Use: A residual herbicide for broadleaved weed control and some grass weed control in a range of crops.

Formulation: A suspension concentrate containing 500 g/litre (43.1% w/w) metazachlor.

Pack Size: 5 litres in outers of four.

LERAP: Not required.

Recommended Crops: See Section No:
- Winter oilseed rape: 3.1
- Spring oilseed rape: 3.3
- Swedes: 3.2
- Turnips: 3.2
- Transplanted brassicas: 3.4
- Direct drilled brassicas: 3.5
- Ornamental trees, ornamental shrubs, farm woodland and commercial forestry: 3.6

Crop: Maximum Individual Dose: Maximum Total Dose per Crop:

<table>
<thead>
<tr>
<th>Crop</th>
<th>(product/hectare)</th>
<th>(product/hectare)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter oilseed rape</td>
<td>1.5 litres</td>
<td>2.0 litres</td>
</tr>
<tr>
<td>Spring oilseed rape</td>
<td>1.5 litres</td>
<td>1.5 litres</td>
</tr>
<tr>
<td>Cabbage, Brussels sprouts, cauliflower, broccoli, calabrese</td>
<td>1.5 litres</td>
<td>1.5 litres</td>
</tr>
<tr>
<td>Swede, turnip</td>
<td>1.5 litres</td>
<td>1.5 litres</td>
</tr>
<tr>
<td>Ornamental trees, ornamental shrubs and forest</td>
<td>1.5 litres</td>
<td>2.0 litres</td>
</tr>
</tbody>
</table>

Latest Time of Application:
- Winter oilseed rape: End of January in year of harvest.
- Spring oilseed rape: Before 10th true leaf stage.
- Cabbage, Brussels sprouts, cauliflower, broccoli and calabrese: 6 weeks before harvest.
- Swede, turnip: Pre-emergence.
- Ornamental trees, ornamental Shrubs, nursery fruit trees and forest: No restriction.

Major changes since last printing: A maximum total dose of 1000 g metazachlor/hectare may only be applied every third year on the same field. The Dacthal W75 tank mix in transplanted brassicas has been removed due to revocation of Dacthal W75 with a last use date of 23.03.11.

This product label is compliant with the CPA Voluntary Initiative Guidance.
**Processed Crops:** Consult processors before use.

**Water Volume:** 100-450 litres/hectare, depending upon use.

**Spray Quality:** MEDIUM

**Aerial Application:** No

**Compatibility:** For details of compatibilities contact your distributor, local BASF representative, the BASF Technical Services Hotline: 0845 602 2553 or visit our website on: [www.agriCentre.basf.co.uk](http://www.agriCentre.basf.co.uk)

### 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.

Butisan S is a residual herbicide which can be used in all varieties of winter and spring sown oilseed rape, swedes, turnips, cabbages, Brussels sprouts, cauliflowers, broccoli and calabrese. It may also be used in some ornamentals, hardy nursery stock, nursery fruit trees, farm woodland and commercial forestry.

Butisan S is suitable for use on all soil types as defined in the Soil Texture (85) System, except sands and very light soils and soils containing more than 10% organic matter.

**1. RESTRICTIONS/WARNINGS**

Herbicidal activity is dependent upon root uptake.

Useful weed control can be obtained on soils with an organic matter higher than 10% but it may decrease as the percentage of organic matter increases appreciably.

With drilled crops, when applying Butisan S pre-emergence, it is important for crop safety to ensure physical separation of the herbicide from the seed. This is achieved by ensuring that the seed is well covered with soil, to a depth of 15 mm. With direct drilled crops, harrow across slits to cover the seed before spraying Butisan S. Ensure that transplants are correctly planted with the roots well covered. Loose and puffy seedbeds must be consolidated before treatment.

A reduction in crop vigour, weed control and possibly plant stand may occur with excessive rainfall shortly after application. If heavy irrigation is planned after transplanting, apply Butisan S after irrigating. Where a crop check has occurred this usually grows out after a few weeks and yields are normally unaffected.

**DO NOT** apply Butisan S to soils with a compaction layer or to poorly drained soils, since damage can occur under waterlogged conditions.

If Butisan S is applied onto a dry soil surface it will only be effective after rainfall has occurred. **Light** (10 mm at any one time) irrigation will help to ensure herbicidal activity. Weed control is dependent on adequate moisture.

On brashy and stony soils, Butisan S may cause some reduction in crop vigour and/or plant stand, due to the chemical moving down to the rooting zone too rapidly.

