

Basagran®

A herbicide for post emergence broad leaved weed control in spring and winter field beans, broad, dwarf French, navy and runner beans, peas, linseed, narcissi and potatoes.

A soluble concentrate containing
480 g/litre (40.3% w/w) bentazone as the sodium salt

Risk and Safety Information

Warning

Harmful if swallowed.

Causes serious eye irritation.

May cause an allergic skin reaction.

Harmful to aquatic life with long lasting effects.

Wear protective gloves and eye/face protection.

Avoid breathing mist.

IF ON SKIN: Wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

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

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Dispose of contents/container to a licensed waste disposal contractor or collection site except for triple rinsed empty 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.

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PCS No.: 02341

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BASF
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PRECAUTIONS

WEAR SUITABLE PROTECTIVE GLOVES when handling the concentrate.

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.

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).

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.

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

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

Crops	Maximum individual dose	Maximum number of treatments (per crop)	Latest time of application
Field bean (winter), navy bean	3 litres product per hectare	One or Two as a split dose (see 'Other specific restrictions')	Up to and including 7 leaf pair stage
Spring field beans	3 litres product per hectare	One or Two as a split dose (see 'Other specific restrictions')	Before the crop exceeds 15 cm in height and before 7 leaf pair stage
Broad beans	3 litres product per hectare	One or Two as a split dose (see 'Other specific restrictions')	Single dose – before the 5 leaf pair stage. Split dose – before the crop exceeds 15 cm in height and before 7 leaf pair stage
Vining pea, combining pea	3 litres product per hectare	One	Before flower buds can be found enclosed in the terminal shoot
Dwarf French bean, runner bean, linseed	3 litres product per hectare	One or Two as a split dose (see 'Other specific restrictions')	Before flower buds visible
Ornamental plant production (narcissi)	3 litres product per hectare	One or Two as a split dose (see 'Other specific restrictions')	Not applicable*
Potatoes	3 litres product per hectare	One or Two as a split dose (see 'Other specific restrictions')	Before shoots exceed 15 cm in height

Other specific restrictions:

A maximum of 3.0 litres product/hectare/crop must not be exceeded for split doses.

* This product must not be applied to ornamental plant production (narcissi) during flower bud formation.

READ ALL OTHER SAFETY PRECAUTIONS & DIRECTIONS FOR USE BEFORE USE

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.

Basagran is a herbicide for post emergence broad leaved weed control in spring and winter field beans, broad, dwarf French, navy and runner beans, peas, linseed, narcissi and potatoes.

1. Restrictions/Warnings

1.1 Weed control

The best weed control will be achieved if crops are sprayed when weeds are small and actively growing, provided the crop is within the correct growth stages, see below.

It is essential to achieve full cover of all weed surface areas, especially the growing point. Therefore adjust spray volumes and pressures according to the size and density of the weed populations and crop cover.

It is preferable to use the split dose if conditions are likely to be very warm, sunny or humid, if foliage is tender or if a sensitive variety is to be treated (see Section 4.2).

Only single applications are approved for use in peas.

Where weeds classed as moderately susceptible form an important part of the weed population, the split dose will only give acceptable control if the weeds are cotyledon only. If true leaves are present, a single application of 3 l/ hectare should be made.

The addition of Actipron (PCS No. 90022) or Crop Spray 11E (PCS No. 90452) is recommended only in dwarf green beans and potatoes to improve control of fat hen, particularly when dry conditions are prevalent. Enhanced control of other weeds listed as susceptible may also be achieved.

1.2 Sequences/Tank mixes

Sequence with other spray chemicals:

Do not apply insecticides within 7 days of treatment with Basagran.

Basagran BEFORE a post emergence grass herbicide: leave an interval of at least 7 days between treatments.

Basagran AFTER a post emergence grass herbicide: leave an interval of 14 days and carry out a leaf wax test where relevant.

Other than the permitted mixtures in the relevant crops, do not tank mix Basagran with any other products.

