



Trilogy

PCS No. 04246



PEEL
HERE

A suspension concentrate (SC) formulation containing; 115g/litre (11.7% w/w) ethofumesate, 75 g/litre (7.65% w/w) phenmedipham and 15g/litre (1.55% w/w) desmedipham for the control of annual broad leaved weeds in sugar beet, fodder beet and mangels.

FOR PROFESSIONAL USE ONLY

INSTRUCTIONS FOR USE

Compliance with the following conditions of use is a legal requirement.

For use only as an agricultural herbicide.

Crops/Situations: For use in Sugar Beet, Fodder Beet and Mangels.

Crops	Sugar Beet, Fodder Beet and Mangels
Max. individual dose	2.5 litres/ha
Max. total dose	7.0 litres/ha
Latest time of application	BBCH 18 (eight leaves unfolded)

READ ALL OTHER SAFETY PRECAUTIONS AND DIRECTIONS FOR USE BEFORE USE.

SAFETY INFORMATION



WARNING

Causes serious eye irritation.

Toxic to aquatic life with long lasting effects.

Avoid release to the environment.

Wear protective gloves/protective clothing/eye protection/face protection.

If eye irritation persists: Get medical advice/attention.

Collect spillage.

Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for triple rinsed empty containers which may be disposed of as non-hazardous waste.

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

PCS No. 04246

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).

PROTECT FROM FROST
SHAKE WELL BEFORE USE
Batch No. 000000



Authorisation holder and Marketing company:

UPL Europe Ltd

The Centre, Birchwood Park, Warrington, WA3 6YN

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Contents

5 Litres

A2.1 TRILogy IRE 010915 PCS 04246

TRU/SL/F/0915/UPL

September 2015

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/WARNINGS

- The application of TRILOGY to crops suffering from stress may lead to a check to growth from which the crops may not recover and in some cases crop losses may occur. Crops suffering from nutrient deficiencies such as nitrogen, copper, manganese, magnesium or lime may be adversely affected when sprayed with TRILOGY. Growers should ensure that nutrient status of the soil is correct before the crop is drilled.
- If the temperature is 21°C or is likely to rise to this temperature for the period of twenty-four hours after application do not spray as serious crop damage may occur.
- If substantial day to night fluctuations in temperature occur shortly before or after the application of TRILOGY crop growth may be checked.
- The interval between preparation of the spray mixture and completion of spraying should be kept to a minimum, certainly no longer than 2 hours. Any longer may result in crystallisation, particularly if the water temperature is below 5°C.
- Avoid drift to areas outside those being sprayed, having due regard to the prevailing weather conditions and spray quality being used.
- TRILOGY may be used on all types of soils, though residual activity may be reduced on those with more than 5% organic matter.

WEEDS CONTROLLED

Susceptible	Moderately Susceptible	Resistant
Annual meadow-grass Annual mercury ^[1] Annual nettle ^[1] Black-bindweed Common chickweed Field speedwell Fat-hen Field forget-me-not, Field pansy Field pennycress Ivy-leaved speedwell Knotgrass Shepherd's purse Small nettle ^[1] Sun spurge ^[1] Red dead-nettle Volunteer oilseed rape	Charlock Cleavers Common orache Knotgrass Mayweeds Orache ^[1] Pale persicaria Redshank	Fool's parsley Scarlet pimpernel

Notes:

[1] Limited data

TREATMENT OF CROPS

- All commercially grown varieties of sugar beet, fodder beet and mangels may be treated with TRILOGY.
- The first application of TRILOGY should be made after the majority of the crop has reached the fully expanded cotyledon stage.
- The effect of 'TRILOGY' on seed germination from treated beet seed crops has not been investigated.
- Use a MEDIUM spray (BCPC classification) and dilute with 100 – 300 litres water/ha.

First application:

Timing: At the first flush of weeds, preferably when they are not larger than the fully expanded cotyledon stage.

Rate of use: 2.0 litres product/ha.

Second and third applications:

Timing: At the second and third flush of weeds, but not before 5 days after a previous application.

Rate of use: 2.5 litres product/ha.

MIXING

Half fill the spray tank with water and commence agitation. Add the tank-mix partner first and allow complete dispersion. Add the required amount of TRILOGY to the sprayer tank and fill up with water whilst agitating. Use immediately. Continue agitation until spraying is complete.

COMPATIBILITY

For further information on tank mixing please refer to the website (www.upeurope.com).

