



# DHM Agrochemicals Ltd

# TWINPROP

PEEL BACK FOR DIRECTIONS FOR USE LEAFLET



## Safety Information

**Harmful if swallowed.**  
**Causes skin irritation.**  
**Causes serious eye damage.**

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

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

Rinse mouth.

IF ON SKIN: Wash with plenty of soap and water.

If skin irritation occurs: Get medical advice/ attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Dispose of contents/container to a licensed waste disposal contractor or collection site except for empty triple rinsed 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**



A herbicide for the control of a wide range of broad leaved weeds, including cleavers and common chickweed, in winter and spring sown cereals and amenity grassland.

A soluble concentrate formulation containing 600 g/l mecoprop-P (48.2% w/w) formulated as potassium salt.

## FOR USE ONLY AS AN AGRICULTURAL/ HORTICULTURAL HERBICIDE

**DHM Agrochemicals Ltd.,**  
 Castle Lodge, Kilgobbin Road,  
 Sandyford, Dublin 18. Ireland.  
 Telephone: (01) 2952377.  
 Fax: (01) 2959399.

**PROTECT FROM FROST  
 FOR PROFESSIONAL USE ONLY**

NET CONTENTS

# 5 Litres e

PCS No. 04427

B0803-003 A0315

Crops	Maximum Application Rate (L product/ha)	Maximum Total Dose (L product/ha)	Latest time of application
Winter Wheat, Winter Barley, Winter Oats	2.3	2.3 per crop	Before 3rd node detectable stage (GS 33)
Spring Wheat, Spring Barley, Spring Oats	2.3	2.3 per crop	Before 1st node detectable stage (GS 31)
Amenity Grassland	2.3	4.6 per year	-

Applications to cereals must not be made between 1 October and 1 March

**Method of application:** Tractor mounted/trailed sprayer

## SAFETY PRECAUTIONS

### Operator Protection

IF YOU FEEL UNWELL, seek medical advice (show label where possible).  
 WEAR SUITABLE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate.  
 WASH CONCENTRATE from skin or eyes 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, empty washings into spray tank, and dispose of safely.  
 DO NOT RE-USE CONTAINER.

## DIRECTIONS FOR USE

TWINPROP is a hormone herbicide which is absorbed by both shoots and roots and rapidly translocated within herbaceous plants.

Apply as a MEDIUM spray as defined by BCPC.

The best weed control will be achieved if crops are sprayed in conditions when weeds are actively growing, provided the crop is within the correct growth stages, see below.

This is particularly important when TWINPROP is used in the spring to control large autumn germinated cleavers, which may have become 'winter hardened'.

### WEEDS CONTROLLED:

Weed species	Application rate (L product/ha)		
	1.5	2.0	2.3
Chickweed, Common*	S	-	-
Fat-hen	S	-	-
Pennycress, Field	S	-	-
Buttercup, Corn	-	MS	-
Charlock	-	S	-
Cleavers	-	S	-
Mouse-ear, Common	-	S	-
Mustard, Black	-	S	-
Mustard, Treacle	-	S	-
Mustard, White	-	S	-
Nettle, Small	-	S	-
Plantain, Greater	-	S	-
Plantain, Ribwort	-	S	-
Radish, Wild	-	S	-
Shepherd's-purse	-	S	-
Black-bindweed	-	-	MR
Buttercup, Creeping	-	-	SP
Campion, White	-	-	SP
Cranesbill, Cut-leaved	-	-	MR
Cranesbill, Dove's-foot	-	-	MS
Deadnettle, Red	-	-	MS
Docks	-	-	SP
Forget-me-not, Field	-	-	R