1.3 Weather conditions

Do not apply Basagran or any of the recommended mixtures to any crop that may have been subjected to stress conditions, such as herbicide or disease injury, excessive acidity/alkalinity, trace element deficiency, drought, waterlogging, widely fluctuating temperatures, or physical damage to the foliage as caused by abnormal wind, rain, hail or frost.

Do not spray under HOT SUNNY CONDITIONS when temperatures are at or above 21°C, particularly during the mid day period. When the above conditions occur, spraying should be delayed until the evening. This is particularly important when there has been a change to hot sunny weather following a cool cloudy period.

Do not spray if rain or frost is expected, nor if the foliage is wet. **A minimum period of 6 hours free from rain is required after application.**

Do not apply Basagran during periods of drought or unseasonably cold weather as unsatisfactory weed control may result.

1.4 Crops

Check varietal tolerance of varieties before using.

A satisfactory leaf wax test using crystal violet marker dye, must be carried out before applying Basagran or the recommended mixtures to peas.

DO NOT treat forage pea varieties or mange-tout.

Do not use on first early or seed crop potatoes.

Restrictions relating to certain varieties of potatoes should be strictly observed.

Check also all specific restrictions and warnings relevant to potatoes.

CONSULT PROCESSORS BEFORE USE.

1.5 Application

Do not overlap spray swaths.

Avoid spray drift onto neighbouring crops, particularly lettuce and sugar beet.

The recommended water volume is 100 450 litres/hectare. The lowest volume of 100 litres/hectare can only be used when weeds are no larger than cotyledon stage, weed density is low to moderate and crop shielding is negligible.

WASH EQUIPMENT thoroughly immediately after use. Fill the tank with clean water and leave overnight. Spray out before storage or using other products. Traces of the product may cause damage to susceptible crops sprayed later.

2. Weed Control

2.1 Susceptibility ratings

SUSCEPTIBILITY OF WEEDS TO BASAGRAN ALONE OR IN MIXTURES

Weed Name	Basagran Alone	Basagran + Tropotox (PCS No. 02374) ¹
Black bindweed	MS	S
Black grass	R	R
Charlock	S	S
Chickweed, Common	S	S
Cleavers	S	S
Crane's bill	S	S
Dead nettle, Henbit	MS	MS
Dead nettle, Red	MS	MS
Fat hen	MS 2	S
Fool's Parsley	S	S
Forget me not, Field	S	S
Fumitory, Common	MS	S
Goosefoot, Fig leaved	S	S
Groundsel	MS	S
Hemp nettle, Common	MR	MS
Knotgrass	MR	MS
Marigold, Corn	S	S

Mayweed spp.	S	S
Meadow grass, Annual	R	R
Mustard, Black	S	S
Mustard, White	S	S
Nettle, Small	S	S
Nightshade, Black	S	S
Oilseed Rape, Volunteer	S	S
Orache, Common	MS	S
Weed Name	Basagran Alone	Basagran + Tropotox (PCS No. 02374)1
Pansy, Field	R	MS
Parsley piert	-	-
Penny cress, Field	S	S
Persicaria, Pale	S	S
Pimpernel, Scarlet	S	S
Poppy, Common	MS	MS
Radish, Wild	S	-
Redshank	S	S
Shepherd's purse	S	S
Sow thistle, Smooth	MS	MS
Speedwell, Common Field	MS	MS
Speedwell, other species	MR	MR
Spurrey, Corn	S	S
Thistles, Creeping (aerial portion)	SP	SP

- S Susceptible: controlled from cotyledon up to 6 leaf stage or 5 cm high or across by 3 l/hectare, from cotyledon up to 2 leaves by the split dose programme.
- SP - Top growth suppressed if appreciable foliage is present. Seedlings (cotyledon - 2 true leaves) will also be controlled.
- MS Moderately Susceptible: controlled from cotyledon up to 2 leaf stage but only checked up to 6 leaf stage or 5 cm high or across by 3 l/hectare; controlled at cotyledon only by the split dose programme.
- MR Checked up to 2 leaves by 3l/hectare.
- R Resistant: no useful effect.
- 1 Basagran + Tropotox (PCS No. 02374) tank mix recommended for use in peas only. For definition of formulations and rates, see Section 3.3.
- 2 For improved control of fat hen in dwarf beans and in potatoes only see Section 1 and 4.2 for the use of Basagran with adjuvants.

