the site (factory, warehouse, etc.), such as the need to evacuate the danger area, or 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 a approved pesticide respirator with a filter for aromatic solvents.

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 container for dangerous residues.

6.4. Reference to other sections

See section 8 and 13 of this safety data sheet.

7. HANDLING AND STORAGE

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. Keep container tightly closed in a dry and well-ventilated place. |
| 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. at room temperature (<40°C). When containers are opened, keep away from heat sources and electrical sparks. |

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 if the product is maintained in its closed containers.
- 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 multilayer containers are recommended for packaging.

7.3. Specific end use(s)

Agrochemical product for herbicide use in the crops protection. 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. Before to use, final users (farmers) must read carefully these packaging labels.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

No national (Spain) biological limit value has been established for this product.

Components	Exposure limit(s)	Value type	Notes
Clodinafop-propargyl	0,1 mg/m ³	8 h TWA	
Cloquintocet-mexyl	10 mg/m ³	8 h TWA	
Solvent naphta (petroleum)	15 ppm or 52 mg/m ³	8 h TWA	

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. 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:
Safety glasses with side-shields. Where contact with the liquid is likely, chemical goggles are recommended. Use equipment for eye protection tested and approved under appropriate government standards.
- Skin protection:
 - Hand protection: Handle with gloves for chemical products. Gloves of Neoprene; Nitrile/butadiene rubber ("nitrile" or "NBR"); Ethyl vinyl alcohol laminate("EVAL"). Polyvinyl chloride ("PVC" or "vinyl") 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).
- 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, vapour 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 vapour.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Form:	Liquid.
Color:	dark yellow
Odour:	characteristic
Odour threshold:	no data available
pH:	4,5 (1% w/v aqueous dispersion)
Melting point:	not applicable
Boiling point:	not applicable
Flash point:	68°C
Evaporation rate:	no data available
Flammability (solid):	not applicable (liquid)
Explosive limits:	not applicable (mixture)
Vapour pressure:	no data available
Vapour density:	no data available
Relative density:	0,9611 at 20°C
Solubility(ies):	Not soluble in water but miscible; it forms stable emulsions with water at a wide range of concentrations.
Partition coefficient:	not applicable (mixture)
Auto-ignition temperature:	456,5 ± 9,2°C at 760,4 mm Hg
Decomposition temperature:	not applicable
Viscosity:	Dynamic viscosity: 2,84 cPs at 20°C; 2,60 cPs at 40°C Kinematic viscosity: 2,96 cSt at 20°C; 2,71 cSt at 40°C
Explosive properties:	non-explosive properties
Oxidizing properties:	non-oxidizing properties

9.2. Other information

No other properties which are influence in safety are known.

10. STABILITY AND REACTIVITY

10.1. Reactivity:	Stable mixture; non hazardous properties derived of its reactivity are expected according to the molecular structure of its ingredients.
10.2. Chemical stability:	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 (10-35°C).
10.3. Possibility of hazardous reactions:	No hazardous reactions are known.
10.4. Conditions to avoid:	Extreme temperatures (<5°; >40°C), sunlight.
10.5. Incompatible materials:	Strong bases and acids can decompose the product giving other more toxic substances; strong oxidizing

10.6. Hazardous decomposition products:

agents react with organic substances liberating excessive heat and other toxic substances.
Hazardous combustion products formed under fire conditions: carbon oxides (COx) and nitrogen oxides (NOx), hydrogen chloride (HCl) and hydrogen fluoride (HF).

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral – rat: 5000 mg/kg bw (preparation)
LD50 Dermal – rat: >2000 mg/kg bw (preparation)
LC50 Inhalation – rat (4 h): > 5,31 mg/L air (max. achievable conc.) (preparation)

Skin corrosion/irritation: Mildly irritant (GHS Cat.3) (preparation)

Serious eye damage/eye irritation: Irritating to eyes (GHS Cat. 2A) (preparation)

Respiratory or skin sensitization: Sensitizer (GHS Cat. 1B) (preparation)

Germ cell mutagenicity: NDA: None of the ingredients present mutagenic effects in assays with animals.

Carcinogenicity: NDA. None of the ingredients present carcinogenic effects in assays with animals.

Reproductive toxicity: NDA. None of the ingredients present teratogenic effects in assays with animals.

STOT - RE: NDA. A repetitive exposure to clodinafop-propargyl may cause anemia.