Weed species	Application rate (L product/ha)		
	1.5	2.0	2.3
Fumitory, Common	-	-	MS
Groundsel	-	-	MR
Hempnettle, Common	-	-	MR
Knotgrass	-	-	MR
Marigold, Corn	-	-	R
Mayweed, Scented	-	-	R
Mayweed, Scentless	-	-	MR
Nightshade, Black	-	-	MR
Oilseed Rape, Volunteer	-	-	S
Orache	-	-	MS
Pansy, Field	-	-	R
Persicaria, Pale	-	-	MR
Pimpernel, Scarlet	-	-	MR
Poppy, Common	-	-	MR
Redshank	-	-	MR
Sowthistle, Perennial	-	-	SP
Sowthistle, Prickly	-	-	MS
Sowthistle, Smooth	-	-	MR
Speedwell, Common Field	-	-	MS
Speedwell, Ivy-leaved	-	-	MS
Thistle, Creeping	-	-	SP
Turnip, Wild	-	-	MS
Viper's Bugloss	-	-	MR

\* Control of chickweed at 1.5 L/ha rate in cereals due to the competitive nature of the cereal crop. Common chickweed will be controlled up to 15 cm diameter by TWINPROP at 2.3 L/ha. 2.3 L/ha is only to be used in Amenity Grassland.

S - Susceptible: controlled from cotyledon to 2 true leaf stage at 1.5 L/ha and 2.0 L/ha; controlled from cotyledon to 6 true leaf stage (or 5 cm across or high) by 2.3 L/ha.

MS - Moderately susceptible: controlled from cotyledon up to 2 true leaves but only checked up to 6 true leaves or 5 cm across or high.

MR - Moderately resistant: checked at cotyledon to 2 true leaves only.

SP - Top growth suppressed when sprayed with 2.3 litres/ha TWINPROP if appreciable foliage is present.

Seedlings (cotyledon 2 true leaves) will also be controlled.

R - Resistant: no useful effect.

#### CROP SPECIFIC INFORMATION

##### WINTER WHEAT, BARLEY and OATS

**Rate of application:** 2.3 L/ha

For autumn applications or in spring applied mixtures with specific herbicides (see mixtures section below), apply a maximum of 2.0 litres TWINPROP per hectare.

**Time of application:** From one leaf stage in the autumn to before third node detectable stage.

Spring application may follow autumn treatment.

Once tillering has begun, winter cereals become susceptible to damage from Mecoprop-P until the leaf sheath erect stage is reached.

Late spraying: Where spraying has been unavoidably delayed, TWINPROP may be applied up to and including the second node detectable stage. Applications at this timing may result in poorer weed control and also the optimum yield may not be achieved.

Do not use late applications of TWINPROP in mixture with more than one additional product, or where crops are potentially stressed from factors such as poor fertility, previous sprays or adverse weather conditions, e.g. frost, severe day/night temperature fluctuations or dry soils.

Autumn application of TWINPROP to control common chickweed may not be fully effective under frost conditions which can reduce the efficiency of the chemical. If sharp or severe frosts occur within three to four weeks of application to barley under stress or of low vigour on light soils, scorch or stunting may occur and yields may be less than optimum.

#### **SPRING WHEAT, OATS AND BARLEY**

**Rate of application:** 2.3 L/ha

**Time of application:** From the first fully expanded leaf stage to before the first node detectable stage.

#### **AMENITY GRASSLAND**

**Rate of application:** 2.3 L/ha

**Time of application:** The sward should not be topped for at least a week before or after spraying. A maximum of two applications per year are permitted.

#### Docks

Allow to flower in July and then cut the flower stalks before seeding to weaken root reserves. Wait two weeks and then apply the recommended rate TWINPROP. Docks will be severely checked but may recover, in which case the treatment should be repeated in the following season.

#### Common Chickweed

Treat when actively growing and not shielded by grass, usually late summer or autumn. If appreciable foliage is present there will be top growth suppression of weeds listed as

Top Growth Suppressed in the weed susceptibility table.

#### **WATER VOLUME**

Apply in 170 – 400 L water/ha.

The lowest volume should only be used in open crops where weeds are small and where recommendations for any tank mix partner allow. As weeds become larger and/or crop cover increases, then the water volume should be increased. This is particularly important with cleavers. Once cleavers are beyond the two whorl stage up to six whorls, a water volume of at least 330 L water/ha to ensure good coverage and control.