TANK WASHING

Spray tank cleaning should be done immediately after spraying. Empty the spraying equipment completely on the field just sprayed. Remove all filters and nozzles, scrub clean using a liquid detergent and rinse them with clean water. Put 10% of the capacity of clean water and a liquid detergent into the tank. Operate a tank flushing system if fitted. Circulate water through the pump and controls for at least one minute. Drain sprayer, collect washings. Repeat procedure once more. Pump last washing water out through boom feed hoses and pipes. Collect washings. Clean off the outside of the sprayer using minimum water volumes. Collect washings. Replace cleaned nozzles and filters. Collect and put all washings back into the tank and spray out on the field's headland, or otherwise safely dispose of them. Ensure the sprayer systems are completely drained before storage. Store plant protection equipment in a properly designated store.

SUCCESSING CROPS

Beet crops may be sown at any time after the use of TRILOGY, any other crop may be sown 3 months after the last application. Ploughing with a mould board to a minimum depth of 15cm (6") should precede preparation of a new seedbed.

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. Trilogy is a registered trademark of United Phosphorus Limited. Other brand names used in this guide are trademarks of other manufacturers for which propriety rights may exist.

SAFETY DATA SHEET

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

1.1 Identification of the product

Product code: HB002
Product Description: TRILOGY
Synonyms: -
Pure substance/preparation: Preparation
1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against: Herbicide
Recommended use: Herbicide
1.3 Details of the Supplier of the Safety Data Sheet
Supplier: UPL Europe Ltd
The Centre
Birchwood Park
Warrington
WA3 6YN
Cheshire, UK
Tel. : +44 (0) 1925 819999
Fax : +44 (0) 1925 856075
info@uniphos.com

E-mail address:

1.4 Emergency Telephone Number

Emergency telephone number:

Ireland:

National Poisons Information Centre (IE): +353 1 8379964

2. HAZARDS IDENTIFICATION

2.1 Classification of the mixture

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Symbol(s): N - Dangerous for the environment

Xi - Irritant

Xi;R36 N;R50/53

R-code(s): For the full text of the R phrases mentioned in this Section, see Section 16.

Classification according to regulation (EC) No 1272/2008 (CLP)

Serious Eye Damage/Irritation Category 2 - (H319)

Chronic aquatic toxicity Category 2 - (H411)

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according to EU Directives 67/548/EEC or 1999/45/EC

Xi

N

Symbol(s)

N - Dangerous for the environment

Xi - Irritant

R -phrase(s)

R36 - Irritating to eyes

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

S -phrase(s)

S2 - Keep out of the reach of children

S13 - Keep away from food, drink and animal feedingstuffs

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S46 - If swallowed, seek medical advice immediately and show this container or label

S49 - Keep only in the original container

S20/21 - When using, do not eat, drink or smoke

S36/37 - Wear suitable protective clothing and gloves

Labelling according Regulation (EC) No 1272/2008 (CLP)



Signal word:

WARNING

Hazard statements

H319 - Causes serious eye irritation

H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P337 + P313 - If eye irritation persists: Get medical advice/attention

P273 - Avoid release to the environment

P391 - Collect spillage

P501 - Dispose of contents/ container in accordance with national regulation

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

EU Specific Hazard Statements

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

2.3 Other Hazards

No information available

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2. Mixtures

Chemical name	EC No	CAS-No	Weight %	Classification (Dir.67/548)	EU - GHS Substance Classification	REACH No.
Phenmedipham	237-199-0	13684-63-4	5 - 10	N; R50/53	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	no data available
Desmedipham	237-198-5	13684-56-5	1 - 5	N; R50/R53	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	no data available
Ethofumesate	247-525-3	26225-79-6	10 - 20	N; R51/53	Aquatic Chronic 2 (H411)	no data available
Penetrating agent	Not Listed	-	< 1	C; R34 Xn; R22 Xi; R43 N; R50	Skin Corr. 1B (H314) Skin Irrit. 2 (H317) Acute Tox. 4 (H302) Aquatic Acute 1 (H400)	-
Surfactant	Not Listed	-	1 - 5	Xn; R22 Xi; R41	-	no data available
Anti-caking agent	Listed	-	< 1	Carc.Cat.3; R40 Xn; R22 Xi; R38	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Carc. 2 (H351)	no data available
Surfactant	Not Listed	-	1 - 5	R10 R67	STOT SE 3 (H336)	no data available
Surfactant	Listed	-	1 - 5	Xn; R22 Xi; R38 Xi; R41	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Acute Tox. 4 (H302)	no data available

For the full text of the R phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first-aid measures

General advice:

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Eye contact:

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

If eye irritation persists, consult a specialist.