3. Crops

3.1. Dwarf French, Navy and Runner Beans

Time of Application



Apply Basagran in runner beans when the crop has between one and two trifoliate leaves and in dwarf French and navy beans as soon as the crop has two trifoliate leaves.

Crop selectivity is partly dependent on adequate leaf wax formation. When conditions which reduce leaf wax occur the application should be delayed by at least 5 to 7 days to await recovery.

Basagran may cause transient scorch, which can be prolonged with applications later than the three trifoliate leaf stage.

Method of Application

Basagran can be applied either by a conventional single dose or preferably by a split dose treatment.

Varietal Tolerances

The following varieties can be safely treated:

Dwarf French Beans

Catch + 1	Magnum +	Safari
Flevaro	Masai	Sigma 1
Kingreen	Nerina	Tasman 1
Laguna	Nomad #	Ursus 1
Lasso	Paulista #	Yukon 1

Navy Beans

Purley King	Revenge	Torpedo
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Runner Beans

Achievement	Emergo	Enorma
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+ These varieties are recommended on the basis of limited (2 years) data.

The use of Basagran + oil on these varieties is recommended on the basis of limited (2 years) data.

1 The use of Basagran + Actipron (PCS No. 90022) has not been tested on these varieties.

For the approval status and tolerance of any variety not mentioned above, consult your local BASF representative or the BASF Technical Services Hotline (0845 602 2553) or the Processors and Growers Research Organisation.

Control of Fat Hen in Dwarf Beans

See Section 1 Basagran use with Actipron (PCS No. 90022) or Crop Spray 11E (PCS No. 90452).

3.2 Spring and Winter Field Beans and Broad Beans

Basagran can be used alone or following a pre emergence herbicide providing the crop is not adversely affected. Crop selectivity is partly dependent on adequate leaf wax formation. Frost, wet conditions, physical damage, disease or previous sprays can all reduce leaf wax and when this occurs application should be delayed by at least 5 to 7 days to await recovery.

Methods of Application:

Basagran can be applied either by a conventional single dose or by a split dose treatment. The correct crop and weed growth stages are given in the following table. See also Section 4.2 Application.

The single dose is usually the preferred treatment for the winter bean crop due to overwintered weeds being more advanced.

The split dose is the preferred method in spring field beans provided that the weed and crop stage are suitable.

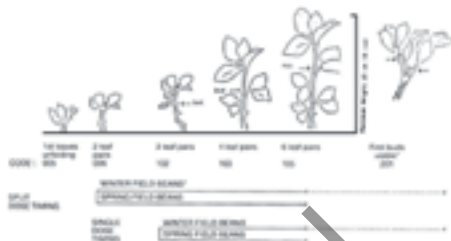
Rates and Timing Field and Broad Beans

Crop	Application method	Rate l/hectare	Crop stage (see diagram)	Weed stage
Spring Beans and Broad Beans(b)	Split dose:(a)	1.5 l/ha followed by 1.5 l/ha OR 2 l/ha followed by 1.0 l/ha	2 to 6 leaf pairs, max. height 15 cm Optimum crop stage is 5 to 10 cm	cotyledon to 2 leaves only. (optimum cotyledon)
	Single(b) dose:	3 l/ha	3 to 6 leaf pairs, max. height 15 cm Broad Beans: 3 to 4 leaf pairs only. Optimum stage for both crops → as for split dose.	cotyledon to 6 leaves. (optimum 2 leaf)
Winter Beans (applied in the spring)	Split dose:	as spring beans	2 leaf pairs up to and including 7 leaf leaf pair stage Optimum crop stage is 5 to 15 cm	cotyledon to 2 leaves only. (optimum cotyledon)
	Single dose:	as spring beans	3 leaf pairs up to and including 7 leaf pair stage Optimum stage as for split dose	cotyledon to 6 leaves. (optimum 2 leaf)

Important notes:

(a) If conditions are conducive to increased herbicide activity and crop scorch, e.g. warm sunny conditions, tender foliage or a more sensitive variety, then the 1.5/1.5 l/hectare split should be used.