#### **MIXING**

Half fill the spray tank with clean water and start the agitation. Pour in the required amount of TWINPROP. Add the remainder of the water and continue agitation until spraying is completed. This product may only be used in a tank mix or in sequence with other products when these uses comply with the label recommendations of every product in the tank mix/sequence. When tank mixes are to be used, each product should be added separately to the spray tank, taking due note of any instructions given as to the order of mixing.

#### **Incompatible Mixtures:**

TWINPROP is not compatible with trace element applications containing manganese sulphate.

#### **RESISTANCE**

When herbicides with the same mode of action are used repeatedly over several years in the same field, selection of resistant biotypes can take place. These can propagate and may become dominating. A weed species is considered to be resistant to a herbicide if it survives a correctly-applied treatment at the recommended dose. A strategy for preventing and managing such resistance should be adopted. This should include integrating herbicides with a programme of cultural control measures. Guidelines have been produced by the Weed Resistance Action Group and copies are available from your distributor, crop advisor or product manufacturer.

#### **IMPORTANT NOTES**

- Do not apply TWINPROP to any crop suffering from herbicide damage or physical stress.
  - Do not apply TWINPROP during cold weather, periods of drought, if rain or frost are expected, nor if the crop is wet.
  - The crop should not be rolled or harrowed within a period of seven days before or after spraying with TWINPROP.
  - Avoid damage by spray drift on to susceptible crops such as beans, beet, brassicae (including oilseed rape), fruit crops, glasshouse crops, hops, lettuce, ornamentals, peas, potatoes, tomatoes and vines.
  - WASH EQUIPMENT thoroughly immediately after use. Fill the tank with clean water and leave overnight. Spray out before storage or using other products.
- Traces of the product may cause damage to susceptible crops sprayed later.
- TWINPROP is not for use on Agricultural Grassland or Undersown crops

#### **TERMS AND CONDITIONS OF SUPPLY, SALE OR USE**

All goods supplied by us are high grade and we believe them to be suitable for the purpose for which we expressly supply them: but as we cannot exercise any control over their mixing, use or 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 our Associate Companies for any damage or injury whatsoever arising from their storage, handling, re-application or use. These conditions cannot be varied by our staff, our agents or the re-sellers of the product whether or not they supervise or assist in the use of such goods.

**SAFETY DATA SHEET****1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1. Product identifier**

Trade name: Twinprop

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

Use: Herbicide

**1.3. Details of the supplier of the safety data sheet**DHM Agrochemicals Ltd, Castle Lodge, Kilgobbin Road, Sandycroft, Dublin 18, Ireland  
Telephone: (01) 2952377, Fax: (01) 2959399, Email address: info@dhm.ie

Emergency telephone number: (01) 2952377

**2. HAZARDS IDENTIFICATION****2.1. Classification of the substance or mixture**

EEC/99/45:	Xn	R22 - Harmful if swallowed.
	Xi	R38 - Irritating to skin.
	Xi	R41 - Risk of serious damage to eyes.
	N	R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

EG_1272/08:	SkinIrrit.2	H315 - Causes skin irritation.
	EyeDam.1	H318 - Causes serious eye damage.
	AcuteTox.4	H302 - Harmful if swallowed.

**2.2. Label elements**

according directive 1999/45/EG

Pictogram:



Xn



N

- R22 - Harmful if swallowed.  
 R38 - Irritating to skin.  
 R41 - Risk of serious damage to eyes.  
 R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- S 2 - 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.
- S36/37 - Wear suitable protective clothing and gloves.  
 S39 - Wear eye/face protection.  
 S46 - If swallowed, seek medical advice immediately and show this container or label.  
 S57 - Use appropriate container to avoid environmental contamination.  
 S55 - This material and its container must be disposed of in a safe way.

REGULATION (EC) No 1272/2008

Pictogram:



GHS05



GHS07

Signal word: Danger

- H302 - Harmful if swallowed.  
 H315 - Causes skin irritation.  
 H318 - Causes serious eye damage.  
 P260 - Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.  
 P312 - Rinse mouth.  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.  
 P332 + P313 - If skin irritation occurs: Get medical advice/ attention.