Skin contact:

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

If symptoms persist, call a physician.

Rinse mouth with water.

Call a POISON CENTER or doctor/physician if you feel unwell.

Move to fresh air.

Call a POISON CENTER or doctor/physician if you feel unwell.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

No information available.

4.3 Indication of immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:

Water spray.

Smother flames with sand, dry powders or carbon dioxide.

Unsuitable extinguishing media:

Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Special Hazard:

Hazardous decomposition products formed under fire conditions:

Nitrogen oxides (NOx)

Carbon oxides

Carbon dioxide (CO2)

5.3 Advice for Firefighters

Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas.

Avoid contact with eyes.

Wear protective gloves/clothing and eye/face protection.

6.2 Environmental Precautions

Prevent further leakage or spillage if safe to do so.

Do not allow material to contaminate ground water system.

Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Handling

Provide adequate ventilation.

Wear personal protective equipment.

Avoid contact with skin and eyes.

Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene Measures

Use only outdoors or in a well-ventilated area.

Wash hands after handling.

7.2 Conditions for safe storage, including any incompatibilities
 Keep only in the original container/package in a cool well-ventilated place.
 Keep out of the reach of children.
 Protect from light.
 Keep at temperatures below 30 °C.
7.3 Specific end uses
 No information available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters
Exposure Limits: Apply technical measures to comply with the occupational exposure limits.

Chemical name	Eu	United Kingdom	France	Spain	Germany
Anti-caking agent		STEL: 5 mg/m ³ TWA: 5 mg/m ³	TWA: 0.2 ppm TWA: 2.5 mg/m ³	TWA: 0.2 ppm TWA: 2.2 mg/m ³	MAK: 1 ppm MAK: 11 mg/m ³ Ceiling / Peak: 4 ppm Ceiling / Peak: 44 mg/m ³ Skin

Component	Italy	Portugal	Netherlands	Finland	Denmark
Anti-caking agent (< 1)		TWA: 0.2 ppm		TWA: 0.2 ppm TWA: 2.5 mg/m ³ STEL: 0.4 ppm STEL: 5 mg/m ³	TWA: 0.2 ppm TWA: 2.5 mg/m ³

Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Anti-caking agent	Skin STEL 5 mg/m ³ TWA: 2.5 mg/m ³	Skin STEL: 0.4 ppm STEL: 5 mg/m ³ TWA: 0.2 ppm TWA: 2.5 mg/m ³		TWA: 0.2 ppm TWA: 2.5 mg/m ³ STEL: 0.6 ppm STEL: 5 mg/m ³	TWA: 0.2 ppm

Component	Italy	Portugal	Netherlands	Finland	Denmark
Anti-caking agent (< 1)	(ACGIH): 70 % of baseline red blood cells discretionary Cholinesterase activity Nonspecific				

Derived No Effect Level (DNEL): No information available
Predicted No Effect Concentration (PNEC): No information available

8.2 Exposure Controls
Engineering controls: Ensure adequate ventilation, especially in confined areas
Personal Protective Equipment
Eye protection: Safety glasses with side-shields.
Skin protection: Long sleeved clothing, (Tyvek).
Hand protection: Protective gloves: Nitrile rubber.
Respiratory protection: Respiratory protection complying with EN 143
Environmental exposure controls: No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: Off-white
Physical state: liquid
 suspension concentrate
Odor: Strong

Property **VALUES** **Remarks / Method**
pH: 7.07
Melting point/freezing point: No information available
Boiling Point/Range: No information available
Flash point: EEC A,9
 > 104 °C
Flammability (solid, gas): No data available
Specific gravity: 1.01
Solubility in Other Solvents: No information available
Partition coefficient: n-octanol/water: No information available
Autoignition temperature: > 400 °C
Decomposition temperature: No information available
Viscosity: 122.5 mPas 20°C
Oxidizing properties: Non oxidizing
Explosive properties: According to the chemical structure no explosion reaction is expected.
9.2 Other information
VOC Content: No information available

10. STABILITY AND REACTIVITY

10.1 Reactivity
 No information available.
10.2 Chemical stability
 Stable under normal conditions.
10.3 Possibility of hazardous reactions
 No information available.
10.4 Conditions to avoid
 Temperatures above 30°C.
10.5 Incompatible Materials
 Strong bases.
 Strong oxidizing agents.
10.6 Hazardous Decomposition Products
 Carbon oxides Carbon.
 Monoxide Carbon.
 Dioxide (CO2).

