For the control of certain broad-leaved weeds, black-grass and annual meadow-grass in sugar beet, red beet, fodder beet and mangels.

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains ethofumesate)
UN 3082, Class 9; Packing Group III
Contains 1,2-benzoisothiazolin-3(2H)-one. May produce an allergic reaction.

H411 Toxic to aquatic life with long lasting effects.
P102 Keep out of reach of children
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment
P391 Collect spillage
P501 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.
EUH210 Safety data sheet available on request.
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.
The Control of Substances Hazardous to Health (COSH) Regulations may apply to the use of this product at work.

IMPORTANT INFORMATION
FOR USE ONLY AS AN AGRICULTURAL/HORTICULTURAL HERBICIDE
See Statutory Area on attached leaflet for the following:
Crops, Maximum individual dose, Maximum total dose, Latest time of application and Other Specific Restrictions.
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.

Manufacturer: Barclay Chemicals Manufacturing Ltd., Damastown Way, Damastown Industrial Park, Mulhuddart, Dublin 15, Ireland.
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Approval Holder: Barclay Chemicals R&D Ltd
Contact details as above.
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Keeper is a registered trademark of Barclay Chemicals (R&D) Ltd

PROTECT FROM FROST
SAFETY PRECAUTIONS

Operator protection
WASH CONCENTRATE from skin or eyes immediately.
DO NOT BREATHE SPRAY.
WHEN USING DO NOT EAT, DRINK OR SMOKE.
WASH HANDS AND EXPOSED SKIN before eating and drinking and after work.
IF SWALLOWED, seek medical advice immediately and show this container or label

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).
Use appropriate containment to avoid environmental contamination

Storage and disposal
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.
WASH OUT CONTAINER THOROUGHLY, empty washings into spray tank, and dispose of safely.

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.

IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL/HORTICULTURAL HERBICIDE

<table>
<thead>
<tr>
<th>Crops</th>
<th>Maximum individual dose</th>
<th>Maximum total dose</th>
<th>Latest time of application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar beet, red beet,</td>
<td>2 litres product/ha</td>
<td>2 litres product/ha per</td>
<td>Before the beet leaves meet between the rows</td>
</tr>
<tr>
<td>fodder beet, mangel</td>
<td></td>
<td>crop</td>
<td></td>
</tr>
</tbody>
</table>

Other specific restrictions
To protect groundwater/soil organisms, the total dose applied to any area of land must not exceed 1 kg ethofumesate per ha in any 3 year period.

The product must not be applied later than 84 days before harvest.

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.

CAUTION: adverse weather or soil or cultural conditions may lead to unsatisfactory results and/or a check to crop growth from which recovery may not be complete.

Barclay Keeper 500 is recommended for pre-emergence or post-emergence weed control in sugar beet, red beet, fodder beet and mangels in mixture with a suitable partner product. It is not recommended for use alone in these crops.
PRE-EMERGENCE TREATMENTS
Recommended only for Very Light and Light Soils (Soil Texture 85 system)
Note: the pre-emergence mixtures given below may be used on Medium Soils but owing to the statutory restriction on the total dose that may be applied, the overall level of weed control and persistence of effect may be less than that indicated under WEED CONTROL.

Apply pre-emergence of the crop at or after drilling, but before weed emergence in tank-mix with an approved formulation of lenacil or chloridazon, (see COMPATIBILITY). The mixture with chloridazon cannot be used on red beet. Barclay Keeper 500 may not be employed post-emergence following one of the recommended pre-emergence applications.

Rate of application
In tank-mixture with lenacil for sugar beet, red beet, fodder beet and mangels.

Dose
Very Light and Light Soils
Barclay Keeper 500 at 2 l/ha plus lenacil 440 g/l MAPP 06907 at 0.9 l/ha.
Medium Soils (See note on efficacy)
Barclay Keeper 500 at 2 l/ha plus lenacil 440 g/l MAPP 06907 at 1.25 l/ha.

In tank-mixture with chloridazon for sugar beet, fodder beet and mangels (red beet excluded).

Dose
Very Light and Light Soils
Barclay Keeper 500 at 2 l/ha plus chloridazon 430 g/l MAPP 11627 at 2.5 l/ha
Medium Soils (See note on efficacy)
Barclay Keeper 500 at 2 l/ha plus chloridazon 430 g/l MAPP 11627 at 3.3 l/ha.

POST-EMERGENCE TREATMENT
Post-emergence applications of Barclay Keeper 500 may be employed provided that the product has not already been applied pre-emergence. Barclay Keeper 500 gives improved control of certain weeds in mixture with an approved formulation of phenmedipham.

This mixture is recommended for use after crop emergence as an overall spray application for the control of annual broad-leaved weeds and grasses in all varieties of sugar beet, fodder beet and mangels. Prior weed control, whether by herbicides or cultivations, must have been effective for optimum results. Barclay Keeper 500 in tank-mix with phenmedipham may follow approved pre-emergence treatments of chloridazon, lenacil or metamitron.

