

OPTICA®

MAPP 14373

A soluble concentrate containing 600 g/l (48% w/w) optically active isomer mecoprop-P, formulated as potassium salt.
A herbicide for the control of a wide range of broad-leaved weeds in winter and spring cereals, grass seed crops, amenity grassland and managed amenity turf.

Optica - A soluble concentrate containing 600 g/L (48% w/w) Mecoprop-P formulated as the potassium salt

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

Wear protective, gloves / eye protection/face protection.

IF IN EYES: rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

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.

Avoid release to the environment.

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.

**IMPORTANT INFORMATION****FOR USE ONLY AS AN AGRICULTURAL/HORTICULTURAL HERBICIDE**

Crops	Maximum Individual Dose	Maximum Number of Treatments	Latest Time of Application
Winter wheat, winter barley, winter oats	2.0 L/ha	1 per crop	Before 3rd node detectable
Spring wheat, spring barley, spring oats	2.0 L/ha	1 per crop	Before 1st node detectable
Amenity grassland	2.4 L/ha	2 per year	-
Grass (seed crops).	2.4 L/ha	1 per year	5 weeks before emergence of seed head
Managed Amenity Turf	2.4 L/ha	2 per year	-

Other specific restrictions

Treated grass seed crops must not be grazed or cut for fodder.

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

The total amount of mecoprop-P applied to an individual crop, or in a single year in the case of a perennial crop, must not exceed the maximum total dose of mecoprop-P approved for application to that crop by any single mecoprop-P containing product.

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.

Distributed by: Headland Agrochemicals Ltd., Rectors Lane, Pentre, Flintshire, CH5 2DH, UK.
Telephone: 01244 537370 Fax: 01244 532097 E-mail: enquiry@headlandgroup.com www.headland-ag.co.uk

PEEL BACK FOR DIRECTIONS FOR USE LEAFLET

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.

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

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 the HGCA, CPA, your distributor, crop advisor or product manufacturer.

RESTRICTIONS

- Spring cereals and grass seed crops may only be treated once per crop.
- Do not apply Optica to any crop suffering from herbicide damage or physical stress.
- Do not apply Optica during cold weather, periods of drought, if rain or frost are expected, nor if the crop is wet.
- 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.
- The crop should not be rolled or harrowed within a period of seven days before or after spraying with Optica.
- Avoid drift onto all broad-leaved plants outside the target area.
- WASH EQUIPMENT thoroughly immediately after use. Rinse with water three times, drain and allow to dry. Traces of herbicide left in the sprayer may damage susceptible crops if these are subsequently sprayed using the same equipment.

WEEDS CONTROLLED

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.

Identify the weeds present and select the appropriate rate as listed below. Optimum conditions prevail when all the following are true:

1. Soils are warm and moist.
2. Weeds have not been frost-hardened.
3. Warm, moist conditions are expected to persist for several days after application.

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

Provided weeds are at cotyledon to 2 leaves and application conditions meet the requirements listed above, susceptible species will be controlled at the rates recommended below.

If weeds are 3 to 6 leaves or conditions are less than optimum, using a higher rate will still control susceptible species. For optimum suppression of perennial weeds and species classed as moderately susceptible, apply Optica at 2.0 litres/ha.

WEED SUSCEPTIBILITY TABLE

In amenity grassland and managed amenity turf a rate of 2.4 L/ha may be used. More than one application at the 2.0 L/ha rate may be needed for these difficult weeds. Allow 4 to 6 weeks between treatments.

ANNUAL BROAD-LEAVED WEEDS

Very susceptible - 1.5 L/ha Under favourable conditions - Up to 100 mm Across/High		
Common Chickweed	Fat Hen	Field Penny Cross
Susceptible - 2.0 L/ha Up to 100 mm Across/High		
Black Mustard	Common Chickweed ¹	Small Nettle
Charlock	Greater Plantain ²	Treacle Mustard
Cleavers	Ribwort Plantain ²	White Mustard
Common Vetch	Shepherd's Purse	Wild Radish
Procumbent Pearlwort ⁴		

Moderately Susceptible - 2.0 L/ha Up to 100 mm Across/High		
Corn Buttercup	Common Mouse-Ear	White Campion
Common Orache	Dove-foot Crane's-bill	Common Poppy
Common Furnitory	Scentless Mayweed	<i>Trifolium spp</i> ³

Moderately Resistant - 2.0 L/ha Up to 2 expanded true leaves		
Black Nightshade	Groundsel	Redshank
Black Bindweed	Common Hemp-Nettle	Scarlet Fimpernel
Knotgrass	Smooth Sow-Thistle ³	Corn Spurry
Pale Persicaria	Speedwells	Field Scabious

PERENNIAL BROAD-LEAVED WEEDS

Broad-Leaved Dock ²	Creeping Buttercup ²	Curled Dock ²
Common Nettle	Creeping Thistle	Daisy ²

¹ For the control of chickweed in grassland

² Dock spp controlled at seedling stage only

³ Control of these weeds is improved by tank-mixing at maximum rate of 2.4 L of Headland Charge and up to the maximum approved dose of Headland Staff 500 or Harboxone

⁴ Only in turf. Stated weed growth stages in this situation are not applicable

CROP SPECIFIC INFORMATION

WINTER WHEAT, OATS AND BARLEY

Rate of Application:

2.0 L product/ha in the spring before GS33

Time of Application:

The 2.0 L/ha rate may only be used once the crop has reached leaf sheath erect stage. Headland Charge may be applied up to before third node detectable stage in the spring.