(b) Broad beans are more sensitive than field beans. The split dose treatment is always preferable to the single dose in this crop.



Varietal tolerances: The following varieties can be treated:

Spring Field Beans

Fuego +

Maris Bead

Quattro +

Titch

Victor

Varieties in **bold** text may exhibit more leaf scorch than others, but are not highly sensitive.

+ These varieties are recommended on the basis of limited (2 years) data.

For the approval status and tolerance of any variety not mentioned above, consult your local BASF representative or the BASF Technical Services Hotline (0845 602 2553) or the Processors and Growers Research Organisation.

Winter Field Beans: All varieties tested so far have shown good tolerance.

Broad Beans

Danko

Talia

Listra

Medes

Varieties in **bold** have shown more sensitivity to Basagran.

Use only the split dose treatments on these varieties.

For the approval status and tolerance of any variety not mentioned above, consult your local BASF representative or the BASF Technical Services Hotline (0845 602 2553) or the Processors and Growers Research Organisation.

Processors must be consulted before use in broad beans.

Crop Effects - Field and Broad Beans

Slight crop scorch can occur after spraying. This is seen as a blackening of leaf margins, particularly on older leaves - all subsequent new leaves being unaffected. A temporary vigour check may also occur under some conditions. These effects generally have no influence on yield. They can, however, be more pronounced when applications are made beyond the optimum growth stage, particularly when the single dose is used and/or adverse weather conditions prevail.

Warnings

Avoid overlapping spray bouts and do not add Actipron (PCS No. 90022), or Crop Spray 11E (PCS No. 90452) to Basagran in field and broad bean crops.

Do not apply on crops earlier than the 2 leaf pair stage, or crops more than 15 cm tall (except winter beans) or if flower buds are visible.

3.3 Peas

Basagran may be used alone or in mixtures with Tropotox (PCS No. 02374) or alternatively tank mixed with MCPB* (see formulations and rates defined below). The choice of treatment depends on the weed spectrum to be controlled - see weed susceptibilities listed in Section 2.1

Basagran, or the above mixtures may be used following pre emergence broad leaf herbicides provided that the crop is undamaged and showing no adverse symptoms of herbicide application

Avoid application to crops which are under stress from physical damage or disease, or other factors.

A satisfactory leaf wax test using crystal violet marker dye must be performed before applying Basagran or Basagran mixtures, particularly with early drillings which tend to have less leaf wax.

Slight scorch of the leaf margins and/or hormonal twisting may occur shortly after spraying but the crop will soon recover; yield and maturity will not be adversely affected.

Time of Application

Apply Basagran or Basagran + Tropotox (PCS No. 02374) from when the peas have three nodes (3 fully expanded leaves) until before the flower buds can be found enclosed in the terminal shoot. The optimum timing is when the majority of weeds have germinated, but are still at the seedling stage.

Rate of Application (See also Section 1 single applications)

- (i) Basagran alone Apply 3 l/ha
- (ii) Basagran + Tropotox (PCS No. 02374) tank mix Apply 3 l/ha Basagran + 3.75 l/ha Tropotox (PCS No. 02374).

NOTE: Only single applications are approved for use in peas.

- * Approved formulations containing 400 g/l MCPB salt such as Tropotox (PCS No. 02374).

Varietal Tolerances

The following varieties can be safely treated, either with Basagran alone, or the above mixtures.

