



# Devrinol®

MAPP 09374

A suspension concentrate (SC) formulation 450 g/litre of napropamide (40.9% w/w) for the control of annual grass and broad-leaved weeds in; strawberries, blackcurrants, gooseberries, raspberries, certain brassicas (broccoli, Brussels sprouts, cabbage, calabrese, cauliflower and kale), field and container-grown trees and shrubs, and winter oilseed rape.

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 A PROFESSIONAL HERBICIDE

| Crops/situations  | Maximum individual dose (litres product/ha) | Maximum number of treatments | Latest time of application                               |
|---|---|------------------------------|--|
| Oilseed rape (winter)   | 2.8   | One per crop                 | Before emergence   |
| Strawberry, blackcurrant, gooseberry, raspberry                 | 7   | One per annum                | Before end of February (see other specific restrictions) |
| Ornamental plant production, forest nursery                     | 9   | One per annum                | Before end of April (see other specific restrictions)    |
| Broccoli/calabrese, Brussels sprout, cabbage, cauliflower, kale | 2.8   | One per crop                 | Before transplanting                                     |

### Other Specific Restrictions:

- Application to strawberries, established blackcurrants, gooseberries and raspberries must be made after 1st November and before the end of February.
- Application to strawberries must only be made to plants where the mature foliage has previously been removed (topped).
- Application to plants grown for ornamental production (trees & shrubs) and forest nurseries must be made after 1st November and before the end of April.
- When applying by knapsack sprayer the minimum water volume must not be less than 1000 litres water per hectare.

**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.**



### TOXIC TO AQUATIC LIFE WITH LONG-LASTING EFFECTS.

Keep out of reach of children.

Avoid release to the environment.

Collect spillage. Hazardous to the aquatic environment.

Dispose of contents/container to a licensed hazardous waste disposal contractor or collection site except for empty clean 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.**

## 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 gloves when handling the concentrate or contaminated surfaces.**
- Wear suitable protective gloves when applying by knapsack sprayer or pedestrian.**
- However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.
- Wash any contamination from skin and eyes immediately.**
- Wash hands and exposed skin** before eating and drinking and after work.
- When using do not eat, drink or smoke.**
- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.**

### 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 away from food, drink and animal feeding stuffs.
- Do not re-use container for any purpose.
- 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 container safely.

## PROTECT FROM FROST

For Batch Number and Manufacturing Date see bottle

Net Contents

# 5 Litres



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## **DIRECTIONS FOR USE**

**IMPORTANT:** This information is authorised 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**

#### **1. All Crops**

- Weed control may be reduced where the spray is mixed too deeply into the soil.
- Do not treat crops adversely affected by poor soil, adverse weather or cultural conditions. **AVOID SPRAY OVERLAP, PARTICULARLY ON HEADLANDS.**
- Incorporation under wet conditions is not satisfactory.
- Surface manure, straw, moss or other organic detritus may reduce weed control. Soil cultivations after spraying should be avoided.
- DEVRINOL can be used on a wide range of soils but should not be applied to Sands (as defined by the ADAS '85 System) or to soils with more than 10% organic matter.

#### **2. Maiden Strawberry Crops**

- Runners should be planted carefully so that no roots are left exposed.
- Soil should be firmed around the roots before application.
- Do NOT treat runners of poor vigour or with shallow roots.
- Do NOT apply DEVRINOL to runner beds.
- DEVRINOL has been used successfully on a wide-range of strawberry varieties. However, owing to the introduction of a plethora of new varieties and changes in the methods of crop husbandry, only a small area of new varieties should be treated in their first season.

#### **3. All Fruit Crops**

- DEVRINOL must not be used on protected crops.
- **PROCESSED CROPS:** Tests have proved that DEVRINOL does not taint strawberries, blackcurrants, or gooseberries; nevertheless, growers should consult the processor before use.
- **RASPBERRY, BLACKCURRANT and GOOSEBERRY** crops should be established for at least 10 months before treatment.
- Soft fruit grown in Very Light Soils (as defined by the ADAS '85 System) should not be treated.

#### **4. Ornamental Plant Production**

- Nursery stock should be planted carefully so that no roots are left exposed.
- Soil or compost should be firmed around the roots before application.
- Do NOT treat nursery stock of poor vigour or with shallow roots.
- Do NOT treat liners or containers less than 1 litre in size.
- DEVRINOL has been used on a wide range of newly-planted and established trees and shrubs, both field and container grown and, with the exception of yellow and golden varieties of conifers and container grown alpine species, no phytotoxicity has occurred. However owing to the large number of varieties in cultivation, and to the different husbandry methods employed, treat only a small number of plants of any one variety in their first season.
- Trees and shrubs grown in containers with peat or peat/soil composts may be treated. Ensure compost has a fine tilth free of lumps before application. Weed control may be less persistent in organic composts.