Aspiration hazard: Aspiration toxicity, category 1. Contains solvent naphta: Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary oedema.

Other information: NDA

12. ECOLOGIC INFORMATION

Unless otherwise specified (preparation), all data in this section correspond to active ingredient Clodinafop propargyl.

12.1. Toxicity

Aquatic organisms:

Toxicity in fish

Fish - Acute LC50 - 96 h: 0,21 mg/l *Lepomis macrochirus* (bluegill)

Fish- chronic NOEC - 28 days: 0,10 mg/L *Lepomis macrochirus* (bluegill)

Toxicity to daphnia and other aquatic invertebrates

Acute IC50- 48 h: 62,3 mg/l *Daphnia magna* (water flea) (preparation)

Chronic -21 days NOEC: 0,23 mg/l *Daphnia magna*

Toxicity in algae and aquatic plants

EC50 (acute72 h): *Pseudokirchneriella.subcapitata*: EbC50 >100 mg/l; ErC50 >100 mg/l (preparation)

Toxicity in higher plants

EC50 (7 days) fronds biomass: >1,4 mg/l *Lemna gibba*

Terrestrial organisms

Acute toxicity – LC50 2 weeks: 197 mg/kg dry soil (Earthworm - *Eisenia foetida*) Moderate

Effects on honeybees

Acute oral toxicity LD50 (48 h): >93,7 µg/bee

Effects on other arthropod species

Aphidius rhopalosiphi: LR50 = 3,1 g/ha (48 hour) – Harmful at 1 kg/ha

***Typhlodromus pyri*:** LR50 = 20 g/ha (7 day) – Harmful at 1 kg/ha
Effects on birds
Acute oral toxicity LD50 rat: 1363 mg/kg *Colinus virginianus* (bobwhite quail)
Short-term LD50/LC50: >980 mg/kg bw/day (*Colinus virginianus*) - bobwhite quail

Effect on mammals

Acute oral toxicity LD50: 5000 mg/kg bw (preparation)

12.2. Persistence and degradability

Soil degradation (aerobic) DT50 (typical): 0,8 days Non-persistent

DT50 (lab at 20°C): 0.8 days Non-persistent

DT90 (lab at 20°C): 2,5 days

Aqueous photolysis (20°C) pH 7- DT50: 24 days Slow

Aqueous hydrolysis 20°C, pH (5-7-9) - DT50: 4,87 days (pH 7) Non-persistent

(17,0 d at pH 4 26,8 d at pH 5 and 0.07 d at pH 9).

12.3. Bioaccumulative potential

Low (calculated)

Octanol-water partition coefficient, Kow: logPow= 3,9 (20°C; pH 7)

Bio-concentration factor (BCF): 34 (trigger for BCF: 100)- Low potential .

12.4. Mobility in soil

Freundlich isotherm constant: Sorption coefficient Kf = 88,4

GUS leaching potential index (calculated): Affinity Kfoc = 1466 Slightly mobile
-0,08 (calculated) Low leachability

This parameter is an indicator and given here to provide a general indication of hazard only.

12.5. PBT and vPvB assessment

No required (according to available data of BCF and Kow).

12.6. Other adverse effects

Unknown.

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

Transport designation: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(clodinafoppropargyl in solution).

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 labelling:	Class 9 hazard label + Environmentally hazardous mark		

IMDG-Code (International Maritime Dangerous Goods Code)

Class ADR/RID/ADN:	9	Packaging group:	III
Marine pollutant:	YES		
Marking and labelling:	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 labelling:	Class 9 hazard label + Environmentally hazardous mark		

Note: In the appropriate packaging conditions, this product may be transported in Limited Quantities (LTD. QTY.) with the corresponding exemptions in the transport requirements.

15. REGULATORY INFORMATION

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

PHITOSANITARY preparation (herbicide/fungicide/ insecticide/acaricide /grow regulator, 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 for registered crop protection products.