**2.3. Other hazards**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Chemical nature:** Soluble liquid Mecoprop-P 600g/l as the potassium salt**3.2. Mixtures****Components:**

mecoprop-P		
CAS-No.:	16484-77-8	
EINECS-No. / ELINCS No.:	240-539-0	
REACH No.:	01-2119447100-56	
Concentration:	48.2 % (w/w)	
<b>Classification:</b>		
EG_1272/08:	AcuteTox.4	H302 - Harmful if swallowed.
	EyeDam.1	H318 - Causes serious eye damage.
	AquaticChronic2	H411 - Toxic to aquatic life with long lasting effects.
EEC/67/548:	Xn	R22 - Harmful if swallowed.
	Xi	R41 - Risk of serious damage to eyes.
	N	R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<b>potassium hydroxide</b>		
CAS-No.:	1310-58-3	
EINECS-No. / ELINCS No.:	215-181-3	
REACH No.:	01-2119487136-33	
Concentration:	12% - 17% (w/w)	
<b>Classification:</b>		
EG_1272/08:	AcuteTox.4	H302 - Harmful if swallowed.
	SkinCorr.1A	H314 - Causes severe skin burns and eye damage.
EEC/67/548:	Xn	R22 - Harmful if swallowed.
	C	R35 - Causes severe burns.

**4. FIRST AID MEASURES****4.1. Description of first aid measures****Eye contact:**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

**Skin contact:**

Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. If symptoms persist, call a physician. Wash contaminated clothing before re-use.

**Inhalation:**

Move to fresh air. If symptoms persist, call a physician.

**Ingestion:**

Do NOT induce vomiting. Rinse mouth. If conscious, drink plenty of water. If symptoms persist, call a physician.

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

Hazards: No information available.

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

Treatment: Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****5.1. Extinguishing media**

Suitable extinguishing media: Water spray, Carbon dioxide (CO<sub>2</sub>), Dry powder, Alcohol-resistant foam  
Extinguishing media which shall not be used for safety reasons: High volume water jet

**5.2. Special hazards arising from the substance or mixture**

Specific hazards during fire fighting: In the event of fire (HCl,Cl<sub>2</sub>,CO) may be formed.

**5.3. Advice for firefighters**

Special protective equipment for fire-fighters: Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

Further Information: Standard procedure for chemical fires. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

**6. ACCIDENTAL RELEASE MEASURES****6.1. Personal precautions, protective equipment and emergency procedures**

Wear personal protective equipment. (see Chapter 8)

**6.2. Environmental precautions**

Do not flush into surface water or sanitary sewer system.

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

Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Sweep up and shovel into suitable containers for disposal.

Additional advice: Never return spills in original containers for re-use.

**6.4. Reference to other sections**

see Chapter 13

**7. HANDLING AND STORAGE****7.1. Precautions for safe handling**

Safe handling advice: Wear personal protective equipment.

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

Requirements for storage areas and containers: Keep containers tightly closed in a cool, well-ventilated place.

Advice on common storage: Keep out of reach of children. Keep away from food, drink and animal feeding stuffs.

**7.3. Specific end uses**

none

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1. Control parameters**

Components with workplace control parameters  
(according to S.I. No. 619 of 2001)

Components: mecoprop-P

CAS-No.: 16484-77-8

National occupational exposure limits: -

Note: no classification available, (according to S.I. No. 619 of 2001)

Components: potassium hydroxide

CAS-No.: 1310-58-3

National occupational exposure limits: 2 mg/m<sup>3</sup>

Note: (according to S.I. No. 619 of 2001)

**8.2. Exposure controls****Personal protective equipment**

**Respiratory protection:** No special protective equipment required.

**Hand protection:** PVC or nitrile-rubber gloves

**Skin and body protection:** lightweight protective clothing

**Hygiene measures:** Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

**Protective measures:** Avoid contact with skin, eyes and clothing. Keep working clothes separately.

**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1. Information on basic physical and chemical properties****Appearance**