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Acute toxicit
Local effects
Inhalation: No data available.
Eye contact: Irritating to eyes. (rabbit)
Skin contact: No skin irritation. (rabbit)
Ingestion: No information available
LD50 Oral: > 2500 mg/kg (rat)
LD50 Dermal: > 4000 mg/kg (rat)
Chronic toxicity
Skin Corrosion/Irritation: No information available.
Corrosivity: No information available.
Sensitization: Did not cause sensitization.
Repeated dose toxicity: No information available.
Carcinogenic effects: No information available.

Mutagenic effects: No information available.
Reproductive effects: No information available.
STOT - Single Exposure: No information available.
STOT - Repeated Exposure: No information available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
 EC50/72h/algae = 0,8 mg/L (Pseudokirchneriella subcapitata)
 LC50/48h/daphnia = 34 mg/L
 LC50/fish/96 h = 24 mg/L
12.2 Persistence and Degradability
 No information available.
12.3 Bioaccumulative Potential
 No data is available on the product itself.

Chemical name	Log Pow
Phenmedipham	3.59
Desmedipham	3.39
Ethofumesate	2.7
Anti-caking agent	2.5

12.4 Mobility in Soil
 No information available.
12.5 Results of PBT and vPvB Assessment
 No information available.
12.6 Other Adverse Effects
 No information available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods
Waste from Residues / Unused Products: Dispose of in accordance with local regulations.
Contaminated packaging: Empty containers should be taken for local recycling, recovery or waste disposal.
EWC waste disposal No: 020108 - agrochemical waste containing dangerous substances.
Other information: According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

14. TRANSPORT INFORMATION

ADR/RID
14.1 UN-No: UN3082
14.2 Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Desmedipham, Phenmedipham, Ethofumesate)
 9
 III
 Yes
 274, 335, 601 (E)
14.3 Hazard class: Yes
14.4 Packing group: 274, 335, 601 (E)
14.5 Environmental Hazard: UN3082
14.6 Special Provisions: Environmentally hazardous substance, liquid, n.o.s (Desmedipham, Phenmedipham, Ethofumesate)
 9
 III
 Marine Pollutant
 274, 335

IATA/ICAO
14.1 UN-No: UN3082
14.2 Proper shipping name: Environmentally hazardous substance, liquid, n.o.s (Desmedipham, Phenmedipham, Ethofumesate)
14.3 Hazard class: 9
14.4 Packing group: III
14.5 Environmental Hazard: Yes
14.6 Special Provisions: A97, A158

15. REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture
 - To avoid risks to man and the environment, comply with the instructions for use.
International Inventories
TSCA: Complies
EINECS/ELINCS: Complies
DSL/NDSL: Complies
PICCS: Complies
ENCS: Complies
China: -
AICS: Complies
KECL: Complies
Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory.
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances.
PICCS - Philippines Inventory of Chemicals and Chemical Substances.
ENCS - Japan Existing and New Chemical Substances.
IECSC - China Inventory of Existing Chemical Substances.
AICS - Australian Inventory of Chemical Substances.
KECL - Korean Existing and Evaluated Chemical Substances.
15.2 Chemical safety assessment
 A chemical safety assessment has not been carried out.

16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3
 R10 - Flammable. R22 - Harmful if swallowed. R34 - Causes burns. R38 - Irritating to skin. R40 - Limited evidence of a carcinogenic effect
 R41 - Risk of serious damage to eyes. R43 - May cause sensitization by skin contact. R50 - Very toxic to aquatic organisms. R67 - Vapours may cause drowsiness and dizziness. R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
Full text of H-Statements referred to under sections 2 and 3
 H302 - Harmful if swallowed. H315 - Causes skin irritation. H318 - Causes serious eye damage. H319 - Causes serious eye irritation. H351 - Suspected of causing cancer. H400 - Very toxic to aquatic life. H410 - Very toxic to aquatic life with long lasting effects. H411 - Toxic to aquatic life with long lasting effects.
Revision date: 01-SEPT-2015
Revision note: -
This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006
Disclaimer
 The information contained is based on our knowledge of the product at the date of publishing.
 It applies to the PRODUCT AS SUCH. In case of formulation or mixture, make sure that a new danger will not appear. Users are advised of possible additional hazards when the product is used in applications for which it was not intended. This sheet shall only be used and duplicated for prevention and Safety purposes.
 For rates and use recommendations, refer to the information displayed on the packaging.
 It is the responsibility of the handlers of the product to pass on this safety data sheet to any subsequent persons who will come into contact with the product.



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(Do not clean application equipment near surface water/avoid contamination via drains from farmyards and roads).

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