Apply either as a single dose conventional treatment or as two low-dose treatments 5-10 days apart. The second application, when using the low-dose technique, should be made whilst the first application is still producing an effect upon the weeds. Under ideal conditions for growth this interval will be 5 days.

Time of application
Spray from when the smallest beets have at least 2 full true leaves and the 3rd and 4th true leaves are apparent.

Rate of application
Conventional application
One application of Barclay Keeper 500 at 2 l/ha plus 7 l/ha of phenmedipham 114 g/l (MAPP 14328) in 240 l/ha water.

Low-dose application
Two applications of Barclay Keeper 500 at 1 l/ha plus 3.5 l/ha of phenmedipham 114 g/l (MAPP 14328) in 80-120 l/ha water.

If further weed germination occurs after application of either of these treatments, an alternative approved treatment must be used.
APPLICATION (BCPC definitions)
Avoid spray drift.

Pre-emergence application
Apply as an overall MEDIUM or COARSE spray in 200-400 l/ha water OR as a band in 240 litre of water per ha of band.

Post-emergence application
Conventional application: apply in 240 l/ha water as a MEDIUM spray.
Low-dose application: apply in 80-120 l/ha water as a FINE spray at 2.5-5.5 bar (35-80 psi) using nozzles appropriate to these volumes and pressures.

CROP AND WEATHER CONDITIONS
Barclay Keeper 500 and mixtures should only be applied to vigorous crops which are not subject to stress (see Stress Factors). If when using mixtures with phenmedipham, the air temperature is, or likely to be, over 21°C (70°F) on the day of spraying, delay application until cooler conditions prevail, e.g. after 5pm.
Wide variations between daytime and night-time temperatures at or around the time of application may subject young beet plants to extra stresses causing a check to growth from which recovery may not be complete. Crops sprayed with Barclay Keeper 500 in tank-mix with phenmedipham and suffering frost within 7 days of application may be similarly checked. Do not apply post-emergence to wet foliage or if rain is likely within 4 hours or if frost is forecast.

STRESS FACTORS
When a crop is suffering from any stress factor, such as that induced by herbicides, trace element deficiency, soil acidity, wind or frost, high light intensity, high temperatures and drought, pest or disease attack, application may result in crop check leading to loss of yield. More than one of these factors may be acting upon the beet plants at any one time, any of which acting individually may appear to be of little consequence. However their combined effect may be important and an application may cause a check to growth from which recovery may not be complete and yield loss might ensue.

SOILS AND SOIL CONDITIONS
Pre-emergence applications recommended only for Very Light and Light soils
Best results are achieved on firm moist soils. Light rain or irrigation after application is essential for best results. Application to soils with organic matter content greater than 5% is not recommended. Treatment of crops on soils with a high proportion of stones is not recommended. Do not use on Sands.
Post-emergence applications
Recommended crops on all soil types may be treated. Residual activity of the Barclay Keeper 500 component may be reduced on soils over 5% organic matter. A firm, fine seedbed is essential. As with all soil acting residual herbicides, adequate soil moisture is necessary for optimum residual activity.

COMPATIBILITY
Barclay Keeper 500 is compatible in tank-mix with the Barclay range of trace elements and the under-mentioned approved formulations. No other treatment should be applied for 5 days before or after an application of Barclay Keeper 500, except when a tank-mix is to be applied after post-emergence phenmedipham alone. Do not mix Barclay Keeper 500 with insecticides. When tank-mixing Barclay Keeper 500 with a partner, the recommendations and conditions of the partner product must be strictly observed, together with the recommendations and conditions of this label.

- Phenmedipham: MAPP 14328 (Beetup Flo)
- Metamitron: MAPP 11539 (Goltix WG)
- Triflusulfuron-methyl: MAPP 07804 (Debut)

SAFETY TO CROPS
No effect on the crop should be observed if the Directions for Use are followed. Occasional plants may be found with leaf malformations after treatment with Barclay Keeper 500, but these will not result in yield loss. As with other herbicide treatments, greater susceptibility to frost or pest damage may be apparent.
RED BEET FOR PROCESSING
Consult the processor before treating crops of red beet destined for processing.

MIXING AND USE
Half-fill the spray tank with clean water and start the re-circulation system. Add the required quantity of Barclay Keeper 500 to the tank. When fully dispersed, add the required quantity of the partner product according to its label instructions. Fill the spray tank with water to the required level. Maintain re-circulation until the tank is sprayed out.

When tank-mixing with the approved formulation of phenmedipham use water of minimum temperature 5°C (41°F) and spray out within 2 hours. Crystallisation might occur if these conditions are not met. If re-circulation is stopped for any reason, thoroughly agitate with a clean rod and re-circulate for at least 5 minutes before continuing to spray.

