

Butisan® S

A herbicide for use in winter and spring oilseed rape, swedes, turnips, direct drilled and transplanted cabbage, Brussels sprout, cauliflower, broccoli and calabrese, kale.

A suspension concentrate containing 500 g/litre metazachlor

Risk and Safety Information

Warning:

Harmful if swallowed.

Suspected of causing cancer.

Very toxic to aquatic life with long lasting effects.

If medical advice is needed, have product container or label at hand.

Do not handle until all safety precautions have been read and understood.

Wash contaminated body parts thoroughly after handling.

Wear protective gloves/clothing/eye protection.

Rinse mouth.

Store locked up.

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

Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for triple rinsed empty containers which can be disposed of as non-hazardous waste.

To protect aquatic organisms respect an unsprayed buffer zone of 5m to surface water bodies.

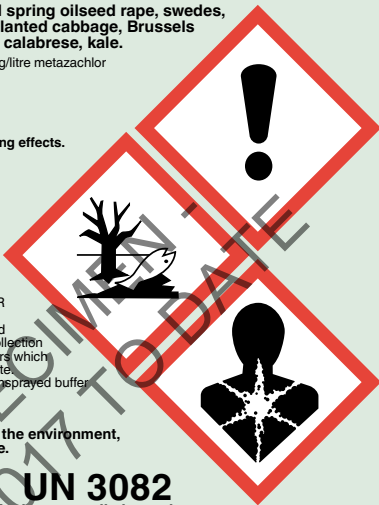
To avoid risks to human health and the environment, comply with the instructions for use.

5 L e

UN 3082

Environmentally hazardous
substance, liquid, N.O.S.
(contains metazachlor)
Marine pollutant

PCS No.: 04631



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

Crops	Maximum individual dose (Litres Product/hectare)	Maximum total dose per crop (Litres Product/hectare)	Latest time of application
Winter and Spring oilseed rape	1.5	1.5	Before 9 or more true leaf stage (GS19)
Swede and Turnip	1.5	1.5	Pre-em
Cabbage, Cauliflower, Kale and Brussels sprout	1.5	1.5	Post-em GS16-18 or 7-14 days after planting
Broccoli and calabrese.	1.0	1.0	Post-em GS16-18 or 6-8 days after planting

Other specific restriction:

Applications shall be limited to a total dose of not more than 1.0kg Metazachlor/ha in a three year period on the same field.

READ ALL PRECAUTIONS BEFORE USE

PCS No.: 04631

PRECAUTIONS

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

WEAR SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate.

WEAR SUITABLE PROTECTIVE GLOVES when using a knapsack sprayer.

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.

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.

KEEP OUT OF REACH OF CHILDREN.

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.

Do not contaminate ponds, waterways or ditches with chemical or used container. (Do not clean application equipment near surface water / Avoid contamination via drains from farmyards and roads).

To protect aquatic organisms respect an unsprayed buffer zone of 5m to surface water bodies.

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.

Professional use only.

1. 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 sprout, cauliflowers, broccoli, calabrese and kale.

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

Professional Use Only

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. Ensure 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.

Do not apply to broadcast oilseed rape crops until the crop has attained the two fully expanded cotyledon growth stage.

On medium and heavy soils where seedbeds are moist, firm and free from clods, pre-emergence Butisan S should be applied from drilling up until the crop seed chits. In warm soils, this may occur within 48 hours of drilling.

Avoid applying Butisan S to soils with a compaction layer or which are poorly drained, as crop damage can occur under waterlogged conditions

Care should be taken to avoid overlap of spray swaths

Do not treat crops which are suffering from wilting, pests or diseases or badly planted transplants.

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.

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.

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.

Herbicidal activity is dependent upon root uptake. 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.

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.

Extreme care should be taken to avoid damage by drift onto plants outside the target area

To reduce the risk of movement of Butisan S to water:-

- a. On clay soils, create a fine, consolidated seedbed to slow the downward movement of water.
- b. Do not apply Butisan S to dry soil. Moist soils have fewer and smaller cracks.
- c. Do not apply Butisan S if heavy rain is forecast, wait until after the event.

2. Crops

Butisan S can be used in all varieties of winter and spring sown oilseed rape, swedes, turnips, cabbages, Brussels sprout, cauliflowers, broccoli, calabrese and kale.

2.1 Oilseed rape

2.1.1 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 3. Use before 9 or more true leaf stage (GS19)

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.

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 apply to broadcast crops until the crop has attained the two fully expanded cotyledon growth stage.

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 3 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

2.1.2 Rate of application

Winter and spring oilseed rape - apply 1.5 litres of Butisan S per hectare, pre- or post-emergence of the crop.