Physical state: liquid

Colour: brown

Odour: amine-like

Start of crystallisation: -20 °C

Flash point: > 100 °C

Auto-ignition temperature: >400 °C

Vapour pressure: 2.3E+00 Pa (mecoprop-P)

Density: 1.24 g/cm<sup>3</sup> at 20 °C

Water solubility: completely soluble

pH: 9

Partition coefficient: n-octanol/water: log POW = 0.02 at 20 °C

(pH 7), (mecoprop-P)

log POW = -0.18 at 20 °C

(pH 9), (mecoprop-P)

Viscosity, dynamic: ca.33 mPa.s at 20 °C

**9.2. Other information**

none

**10. STABILITY AND REACTIVITY****10.1. Reactivity**

no data available, not applicable

**10.2. Chemical stability**

No decomposition if stored and applied as directed.

**10.3. Possibility of hazardous reactions**

No dangerous reaction known under conditions of normal use.

**10.4. Conditions to avoid**

No dangerous reaction known under conditions of normal use.

**10.5. Incompatible materials to avoid**

Incompatible with acids.

**10.6. Hazardous decomposition products**

none

**11. TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects**

Acute oral toxicity:	LD50 rat Dose: 500 - 2,000 mg/kg
Acute dermal toxicity:	LD50 rat Dose: > 4,000 mg/kg
Acute inhalation toxicity:	LC50 rat Exposure time: 4 h Dose: > 5.4 mg/l
Skin irritation:	Result: irritating
Eye irritation:	Result: rabbit Result: Severe eye irritation Remarks: Risk of serious damage to eyes.
Sensitisation:	Result: Did not cause sensitization.

**12. ECOLOGICAL INFORMATION****12.1. Toxicity**

Toxicity to fish:	LC50 Dose: > 100 mg/l Testing period: 96 h Test substance: (mecoprop-P)
Toxicity to daphnia:	LC50 Dose: > 91 mg/l Testing period: 48 h Test substance: (mecoprop-P)
Toxicity to algae:	EC50 Toxicity to algae Dose: 16.2 mg/l Exposure time: 72 h Test substance: (mecoprop-P) EC50 Lemna gibba (Duckweed) Dose: 1.6 mg/l Test substance: (mecoprop-P)

**12.2. Persistence and degradability**

Biodegradability:	Readily biodegradable.
Stability in soil:	DT50: 6.3 - 8.2 d (mecoprop-P)

**12.3. Persistence and degradability**

Bioaccumulation: Does not bioaccumulate.

**12.4. Mobility in soil**

Koc = 135 - 167 (mecoprop-P)

**12.5. Results of PBT and vPvB assessment**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

**12.6. Other adverse effects**

none

**13. DISPOSAL CONSIDERATIONS**

According to European Directive 2000/532/EC as amended :

Waste Code: 02 01 08 (agrochemical waste containing dangerous substances)

**13.1. Waste treatment methods**

Product: Dispose of in accordance with local regulations.

Contaminated packaging: Dispose of in accordance with local regulations.

**14. TRANSPORT INFORMATION****14.1. UN number**

**14.2. Proper shipping name**  
not applicable

**14.3. Transport hazard class(es)**

ADR/RID : Not a dangerous substance as defined in the above regulations.

IMDG : Not a dangerous substance as defined in the above regulations.

IATA-DGR : Not a dangerous substance as defined in the above regulations.

**14.4. Packaging group**

not applicable

**14.5. Environmental hazards**

not applicable

**14.6. Special precautions for user**

none

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

Other regulations: The product is classified and labelled in accordance with EC directives or respective national laws.

**15.2. Chemical Safety Assessment**

none

**16. OTHER INFORMATION**

Print Date: 2015/02/25

The date format YYYY/MM/DD is used according to ISO 8601.

(Alterations are indicated in the left hand margin by: ||)

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

The information contained herein is based on the present state of our knowledge and does therefore not guarantee certain properties.