SUCCEEDING CROPS
Any crop may be drilled or planted 3 months after application of Barclay Keeper 500 provided that the land is first mould-board ploughed at least 15 cm (6 inches) deep. Following the failure of a beet crop for any reason, only sugar beet, fodder beet, mangels or red beet may be sown within 3 months of treatment. Due allowance must also be made for other products used in the herbicide programme.

CARE OF SPRAYER
After each use, wash out thoroughly with water and wetting agent. Remove spray jets and drain all parts of the system and allow access of air.

SOIL CATEGORIES (Soil Texture 85 system)

<table>
<thead>
<tr>
<th>Sands</th>
<th>Very light &amp; light soils</th>
<th>Medium soils</th>
<th>Heavy soils</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse sand</td>
<td>Loamy sand</td>
<td>Sandy clay loam</td>
<td>Sandy clay</td>
</tr>
<tr>
<td>Sand</td>
<td>Loamy fine sand</td>
<td>Clay loam</td>
<td>Clay</td>
</tr>
<tr>
<td>Fine sand</td>
<td>Coarse sandy loam</td>
<td>Silty clay loam</td>
<td>Silty clay</td>
</tr>
<tr>
<td>Loamy coarse sand</td>
<td>Fine sandy loam</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sandy silt loam</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Silt loam (85)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## WEED CONTROL

Weed control under the recommended soil and weather conditions is indicated below. The weeds indicated as being controlled by pre-emergence mixtures with lenacil or chloridazon relate to the mixtures being used on the Very Light and Light Soil categories.

<table>
<thead>
<tr>
<th>Weed Name</th>
<th>Pre-emergence mixtures with lenacil or chloridazon</th>
<th>Post-emergence mixture with phenmedipham</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black-bindweed</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Black-grass</td>
<td>S</td>
<td>4 checked to 3 leaves</td>
</tr>
<tr>
<td>Charlock</td>
<td>S</td>
<td>6</td>
</tr>
<tr>
<td>Chickweed, common</td>
<td>S</td>
<td>20 cm (8&quot;) **</td>
</tr>
<tr>
<td>Cleavers</td>
<td>S</td>
<td>5 cm (2&quot;) **</td>
</tr>
<tr>
<td>Dead-nettle, red</td>
<td>MS</td>
<td>2</td>
</tr>
<tr>
<td>Fat-hen</td>
<td>S</td>
<td>6</td>
</tr>
<tr>
<td>Field-speedwell, common</td>
<td>MS</td>
<td>6</td>
</tr>
<tr>
<td>Fumitory, common</td>
<td>S</td>
<td>4</td>
</tr>
<tr>
<td>Groundsel</td>
<td>MS</td>
<td>4</td>
</tr>
<tr>
<td>Hemp-nettle, common</td>
<td>MS</td>
<td>6</td>
</tr>
<tr>
<td>Knotgrass</td>
<td>S</td>
<td>2</td>
</tr>
<tr>
<td>Marigold, corn</td>
<td>-</td>
<td>2 checked to 1 leaf</td>
</tr>
<tr>
<td>Mayweed, scentless</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Meadow-grass, annual</td>
<td>S</td>
<td>checked to 2.5 cm (1&quot;) **</td>
</tr>
<tr>
<td>Nettle, small</td>
<td>MS</td>
<td>2</td>
</tr>
<tr>
<td>Nightshade, black</td>
<td>MS</td>
<td>4</td>
</tr>
<tr>
<td>Orache, common</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Pansy, field</td>
<td>MS</td>
<td>4</td>
</tr>
<tr>
<td>Penny-cress, field</td>
<td>MS</td>
<td>4</td>
</tr>
<tr>
<td>Persicaria, pale</td>
<td>S</td>
<td>2</td>
</tr>
<tr>
<td>Pimpernel, scarlet</td>
<td>S</td>
<td>4</td>
</tr>
<tr>
<td>Poppy, common</td>
<td>MS</td>
<td>10 cm (4&quot;) **</td>
</tr>
<tr>
<td>Radish, wild</td>
<td>S</td>
<td>6</td>
</tr>
<tr>
<td>Redshank</td>
<td>S</td>
<td>2</td>
</tr>
<tr>
<td>Shepherd’s-purse</td>
<td>S</td>
<td>10 cm (4&quot;) **</td>
</tr>
<tr>
<td>Sow-thistle, smooth</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Speedwell, ivy-leaved</td>
<td>MS</td>
<td>4</td>
</tr>
<tr>
<td>Spurrey, corn</td>
<td>S</td>
<td>5 cm (2&quot;) **</td>
</tr>
<tr>
<td>Wild-oat</td>
<td>MS</td>
<td>checked to 3 leaves</td>
</tr>
</tbody>
</table>

S = susceptible  
MS = moderately susceptible

Strains of some annual grasses, e.g. black-grass, wild-oat 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 advisor or product manufacturer.