See Section 3 for weed susceptibility and note moisture requirement.

2.1.3 Summary for oilseed rape

	Pre-emergence	Post-emergence
Broadcast crops	Do not use	Use permitted
Crop growth stage	After drilling and prior to chitting of crops (Generally within 48 hours)	After cotyledons fully expanded (1st true leaf partly emerged)
Weed growth stage	Pre-emergence	See Section 3
Soil type	Medium to heavy	Light to heavy
Seed bed	Fine, firm, moist. Not dry or cloddy.	Not critical provided reasonable
Drilling depth	15 mm	Not critical provided crop is well rooted and not stressed
Important notes	DO NOT USE on broadcast or late drilled crops, or stony soils	Adequate moisture is necessary for weed control

2.2 Pre-em application to Swede and Turnip

2.2.1 Time of Application

Apply to seedbeds that are moist, firm and free from clods, application should be made from drilling up until the crop seed chits. In warm soils, this may occur within 48 hours of drilling.

The latest time of application of Butisan S in swede and turnips is pre-emergence.

2.2.1 Rate of application

For Swedes and Turnips apply at 1.5 litres Butisan S per hectare.

See Section 3 for weed susceptibility and note moisture requirement.

2.3 Transplanted brassicae (Cabbage, Cauliflower, Brussels sprout, Broccoli, Calabrese and Kale)

2.3.1 Time of Application

Application should occur at growth stage 16-18 or 6-8 days after transplanting. Do not treat crops within 6 weeks of harvesting.

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

2.3.2 Rate of application

For Cabbage, Kale, Cauliflower, Brussels sprout apply at 1.5 litres per hectare Butisan S. For Broccoli and Calabrese apply at 1.0 litres per hectare Butisan S.

See Section 3 for weed susceptibility and note moisture requirement.

2.4 Direct drilled brassicae (Cabbage, Kale, Cauliflower, Brussels sprout, Broccoli and Calabrese)

2.4.1 Time of Application

Apply Butisan S after the crops have 6-8 true leaves but before weed emergence. Do not treat crops within 6 weeks of harvesting.

To prolong weed control in direct drilled cabbages, Brussels sprout, cauliflower, broccoli or calabrese, one application of Butisan S can be made post-emergence of the crop following the use of an alternative pre-emergence treatment. See Section 3 for weed susceptibility and note moisture requirement.

2.4.2 Rate of application

For Cabbage, Kale, Cauliflower, Brussels sprout apply at 1.5 litres per hectare Butisan S. For Broccoli and Calabrese apply at 1.0 litres per hectare Butisan S.

See Section 3 for weed susceptibility and note moisture requirement.

3. Weed Control

Butisan S is taken up via cotyledons and roots and takes maximum effect before, or shortly after, weed emergence. Optimum results are obtained from applications made to fine, firm and moist seedbeds.

3.1 Susceptibility of weeds to a single application of Butisan S.

Weed species	Butisan S 1.5 l/ha	
	Weed susceptibility rating	Maximum susceptible growth stage of weed
Bindweed, Black	S	Pre-em
Bent, Loose-silky	S	1 true leaf
Black-grass	S	2 true lvs
Chamomile, Corn	MS	3 true lvs
Chickweed, Common	S	4 true lvs
Cleavers	MR	1 whorl
Common Amaranth	S	2 true lvs
Crane's-bill, Cut-leaved	MR	Pre-em
Deadnettle, Henbit	S	1 true leaf
Dead-nettle, Red	S	1 true leaf
Fat-hen (Autumn Germinating)	MS	Pre-em
Flixweed	S	Pre-em
Forget-me-not, Field	MS	1 true leaf
Fumitory, Common	R	Pre-em
Knotgrass	R	Pre-em
Groundsel	S	2 true lvs
Mayweed, Rayless	S	3 true lvs
Mayweed, Scented	S	5 true lvs
Mayweed, Scentless	S	3 true lvs
Meadow-grass, Annua	S	2 true lvs
Nightshade, Black	S	Pre-em
Pansy, Field	R	Pre-em
Parsley Piert	S	Pre-em
Penny-cress, Field	R	Pre-em
Poppy, Common	MS	Pre-em
Shepherd's-purse	S	Pre-em

	Butisan S 1.5 l/ha	
Weed species	Weed susceptibility rating	Maximum susceptible growth stage of weed
Sowthistle, Field	MS	Pre-em
Speedwell, Common Field	S	2 true lvs
Speedwell, Ivy-leaved	S	1 true leaf
Speedwell, Procumbent	MS	2 true lvs
Speedwell, Wall	S	1 true leaf

Sistant

MS Moderately Susceptible

R

Resistant

For 1.0 l/ha Butisan S, lower levels of control should be expected. Application rates are driven by crop safety.