Green Peas (Vining Peas)

Ambassador

***Avola** (Spring)

Balmoral +

Barle

Bikini

Cabree +

Jaguar +

Markado

Misty

Samish +

*Snake +

*Span

Tristar

Waverex

Winner

Zamira +

Varities in **bold** text may exhibit more leaf scorch than others, but are not highly sensitive.

- + These varieties are recommended on the basis of limited (2 years) data.
- * Particular care should be taken to ensure treating these early maturing varieties at the correct growth stage, because they flower at an earlier node than later maturing varieties. They should not be treated after the fifth expanded leaf stage.

For the approval status and tolerance of any variety not mentioned above, consult your local BASF representative or the BASF Technical Services Hotline (0845 602 2553) or the Processors and Growers Research Organisation.

Combining Peas

Bunting

Eagle +

Flare +

Jackpot +

Nitouche +

- + These varieties are recommended on the basis of limited (2 years) data.

DO NOT treat the varieties Carouby de Mausanne, Conquest, Danielle, Dinos, Filby, Fonado, Printana, Sherbourne, Turon, Santa or Vedette.

DO NOT treat forage pea varieties or mange-tout.

For the approval status and tolerance of any variety not mentioned above, consult your local BASF representative or the BASF Technical Services Hotline (0845 602 2553) or the Processors and Growers Research Organisation.

3.4 Linseed

Since linseed offers poor weed competition, weed control is important, especially in the early growth stages.

3.4.1 Linseed

Basagran may be used alone or following pre emergence herbicides, provided that the crop is showing no adverse symptoms.

Time of Application

Apply when the crop is between 2½ 30 cm tall, but before the flower buds are visible.

The optimum timing is when the majority of weeds have germinated and are still in the seedling stage. As a guide, this is usually when the crop is between 7½ 20 cm tall.

Methods of Application

Basagran can be applied either by a conventional single dose or by a split dose treatment.

3.5 Narcissi

A weed control programme of a suitable pre-emergence herbicide followed by Basagran is recommended.

Time of Application

Apply Basagran at or after flowering but not during flower bud formation. If required, Basagran may be applied at any time after crop emergence except during flower bud formation. For optimum control weeds should be at the cotyledon to seedling stage.

Methods of Application

Basagran can be applied either by a conventional single dose or by a split dose treatment.

Varietal Tolerances

The following varieties have been successfully treated:

Buxton	Lahanti
Carlton	Scarlet Elegance
Fortune	Snowball
Golden Harvest	

Selectivity has been satisfactory over many varieties. However, because there is such a large range, with an unlisted variety growers are advised to check a small area in the first instance.

3.6 Potatoes

Basagran is a post emergence treatment for use in maincrop and second early potatoes. It may be used alone or following a pre emergence herbicide in a programme of weed control provided the crop is undamaged and showing no adverse symptoms of herbicide application. Basagran used in sequence with a pre-emergence application of metribuzin gives improved weed control from the combination of residual and contact activity. **DO NOT** apply following a post emergence application of approved formulations of metribuzin (e.g. Sencorex[®] WG PCS No. 91237).

Some leaf yellowing or slight scorch may occur under certain conditions (see 'Varietal Tolerances' and 'Factors Affecting Crop Tolerance'). These effects are transient, only being present on leaves exposed to the spray. All subsequent growth is unaffected and yields are not adversely affected, provided that applications are within the following guidelines.

Do not irrigate for at least 24 hours following application. In dry conditions irrigation prior to Basagran application can be beneficial to ensure that weeds are actively growing. However, foliage must be dry before application.

Avoid overlapping spray bouts.

3.6.1 Potatoes- Basagran alone

Time of Application

Apply Basagran when the majority of weeds have emerged and are at the cotyledon to seedling stage, but **before most of the crop has reached a height of 15 cm.**

Application when the crop is taller than 15 cm is not recommended because foliage scorch can be increased leading to a possible check to the crop vigour and yields. Weeds can also be shielded from the spray by crop foliage with later applications. Methods of Application

Basagran can be applied either by a conventional single dose or preferably by a split dose treatment. See Section 4.2, Application.