**DO NOT USE** pre-emergence applications on broadcast crops.

**DO NOT** overlap spray swaths, particularly on the headlands.

**DO NOT** treat crops which are suffering from wilting, pests or diseases or badly planted transplants.

**DO NOT** use later than the end of January in winter oilseed rape.
When used alone Butisan S has very little dewaxing activity. However, under frosty conditions a transient scorch may sometimes occur. **DO NOT** use Butisan S in tank mixtures under frosty conditions.

In ornamental trees, ornamental shrubs, nursery fruit trees, farm woodland and commercial forestry not all species or cultivars have been tested and so only a small number of plants should be treated initially to gain experience with the treatment. Selectivity is greatest when applied under cool, overcast conditions. Applications should **not** be made to soft, vigorously growing foliage, particularly during or after a period of warm days and cold nights.

Avoid spray drift on to neighbouring crops. **DO NOT** use filters finer than 50 mesh.

WASH EQUIPMENT thoroughly immediately after use. Traces of the product may cause damage to susceptible crops sprayed later.

CONSULT PROCESSORS BEFORE USE.
2. WEED CONTROL

2.1 Susceptibility of weeds to Butisan S

<table>
<thead>
<tr>
<th>Weed Name</th>
<th>Susceptibility to 1.5 l/ha Butisan S applied pre-emergence of the weed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chickweed, Common</td>
<td>S</td>
</tr>
<tr>
<td>Cleavers</td>
<td>MR</td>
</tr>
<tr>
<td>Crane’s-bill, Cut-leaved</td>
<td>MR</td>
</tr>
<tr>
<td>Dead-nettle, Red</td>
<td>S</td>
</tr>
<tr>
<td>Forget-me-not, Field</td>
<td>S</td>
</tr>
<tr>
<td>Fumitory, Common</td>
<td>R</td>
</tr>
<tr>
<td>Groundsel</td>
<td>S</td>
</tr>
<tr>
<td>Knotgrass</td>
<td>R</td>
</tr>
<tr>
<td>Mayweeds</td>
<td>S</td>
</tr>
<tr>
<td>Meadow-grass, Annual</td>
<td>S</td>
</tr>
<tr>
<td>Pansy, Field</td>
<td>R</td>
</tr>
<tr>
<td>Parsley Piert</td>
<td>S</td>
</tr>
<tr>
<td>Penny-cress, Field</td>
<td>R</td>
</tr>
<tr>
<td>Poppy, Common</td>
<td>MS</td>
</tr>
<tr>
<td>Shepherd’s-purse</td>
<td>S</td>
</tr>
<tr>
<td>Speedwells</td>
<td>S</td>
</tr>
</tbody>
</table>

S = Susceptible
MS = Moderately Susceptible
MR = Moderately Resistant
R = Resistant

2.2 Resistance

Strains of some annual grasses (e.g. black-grass, wild-oats, 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 adviser or product manufacturer.

3. CROPS

3.1. Winter oilseed rape

3.1.1 Time of Application

Butisan S may be applied pre- or post-emergence of the crop, depending on soil type, the seedbed conditions and weed spectrum, see Section 2.1. **DO NOT** use later than the end of January.

Pre-emergence use:

On medium and heavy soils where *seedbeds are moist, firm and free from clods*, Butisan S should be applied from drilling up until the crop seed chits. In warm soils, this may occur within 48 hours of drilling. **DO NOT USE** on broadcast crops.
Early post-emergence use:
Butisan S can be used on light, medium or heavy soils post-emergence, once the majority of the crop has reached the fully expanded cotyledon stage. See Section 2.1 for weed susceptibility and note moisture requirement.
Post-emergence application of Butisan S is recommended if:
- seedbed conditions are not ideal for the pre-emergence use
- the seed is not covered with 15 mm of soil (as with broadcast crops)
- Butisan S could not be applied before the seed crop chits
- light soils, or all recommended soils which are stony, brashy or gravelly are to be treated, particularly if heavy rainfall has been forecast for the period following drilling
- late drilled crops are to be treated

3.1.2 Rate of application
Apply 1.5 litres Butisan S per hectare, pre- or post-emergence of the crop.

3.1.3 Water volume
When applying Butisan S pre-emergence in tank mixture or whenever applying Butisan S post-emergence, use a minimum water volume of 220 litres per hectare.
Butisan S can be applied in water volumes of 100 litres per hectare when used pre-emergence, but should not be used on poor seed beds nor in tank mixture with other products at this water volume. When using this reduced water volume nozzles designed to produce a coarser spray may be used.