## Treatment of Crops

### 1. Fruit Crops

| Crop  | Rate of Use   | Timing  |
|---|---|---|
| Established* strawberry crops                   | Apply DEVRINOL at 7 litres/ha as a MEDIUM or COARSE spray in 200-400 litres water/ha.                       | Apply during November to the end of February after existing weeds have been removed.  |
| Maiden strawberry crops                         | On light soils, apply DEVRINOL at 5 litres/ha.<br>On medium and heavy soils, apply DEVRINOL at 7 litres/ha. | Apply during November to the end of February after planting but before weeds emerge. Any existing weeds should be removed before application. |
| Blackcurrants†<br>Gooseberries†<br>Raspberries† | Apply DEVRINOL at 7 litres/ha water/ha.   | Apply during November to the end of February after existing weeds have been removed.  |

\* Established crops are those that have made at least one season's growth.

† Crops should be established for at least ten months before treatment.

### 2. Forest Tree Nurseries & Ornamental Plant Production (Trees & Shrubs) – including transplant and 2nd year undercuts.

- Apply DEVRINOL at 9 litres/ha.
- DEVRINOL should be applied evenly as a MEDIUM or COARSE spray, (as defined by BCPC) in 200-1000 litres of water per hectare by conventional sprayer.
- In containerised stock the plant leaf canopy can shadow the compost surface. To ensure adequate dampening of the compost, the spray volume may be increased to a maximum of 2000 litres/ha, depending on the amount of foliage present.
- Apply during November to the end of February. DEVRINOL may also be applied during March and April provided 25mm of irrigation is applied within 24 hours of spraying.
- Newly planted or containerised stock should be treated after planting but before weeds emerge. All existing weeds should be removed before application.
- Apply overhead irrigation for a short while after application if available.

### Weeds Controlled

#### By Devrinol alone (5-9 litres/ha)

| Susceptible (S)        | Moderately Susceptible (MS)   | Tolerant (T)                     |
|------------------------|-------------------------------|----------------------------------|
| Annual meadow-grass    | Cleavers                      | Black nightshade                 |
| Black-grass            | Clover <sup>(1)</sup>         | Charlock                         |
| Common chickweed       | Field pansy                   | Corn marigold                    |
| Common field-speedwell | Liverworts <sup>(1)</sup>     | Field pennycress                 |
| Common poppy           | Pale persicaria               | Hairy bittercress <sup>(4)</sup> |
| Corn spurrey           | Redshank                      | Parsley-piert                    |
| Fat-hen                | Sheep's sorrel <sup>(2)</sup> | Moss <sup>(4)</sup>              |
| Field forget-me-not    | Shepherd's-purse              |                                  |
| Groundsel              | Small nettle <sup>(3)</sup>   |                                  |
| Knotgrass              | Sow thistles                  |                                  |
| Mayweeds               | Volunteer cereals             |                                  |
| Willowherbs            |                               |                                  |

#### Notes:

(1) Variable control - for best results apply 9 litres/ha only.

(2) Susceptible only at 9 litres/ha.

(3) For the control of small nettle, a rate of 5 litres/ha rate is not recommended.

(4) Susceptible at 9 litres/ha.

### 3. Brassicas

- DEVRINOL may be sprayed prior to transplanting broccoli, Brussels sprouts, cabbage, calabrese, cauliflower, or kale.
- Apply DEVRINOL at 2.8 litres/ha as a MEDIUM or COARSE spray in 200-500 litres water/ha.
- To maximise efficacy, DEVRINOL should be incorporated to a depth of 50 mm prior to transplanting. Incorporation MUST OCCUR within 30 minutes of application.
- DEVRINOL is not recommended for use in plant raising beds.
- *Spring Planted Brassicas:* Spring tine harrows (triple-K type), tandem disc harrows, power driven reciprocating harrows, the Lely Roterra and rotary cultivator with L-shaped blades are all suitable for incorporation. Make one pass with a rotary cultivator, but two passes, with the second at an angle to the first, are recommended for any other type of harrow. When non-powered harrows are used, a high forward speed of at least 8kph (5mph) is required to obtain thorough incorporation.
- A slow forward speed of 5 kph (3 mph) is recommended for the Lely Roterra and for rotary cultivators in combination with a high rotor speed.
- *Summer Planted Brassicas: i.e. those usually planted during July and August, e.g. winter broccoli:* Application should be made during the later stages of seedbed preparation and using a light set of harrows to blend the spray into the top 25 mm of soil. With this implement a high forward speed of at least 8 kph (5 mph) is required and two passes are recommended to obtain thorough mixing, the second pass being at an angle to the first.