16. OTHER INFORMATION

- a) Changes to the previous version: Classification according to register MAPP 17151 awarded from CRD (HSD -UK). Removing all references to the classification under Directive 67/548/EEC (no longer in force).
- b) Key or legend to abbreviations and acronyms used in this safety data sheet.
ADL: acceptable daily intake ADOL: acceptable operator exposure level ARfD: acute reference dose a.i.: active ingredient
b.w.: body weight ECHA: European Chemical Agency EC50: median effective concentration
EBc50: median effective concentration (biomass) ErC50: median effective concentration (growth rate) ED50: median effective dose
EFSA: European Food Safety Authority DT50: period required for 50 percent dissipation GHS: Global Harmonized System (for labelling)
IC50: median immobilization concentration LC50: median lethal concentration LD50: median lethal dose; dosis letalis media
LR50: lethal rate, median LEL: lower explosion limit NOAEL: no observed adverse effect level
NOEC: no observed effect concentration NDA: no data available OECD: Organization for Economic Cooperation and Development
PBT: persistent, bio-accumulative and toxic STOT: specific target organ toxicity
RTECS: registry of toxic effects of chemical substances (USA) TLV-TW: threshold limit value - time weighted average
UEL: upper explosion limit vPvB: very persistent and very bio-accumulative
- c) Key literature references and sources for data.
EFSA Scientific Report (2005) 34, 1-78. Conclusion on the peer review of clodinafop.
ESIS: European Chemical Substances Information System.
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>.
- d) This formulated product was tested according to the established methods and approved by European Union Authority.
- e) List of classification codes and hazards statements presented in this data sheet.

According to Regulation (EC) No 1272/2008

Acute Tox. 4	Acute toxicity (category 4)	H302	Harmful if swallowed.
Asp. Tox. 1	Aspiration toxicity (category 1)	H304	May be fatal if swallowed and enters airways.
Acute Tox. 4	Acute toxicity (category 4)	H332	Harmful if inhaled.
Skin Sens. 1	Skin sensitizer (category 1)	H317	May cause an allergic skin reaction.
Eye Dam. 1	Serious damage to eyes (category 1)	H318	Causes serious eye damage.
Eye Irrit. 2A	Eye irritant (category 2A)	H319	Causes serious eye irritation.
STOT SE 3	STOT single exposure (category 3)	H335	May cause respiratory irritation.
STOT SE 3	STOT single exposure (category 3)	H336	May cause drowsiness or dizziness.
STOT RE 2	STOT repeated exposure (category 2)	H373	May cause damage to organs through prolonged exposure.
Aq. Acute 1	Aquatic acute toxicity (category 1)	H400	Very toxic to aquatic life.
Aq. Chronic 1	Aquatic chronic toxicity (category 1)	H410	Very toxic to aquatic life with long lasting effects.
Aq. Chronic 2	Aquatic chronic toxicity (category 2)	H411	Toxic to aquatic life with long lasting effects.
Aq. Chronic 3	Aquatic chronic toxicity (category 3)	H412	Harmful to aquatic life with long lasting effects.
		EUH066	Repeated exposure may cause skin dryness or cracking.

- 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 also should include drains protection in order to avoid the washing or firefighting water contaminates surface or underground water or enters in public drainage.

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.

BUGUIS

MAPP 17151

An emulsifiable concentrate formulation containing 100 g/L (10.4% w/w) clodinafop-propargyl + 25 g/L (2.6% w/w) cloquintocet mexyl for control of wild oats in wheat and durum wheat.

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.

IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL HERBICIDE

Crop:	Maximum individual dose: (L product/ha)	Maximum number treatments: (L product/ha/year)	Latest time of application:
Winter wheat and durum wheat	0.6	1	Before flag leaf sheath extending stage (BBCH 39)

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.

SAFETY PRECAUTIONS

Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:

Wear suitable protective clothing (coveralls), suitable protective gloves and face protection (face shield) when handling the concentrate.

Wear suitable protective gloves when handling contaminated surfaces.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows that they provide an equal or higher standard of protection.

WASH SPLASHES from skin immediately.

WASH HANDS AND EXPOSED SKIN before meals and after work.

Environmental protection

Do not contaminate water with the product or its container [Do not clean application equipment near surface water/ Avoid contamination via drains from farmyards and roads].

Storage and disposal

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

WASH OUT CONTAINER THOROUGHLY and dispose of safely.

DO NOT RE-USE CONTAINER for any purpose.

AVOID RELEASE TO THE ENVIRONMENT. REFER TO SPECIAL INSTRUCTIONS / SAFETY DATA SHEETS.

PROTECT FROM FROST
SHAKE WELL BEFORE USE

BATCH NUMBER: see packaging

Authorisation Holder and Marketing Company:

PROPLAN, Plant Protection Company SL, C/Valle del Roncal 12 –
Oficina 7, 28232 Las Rozas, Madrid, Spain

For 24 hour emergency information contact:

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