3.1.4 BUTISAN S recommendation summary for winter oilseed rape

<table>
<thead>
<tr>
<th></th>
<th>Pre-emergence</th>
<th>Post-emergence</th>
</tr>
</thead>
<tbody>
<tr>
<td>BROADCAST CROPS</td>
<td><strong>Do not use</strong></td>
<td><strong>Use permitted</strong></td>
</tr>
<tr>
<td>CROP GROWTH STAGE</td>
<td>After drilling and prior to chitting of crops drilled early or at normal time</td>
<td>After cotyledons fully expanded (1st true leaf should be partly emerged)</td>
</tr>
<tr>
<td>WEED GROWTH STAGE</td>
<td>Pre-emergence</td>
<td>Before weeds emerge (see Section 2.1)</td>
</tr>
<tr>
<td>SOIL TYPE</td>
<td>Medium to heavy</td>
<td>Light to heavy</td>
</tr>
<tr>
<td>SEEDBED CONDITION</td>
<td>Fine, firm, moist. Not dry or cloddy.</td>
<td>Not critical provided reasonable</td>
</tr>
<tr>
<td>DRILLING DEPTH</td>
<td>15 mm</td>
<td>Not critical provided crop is well rooted and not stressed</td>
</tr>
<tr>
<td>WATER VOLUME</td>
<td>Use a min. of 100 l/ha. For tank mixes use at least 220 L/ha.</td>
<td>Use a minimum of 220 l/ha.</td>
</tr>
<tr>
<td>IMPORTANT NOTES</td>
<td><strong>DO NOT USE</strong> on broadcast or late drilled crops, or stony soils</td>
<td>Adequate moisture is necessary for weed control</td>
</tr>
</tbody>
</table>
Special Notes:
1. Approved herbicides may follow a pre- or early post-emergence application of Butisan S, provided that the crop is undamaged and showing no adverse symptoms.

3.2 Swedes and turnips
Apply 1.5 litres Butisan S per hectare, pre-emergence of the crop. Weed susceptibilities are listed in Section 2.1.

3.2.1 Time of Application:
Butisan S should be applied to seedbeds that are firm, moist and free from clods before the crop seed chits. This may occur within 48 hours of drilling in warm soils. DO NOT treat if a period of heavy rain is forecast as heavy rain before emergence may reduce crop stand. The latest time of application of Butisan S is pre-emergence in swedes and turnips.

3.2.2 Water volume:
Butisan S should be applied in 220-450 litres of water per hectare. Use the higher water volume where seedbeds are not ideal (e.g. slightly cloddy).

3.3 Spring oilseed rape
An application of 1.5 l/ha Butisan S is recommended in this crop. Weed susceptibilities are listed in Section 2.1.

3.3.1 Time of Application
Butisan S should be applied to seedbeds that are firm, moist and free from clods before the crop seed chits. This may occur within 48 hours of drilling in warm soils. DO NOT treat if a period of heavy rain is forecast as heavy rain before emergence may reduce crop stand. As an alternative, for spring oilseed rape apply once the crop has two fully expanded cotyledons but before weeds emerge. Broadcast crops must ONLY be treated post-emergence and this is the preferred timing for all crops grown on light, brashy, stony or gravelly soils. DO NOT apply after the crop has 10 true leaves.

3.3.2 Water volume
Butisan S should be applied in 220-450 litres of water per hectare. Use the higher water volume where seedbeds are not ideal (e.g. slightly cloddy).

3.4 Transplanted brassicae
An application of 1.5 litres per hectare Butisan S is recommended in these crops. Weed susceptibilities are listed in Section 2.1.

3.4.1 Time of Application
The latest time of application of Butisan S is 6 weeks before harvest in transplanted brassicae.

When treating transplants, ensure that the roots are well covered with soil and that the plants are adequately hardened off and established prior to treatment. If necessary, use irrigation to help establish the plants and raise soil moisture before treatment with Butisan S. Avoid spraying transplants when very warm days and cool nights are expected.

Modular or block-raised transplants can be particularly sensitive to herbicide damage because they are often both soft and immature. It is essential that the directions concerning transplants are followed in full and it is advisable to only treat a small area in the first instance.
3.4.2 Water volume
Butisan S should be applied in 220-450 litres of water per hectare. Use the higher water volume where seedbeds are not ideal (e.g. slightly cloddy).

3.5 Direct drilled brassicae
To prolong weed control in direct drilled cabbages, Brussels sprouts, cauliflower, broccoli or calabrese, one application of Butisan S can be made post-emergence of the crop (see weed susceptibilities are listed in Section 2.1) following the use of an alternative pre-emergence treatment.

3.5.1 Time of Application
Apply Butisan S after the crops have 3-4 true leaves but before weed emergence. Do not treat crops within 6 weeks of harvesting.