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:

1.5 to 2.0 L product/ha dependant on the target weed species. The 2.0 L/ha rate may only be used once the crop has reached leaf sheath erect stage.

Time of Application:

One application of Optica can be made from the first fully expanded leaf stage until before the first node is detectable (GS31).

AMENITY GRASSLAND

Rate of Application:

2.4 L product/ha

Timing 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 of Optica. 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.

When using a conventional sprayer apply in 185 - 330 litres of water per hectare. When applying through a knapsack sprayer use a minimum of 480 L water/ha.

GRASS SEED CROPS**Rate of Application**

1.5 to 2.4 L/ha

Time of Application

One application can be made once grasses have at least 3 fully expanded leaves and have begun to tiller, but at least 5 weeks before the emergence of the seed head in grass seed crops. Treat common chickweed when growing actively and not shielded by grass, usually late summer or autumn. Any clover present will be severely damaged. Apply in 185 – 330 L/water/ha.

MANAGED AMENITY TURF**Rate of application:**

When using a conventional hydraulic sprayer apply 1.5 to 2.4 litres Optica in 185 to 400 litres of water per hectare. Use the higher volume on larger weeds or where weeds or crop are dense. When applying through a knapsack sprayer use a minimum of 480 L water/ha.

Time of application:

Two applications of Optica can be made to managed amenity turf. For spring and summer sown turf, apply approximately 2 months after sowing. Turf sown or laid later in the year should not be treated until the following spring. For established turf, apply Optica during the growing season which is normally April to September.

Caution: Do not apply to newly laid turf until it is well established and actively growing. Do not apply to turf under stress, particularly in periods of drought.

MIXING AND SPRAYING

Apply as a **MEDIUM** spray as defined by BCPC.

Water Volume

The spray volume for Optica alone or in mixtures is 185-330 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 330 litres per hectare is required 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 Optica. Add the remainder of the water and continue agitation until spraying is completed.

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.

COMPATIBILITY

Please consult your Headland distributor for the latest information.

Up-to-date information on compatibilities may also be found at www.headland-ag.co.uk.

Optica is incompatible with manganese sulphate, fenoxaprop-p-ethyl and diclofop-methyl + fenoxaprop-p-ethyl.

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) AND SUITABLE PROTECTIVE GLOVES 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 eye or higher standard of protection.

WASH CONCENTRATE from skin or eyes immediately.

WASH HANDS AND EXPOSED SKIN before meals and after work.

WHEN USING DO NOT EAT, DRINK OR SMOKE.

IF YOU FEEL UNWELL, seek medical advice (show label where possible).

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

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

DO NOT RE-USE CONTAINER FOR ANY PURPOSE.

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.

KEEP OUT OF REACH OF CHILDREN.

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

RINSE CONTAINER THOROUGHLY BY USING AN

INTEGRATED PRESSURE RINSING DEVICE OR

MANUALLY RINSING THREE TIMES. Add washings to sprayer at time of filling and dispose of safely.

TERMS AND CONDITIONS OF SUPPLY, SALE OR USE

All goods supplied by Headland Agrochemicals Ltd. 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: Headland Optica

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

Headland Agrochemicals Ltd, Rectors Lane, Pentre, Flintshire CH5 2DH, UK.

Tel: +44(0)1244 537370 Fax: +44(0)1244 532097 E-Mail: enquiry@headlandgroup.com

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	H51/53 - 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.
 S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S39 - Wear eye/face protection.
 S35 - This material and its container must be disposed of in a safe way.
 S57 - Use appropriate container to avoid environmental contamination.

REGULATION (EC) No 1272/2008

Pictogram:



GHS05



GHS07

Signal word: Danger

- H302 - Harmful if swallowed.
 H315 - Causes skin irritation.
 H318 - Causes serious eye damage.
 P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
 P330 - 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.
 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.: 240-639-0
 REACH No.: 01-2119447100-56
 Concentration: 48.2 % (w/w)

Classification:

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.

potassium hydroxide

CAS-No.: 1310-58-3
 EINECS-No. / ELINCS No.: 215-181-3
 REACH No.: 01-2119487136-33
 Concentration: 12% - 17% (w/w)

Classification:

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 (CO₂), 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, Cl₂, 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 use(s)

none

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Components with workplace control parameters (EH40/2005 Workplace exposure limits)

Components: mecoprop-P

CAS-No.: 16484-77-8

National occupational exposure limits: -

Note: no classification available, not listed in EH40/2005

Components: potassium hydroxide

CAS-No.: 1310-58-3

National occupational exposure limits: 2 mg/m³

Note: Short-term exposure limit, (EH40/2005 Workplace exposure limits)

8.2. Exposure controls

Personal protective equipment

Respiratory protection: No special protective equipment required.

Hand protection: PVC or nitrile-rubber gloves

Eye protection: Safety glasses, or, Goggles

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

Form: Soluble concentrate

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/cm³ 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

no data available

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:	rabbit

Sensitisation:
 Result: Severe eye irritation
 Remarks: Risk of serious damage to eyes.
 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)
 LC50
 Dose: > 91 mg/l
 Testing period: 48 h
 Test substance: (mecoprop-P)
 Toxicity to daphnia: 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. Potential bioaccumulation

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: Do not re-use empty containers. Dispose empty and triple rinsed container within a local disposing system according to EC directive 94/62/EC

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: 2014/01/24

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.

Optica is approved by the Chemicals Regulation Directorate for use as a herbicide.

Registration No. MAPP 14373

Headland is a registered trade mark of Headland Agrochemicals Ltd.

Optica is a registered trade mark and product of Nufarm Ltd.