Control of Fat Hen in Potatoes

See Section 4.2, Basagran use with adjuvants.

3.6.2 Potatoes- Basagran/Sencorex sequences

Apply 1.0 kg/ha metribuzin (e.g. Sencorex WG PCS No. 91237) pre-emergence of the potatoes as recommended in the metribuzin label. On soils with high organic matter content, better activity can be achieved by pre- or post-planting incorporation or by application pre-final ridging. Follow this with an application of 1.5 l/ha Basagran + 1.5 L/ha Actipron (PCS No. 90022) post-crop emergence when the weeds are at cotyledon to 2 leaf stage, but before the potato shoots exceed 15 cm in height. Check varietal restrictions for Basagran and metribuzin before embarking on this programme.

3.6.3 Potatoes- Varietal Tolerances

The following maincrop and second early varieties can be treated either with Basagran alone or, if required, with the addition of Actipron (PCS No. 90022) or Crop Spray 11E (PCS No. 90452).

Ailsa *#	Estima +*	Premiere *#
Ambo #	Hermes *#	Record
Anna *#	King Edward *	Romano
Atlantic *#	Marfona +	Rooster *#
Ausonia	Maris Piper	Saturna 0 #
Balmoral *#	Maris Peer +	Saxon #
Brodick #	Nadine	Shula #
Cara	Navan #	Symfonia *#
Carlingford +*#	Obelix #	Vekaro
Costella +	Pentland Crown	Valor #
Cultra #	Pentland Dell	Vanessa
Desiree *	Pentland Squire	Wilja +
Erntestolz #	Picasso *#	

+ second early varieties

0 Do not use the Sencorex WG (PCS No. 91237) /Basagran sequence on this variety.

* These varieties have shown more foliage scorch than others. Particular attention should be paid to the crop stage and factors affecting crop tolerance. Do not use the single dose treatment with permitted adjuvants on these varieties.

These varieties are recommended on the basis of limited (2 years) data.

DO NOT treat the following varieties: Bintje, Flanna, Lady Rosetta, Morag, Morene, Rode Pipo, Russett Burbank, Sante, Shepody, Stemster and Stroma.

DO NOT treat seed crops or first early varieties.

Factors Affecting Crop Tolerance

Basagran should not be applied to potatoes under hot, sunny conditions when temperatures are at or above 21°C, particularly during the mid day period. When these conditions are encountered, spraying should be delayed until evening. It should be noted that in general, crop foliage is more sensitive when there is a sudden change to hot, sunny weather following a cool, cloudy period. This sensitivity diminishes after approximately three days.

Crop tolerance will also be reduced if the crop is under stress, e.g. from such factors as physical damage (as from high wind), heavy rain or hail, virus diseases, blackleg, nematodes, *Rhizoctonia*, excessive soil alkalinity or acidity, or frost either shortly before or after treatment. Wet foliage is prone to scorch by Basagran.

4. Mixing and Spraying

4.1 Mixing

Half fill the spray tank with clean water and start the agitation. Pour in the required amount of Basagran. 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.

4.2 Application

All applications should be made as a FINE spray, as defined by BCPC, unless the highest water volumes are used when FINE or MEDIUM sprays are permissible. It is essential to achieve full cover of all weed surface areas, especially the growing point. Therefore **ADJUST SPRAY VOLUMES AND PRESSURES ACCORDING TO THE SIZE AND DENSITY OF THE WEED POPULATIONS AND CROP COVER.**

Basagran can be applied as a single dose in all recommended crops or as a split dose in dwarf green, navy, runner and field beans, linseed, potatoes and narcissi. The split dose will control susceptible weeds from cotyledon up to 2 true leaves while the single dose is effective on weeds up to 4.6 true leaf stage. The split dose method has generally given better weed control and enhanced crop safety over the conventional single dose, but if weeds are larger than 2 true leaves, it is necessary to use the single dose method.