3.5.2 Rate of Application
Apply 1.5 litres Butisan S in 220-450 litres of water per hectare.

3.6 Ornamental trees, ornamental shrubs, nursery fruit trees, farm woodlands and commercial forestry

3.6.1 Time of Application
Apply as a surface spray to beds which are moist, firm and free from clods once existing weeds have been removed and before new weeds have emerged (see Table 2.1). New plantings can be treated after lining out or transplanting once the plants are established and sufficiently hardened off to withstand treatment. This may require irrigation before application which will also ensure adequate soil moisture.

When used in sequence with other herbicides, apply when the previous treatment begins to fail. This is indicated by the first signs of weed germination. This criterion can also be used to time subsequent applications of Butisan S.

3.6.2 Rate of Application
Apply 1.5 litres Butisan S in 220-450 litres of water per hectare. Use the higher volume when seedbeds are less than ideal to ensure adequate coverage.

When using a knapsack sprayer for directed applications around the base of stems, mix as directed in Section 5, but ensure adequate dispersal of the product in the tank.
3.6.3 **Crop Tolerance**

Species and cultivars in the following genera have been treated with a spray directed at the stem base without significant crop damage:

**Trees:**
- Acer<br>- Aesculus<br>- Ailanthus<br>- Alnus<br>- Amelanchia<br>- Betula<br>- Carpinus<br>- Castanea<br>- Catalpa<br>- Chamaecyparis<br>- Corylus††<br>- Crataegus<br>- Davidia<br>- Fagus<br>- Fraxinus†<br>- Gleditsia<br>- Juniperus<br>- Larix<br>- Malus<br>- Nothofagus<br>- Ostrya<br>- Picea<br>- Pinus†<br>- Platanus<br>- Populus<br>- Prunus<br>- Pseudotsuga<br>- Pyrus<br>- Quercus<br>- Robinia†<br>- Salix<br>- Sophora†<br>- Sorbus<br>- Thuja<br>- Tilia

**Shrubs:**
- Berberis<br>- Cotoneaster<br>- Cornus<br>- Escallonia<br>- Euonymus<br>- Forsythia<br>- Hippophae<br>- Hypericum<br>- Illex<br>- Ligustrum<br>- Mahonia<br>- Philadelphus<br>- Potentilla<br>- Rhamnus<br>- Ribes<br>- Rosa<br>- Rubus<br>- Sambucus<br>- Spirea<br>- Stephanandra<br>- Symphoricarpus<br>- Tamarix<br>- Viburnum†<br>- Weigela

Some of the above may be treated with an overall spray. Not all species or cultivars have been tested and so only a small number of plants should be treated initially to gain experience with the treatment. Selectivity is greatest when applied under cool, overcast conditions. Applications should not be made to soft, vigorously growing foliage, particularly during or after a period of warm days and cold nights. Further information on species and cultivars suitable for treatment is available on request.

**Note:** † These species may show transient leaf curl, leaf necrosis and mottling (needle shortening on *Pinus*) from overall sprays.

†† These species have been tested with a directed spray at the stem base only.
3.6.4 **Important Notes**

**DO NOT** treat crops growing under glass or polythene, in containers or any plants suffering from adverse conditions, either environmental or from previous treatments. (See also Restrictions/Warnings.)

When Butisan S is used on nursery fruit trees, any fruit harvested within one year of application must be destroyed.

**Do not** treat crops under hot, sunny conditions.

3.6.5 **Irrigation**

If Butisan S is applied onto a dry soil surface it will only be effective after rainfall has occurred. **Light** (10 mm at any one time) irrigation will help to ensure herbicidal activity.

4. **FOLLOWING CROPS**

Any crop can follow normally harvested winter oilseed rape treated with Butisan S and ploughing is not essential before sowing the following cereal crop.

In the event of a crop failing in the autumn or winter, then several crops can be drilled after the use of Butisan S alone as follows:

4.1 **Redrilling the same autumn**

Winter Wheat (excluding Durum) or Winter Barley: After ploughing to a depth of at least 150 mm.

4.2 **Redrilling the following spring**

<table>
<thead>
<tr>
<th>After ploughing, the following crops can be sown:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEREALS - (excluding Durum wheat)</td>
</tr>
<tr>
<td>TRANSPLANTED OR DIRECT DRILLED BRASSICAPE</td>
</tr>
<tr>
<td>FIELD BEANS</td>
</tr>
<tr>
<td>PEAS</td>
</tr>
<tr>
<td>POTATOES and MAIZE</td>
</tr>
<tr>
<td>LINSEED</td>
</tr>
</tbody>
</table>

Following spring applications to swedes, turnips or brassicae, crops particularly sensitive to Butisan S, e.g. carrots, parsnips and lettuce, should not be planted within 5 months of treatment. Plough to a depth of at least 150 mm before sowing or planting any succeeding crop.