3.2 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 (WRAG) and copies are available from the HGCA, CPA, your distributor, crop adviser or product manufacturer.

Repeated use of herbicides with the same mode of action can increase the risk of strains of weeds developing resistance to these compounds, leading to poor control. In order to minimise the risk, a strategy for preventing and managing such resistance should be adopted. Use products with different modes of action and from different chemical groups in sequence or tank-mix, in conjunction with effective cropping rotation and cultivation techniques. In all cases the recommended rate of use should be adhered to. Follow WRAG guidelines.

Key elements of the resistance management strategy for Butisan S:

- Always follow WRAG guidelines for preventing and managing herbicide resistant weeds.
- Maximise the use of cultural control measures wherever possible (e.g. crop rotation, ploughing, stale seedbeds, delayed drilling, etc).
- Use tank mixes or sequences of effective herbicides with different modes of action within individual crops, or successive crops.
- For the control of herbicide resistant grass weeds, always use Butisan S in sequence with other effective graminicides with different modes of action.
- Monitor fields regularly and investigate the reasons for any poor control.

4. Mixing and Application

4.1 Mixing

Never prepare more spray solution than is required.

SHAKE WELL BEFORE USE. Fill the spray tank three quarters full with water and start the agitation. To ensure thorough mixing of the product, invert the container several times before opening. Add the required quantity of Butisan S to the spray tank while re-circulating. Fill the tank with the remaining required amount of water and continue agitation until spraying is completed.

On emptying the product container, 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.

When using a knapsack sprayer fill the sprayer with three quarters of the total water required. Add the required quantity of Butisan S to the sprayer, ensuring adequate dispersal of the product, then fill the tank with the remaining water.

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.

4.2 Application

To ensure optimum spray coverage and minimize spray drift, adjust the spray boom to the appropriate height above the crop, according to guidance provided by the sprayer and/or nozzle manufacture.

Apply Butisan S as a MEDIUM spray as defined by ECPC.

4.3 Guidance on water volumes

Crop	Recommended water volume	Situation & Comments
Winter oilseed rape	100 litres	Pre-emergence - not be used on poor seed beds or 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.
	190 litres	Pre-emergence in tank mixtures or Post-emergence
Spring oilseed rape	190-450 litres	Use the higher water volume where seedbeds are not ideal (e.g. slightly cloddy).
Swede and Turnip and brassicae crops	200-400 litres	Use the higher water volume where seedbeds are not ideal (e.g. slightly cloddy).

4.4 Sprayer cleaning

Wash sprayer thoroughly immediately after use, using clean water and following the sprayer cleaning guidance provided by the equipment manufacturer.

5. Following Crops

5.1 Following a normally harvested winter oilseed rape

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:

5.2 Redrilling the same autumn

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

5.3 Redrilling the following spring

After ploughing, the following crops can be sown:

Cereals - (excluding Durum wheat)
Field beans
Peas
Transplanted brassicae
Direct drilled brassicae
Potatoes
Maize
Linseed

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.

6. Compatibility

For details of compatibilities contact your distributor, local BASF representative or the BASF Technical Services Hotline: 0044 845 602 2553.

Trademarks

® = Butisan is a registered trademark of BASF.

The following does not form part of the product label under S.I. No. 139 of 1994:

With many products there is a general risk of resistance developing to the active ingredients. For this reason a change in activity cannot be ruled out. It is generally impossible to predict with certainty how resistance may develop because there are so many crop and use connected ways of influencing this. We therefore have to exclude liability for damage or loss attributable to any such resistance that may develop. To help minimise any loss in activity the BASF recommended rate should in all events be adhered to.

Numerous, particularly regional or regionally attributable, factors can influence the activity of the product. Examples include weather and soil conditions, crop plant varieties, crop rotation, treatment times, application amounts, admixture with other products, appearance of organisms resistant to active ingredients and spraying techniques. Under particular conditions a change in activity or damage to plants cannot be ruled out. The manufacturer or supplier is therefore unable to accept any liability in such circumstances. All goods supplied by us are of high grade and we believe them to be suitable, but as we cannot exercise control over their mixing or use or the weather conditions during and after application, which may affect the performance of the material, 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 for any damage or injury whatsoever arising from their storage, handling, application or use; but nothing should be deemed to exclude or restrict any liability upon us which cannot be excluded or restricted under the provisions of the Unfair Contract Terms Act 1977 or any similar applicable law.

The information on this label is based on the best available information including data from test results

Safety Data Sheet

To access the Safety Data Sheet for this product scan the QR code or use the weblink below:



http://www.agricentre.basf.ie/go/Butisan_S_sds

Alternatively, contact your supplier.