### Sequential Programme:

- DEVRINOL should be sprayed and incorporated into the soil prior to drilling or transplanting a brassica crop. Incorporation MUST OCCUR on the SAME DAY as application.
- A follow up treatment of an approved formulation of an alternative product may be applied after drilling or transplanting according to the manufacturers recommended rate.

### Timing

DEVRINOL may be applied pre-drilling and incorporated in a tank mixture with approved formulations or alone as a pre-emergent spray.

### 4. Winter Oilseed Rape

- Apply DEVRINOL at 2.8 litres/ha as a MEDIUM or COARSE spray.
- DEVRINOL may be applied incorporated into the soil before drilling the crop (incorporation MUST OCCUR within 30 minutes of application) or post-drilling, pre-emergence of the crop.
- Where volunteer cereals are a problem, an additional post-emergence spray of an alternative product may be made according to the manufacturer's recommendations.
- Conventional seedbed preparation: Apply during the later stages of seedbed preparation. Use only a light set of harrows to incorporate the herbicides in the top 25 mm of soil.  
With this implement a high forward speed of at least 8 km/h (5 mph) is required and two passes are recommended, with the second at an angle to the first. Drilling may be carried out immediately or within 14 days of application. Alternatively, a drill fitted with light harrows will provide a second pass during drilling. In this case the direction of sowing should be at an angle to the first pass and should be completed within 48 hours of application.
- Minimum cultivation: May be sprayed directly onto the stubble (if burnt, allow 24 hours before spraying) and incorporated into the top 25 mm of soil as part of the surface cultivations. Tandem discs, spring tine harrows or similar non-powered harrows are suitable implements. Where surface cultivations have been completed before application, use only light tine harrows to incorporate the herbicides.

### Devinol Alone, Weeds Controlled (2.8 litres/ha)

| Susceptible (S)     | Moderately Susceptible (MS) | Resistant (R)    |
|---------------------|-----------------------------|------------------|
| Annual meadow grass | Small nettle                | Black nightshade |
| Knotgrass           | Groundsel                   | Field pansy      |
| Mayweeds            | Fat Hen                     | Fumitory         |
| Chickweed           | Black-grass*                | Redshank         |

\* Moderately Susceptible to OSR crop

### **Succeeding Crops**

- Before planting any following crop, the soil should be mould-board ploughed to a depth of 20 cm.
- Do not use DEVRINOL in the same season as replanting/drilling is planned.
- No crop, other than supported uses including brassica crops (leaf, flower), root crops, fodder crops and oilseed rape, can be drilled within 7 months following application of DEVRINOL.
- Maize may be grown providing a period of 9 months has elapsed since DEVRINOL was applied. Autumn sown wheat and grass or any other crop may be planted/drilled providing a period of 12 months has elapsed since DEVRINOL was applied.

### **Mixing**

- Half fill the tank with water and begin agitation. Add the required quantity of DEVRINOL to the sprayer using a filling device (e.g. induction bowl, probe etc) or otherwise by direct addition to the spray tank. Wash out container thoroughly, adding washings to the sprayer, preferably using an integrated pressure-rinsing device where available, otherwise manually rinse at least three times.
- For all tank mixes, follow the procedure above except add DEVRINOL to the tank first. Continue agitation during spraying.
- Wash out sprayer thoroughly after use.

### **Compatibility**

- To control weeds not fully susceptible to DEVRINOL, in established fruit crops, trees and shrubs, a tank-mixture or a sequential programme of DEVRINOL at the recommended rate with an approved formulation is recommended.
- Alternatively, in established strawberry crops, DEVRINOL may be followed by an approved formulation of phenmedipham.
- Follow the manufacturer's recommendations for the application of phenmedipham.
- Please refer to the UPL Europe Limited website for further information, ([www.upleurope.com](http://www.upleurope.com)).

### **Conditions of Supply**

All goods supplied by UPL Europe Limited 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 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.