Where crops follow use in ornamental trees, ornamental shrubs and nursery fruit trees, follow the instructions given above for Butisan S alone.

5. **MIXING AND SPRAYING**

SHAKE WELL BEFORE USE. Half fill the spray tank with clean water and start the agitation. Pour in the required amount of Butisan S. Add the remainder of the water and continue agitation until spraying is completed.

Rinse empty containers thoroughly, and add rinsings to the sprayer tank.

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.

Apply as a MEDIUM spray, as defined by BCPC.

6. **COMPATIBILITY**

For details of compatibilities contact your distributor, local BASF representative, the BASF Technical Services Hotline: 0845 602 2553 or visit the BASF website: www.agriCentre.basf.co.uk.
7. CONTAINER AND STORAGE
Butisan S is supplied in 5 litre polyethylene containers and should be kept dry and frostproof in a suitable pesticide store.

8. 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 AND FACE PROTECTION (FACESHIELD) when handling the concentrate.
WEAR SUITABLE PROTECTIVE GLOVES when handling the spray boom or adjusting nozzles.
WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND RUBBER BOOTS when applying the spray through a knapsack sprayer.
However, engineering controls may replace personal protective equipment if a COSHH assessment shows that they provide an equal or higher standard of protection.
WASH CONCENTRATE from skin or eyes immediately.
DO NOT BREATHE SPRAY.
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).

Environmental protection
Do not contaminate surface waters or ditches with chemical or used container.
KEEP LIVESTOCK out of treated areas until poisonous weeds such as ragwort have died and become unpalatable.
KEEP LIVESTOCK out of treated areas of swede and turnip for at least 5 weeks following treatment.

Storage and disposal
Keep dry and frostproof in a suitable pesticide store.
KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS.
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.
DO NOT RE-USE CONTAINER for any purpose.
9. DPD REGULATIONS (CHIP 3)

Butisan® S
A suspension concentrate containing 500 g/litre metazachlor

**HARMFUL IF SWALLOWED**

**IRRITATING TO SKIN**

**MAY CAUSE SENSITISATION BY SKIN CONTACT**

**VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT**

WEAR SUITABLE GLOVES

KEEP OUT OF REACH OF CHILDREN

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS

WHEN USING DO NOT EAT, DRINK OR SMOKE

AVOID CONTACT WITH SKIN

IF SWALLOWED, SEEK MEDICAL ADVICE IMMEDIATELY AND SHOW THIS CONTAINER OR LABEL

THIS MATERIAL AND ITS CONTAINER MUST BE DISPOSED OF IN A SAFE WAY

USE APPROPRIATE CONTAINMENT TO AVOID ENVIRONMENTAL CONTAMINATION

To avoid risks to man and the environment, comply with the instructions for use

This product is approved under the Control of Pesticides Regulations 1986
## 10. IMPORTANT INFORMATION

**IMPORTANT INFORMATION**  
FOR USE ONLY AS AN AGRICULTURAL/HORTICULTURAL HERBICIDE, as directed below:

<table>
<thead>
<tr>
<th>Crops</th>
<th>Maximum individual dose</th>
<th>Maximum total dose per crop</th>
<th>Latest time of application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter oilseed rape</td>
<td>1.5 litres Product/hectare</td>
<td>2.0 litres product/hectare</td>
<td>End of January in year of harvest</td>
</tr>
<tr>
<td>Spring oilseed rape</td>
<td>1.5 litres product/hectare</td>
<td>1.5 litres product/hectare</td>
<td>Before 10th true leaf stage</td>
</tr>
<tr>
<td>Cabbage, Brussels Sprout, cauliflower, Broccoli, calabrese</td>
<td>1.5 litres product/hectare</td>
<td>1.5 litres product/hectare</td>
<td>6 weeks before harvest</td>
</tr>
<tr>
<td>Swede, turnip</td>
<td>1.5 litres product/hectare</td>
<td>1.5 litres product/hectare</td>
<td>Pre-emergence</td>
</tr>
<tr>
<td>Ornamental trees, ornamental shrubs, nursery fruit trees, and forest</td>
<td>1.5 litres product/hectare</td>
<td>2.0 litres product/hectare</td>
<td>-</td>
</tr>
</tbody>
</table>

**Other specific restrictions:**
A maximum total dose of 1000 g metazachlor/hectare may only be applied every third year on the same field.
When Butisan S is used on nursery fruit trees, any fruit harvested within one year of application must be destroyed.

**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.**

(MAPP No. 11733)