Timing of Split Dose

The optimum timing for the first application is when the first flush of weeds are at the cotyledon stage. The second follow up dose should be applied within 7 to 10 days of the first dose, depending on the control achieved by the initial dose or the appearance of the second weed flush. See individual sections below for crop growth stage limitations.

A maximum of two applications may be made: 1.5 l/hectare followed by 1.5 l/hectare or 2 l/hectare followed by 1.0 l/hectare.

The 1.5 l/1.5 l/hectare split is preferable if conditions are likely to be very warm, sunny or humid, if foliage is tender or if a sensitive variety is to be treated.

The recommended water volume is 100-220 litres/hectare. The lowest volume of 100 litres/hectare can only be used when weeds are no larger than cotyledon stage, weed density is low to moderate and crop shielding is negligible.

Single Dose and Mixtures

Where Basagran is recommended as a single application in this text, it should be applied at 3 l/hectare.

When applied alone or in mixture with other products, the recommended water volume is 220-450 litres/hectare.

The lowest volume of 220 litres/hectare should only be used when all the following conditions apply:

- : weeds at cotyledon to 2 leaves only
- : weed density is low to moderate
- : crop shielding is negligible

Flat fan or high pressure hollow cone nozzles are suitable under these conditions.

For other situations, 330-450 litres/hectare is recommended, preferably applied through flat fan nozzles only, operating at an optimum pressure of approximately 3.3-5 bar, in order to produce a fine penetrating spray.

In crops where the addition of an adjuvant is recommended, add 2 litres/hectare of Actipron (PCS No. 90022), or Crop Spray 11E (PCS No. 90452) to the recommended rate of Basagran when spray volumes of 220-450 litres/hectare are used.

Where a split dose application is recommended within the water volume range of 100-170 litres/hectare then the rate of adjuvant is reduced to 1-1.5 litres/hectare respectively.

5. Compatibility

Mixes

Provided that all product recommendations are followed, Basagran is fully compatible in two way mix with either Actipron[®] (PCS No. 90022), or Crop Spray[®] 11E (PCS No. 90452) for use as directed in dwarf beans and potatoes, and Tropotox[®] (PCS No. 02374) or MCPB, for use as directed in peas. See relevant sections for definition of formulations covered.

Apart from the above permitted products, used as directed, no other products should be tank mixed with Basagran or severe crop damage can result.

All tank mixes should be used immediately after mixing.

Sequences

Do not apply insecticides within 7 days of treatment with Basagran.

Basagran BEFORE a post emergence grass herbicide: leave an interval of at least 7 days between treatments.

Basagran AFTER a post emergence grass herbicide: leave an interval of 14 days and carry out a leaf wax test where relevant.

Basagran is a BASF trademark.

Actipron is a registered trademark of the British Petroleum Company Limited.

Cropspray is a trademark of Atlantis Oil and Chemicals Co. Limited.

Sencorex and Tropotox is a trademark of Bayer CropScience.

The following does not form part of the product label under S.I. No. 159 of 2012:

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.

ADDITIONAL PRODUCT SAFETY INFORMATION

This section does not form part of the product label under S.I. No. 159 of 2012

Safety data sheet:

1. Identification of the substance/mixture and of the company/undertaking

Product identifier

BASAGRAN

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: crop protection product, herbicide Recommended use: herbicide

Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen GERMANY

Contact address:

BASF plc

PO Box 4, Earl Road, Cheadle Hulme, Cheadle, Cheshire

SK8 6QG, UNITED KINGDOM

Telephone: +44 161 485-6222

E-mail address: product-safety-north@basf.com

Emergency telephone number

International emergency number: Telephone: +49 180 2273-112

2. Hazards Identification

Label elements

Globally Harmonized System, EU (GHS)

Pictogram:

Signal Word: Warning

Hazard Statement:

H302

Harmful if swallowed.

H319

Causes serious eye irritation.

H317

May cause an allergic skin reaction.

H412

Harmful to aquatic life with long lasting effects.

EUH401

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

Precautionary Statements (Prevention):

P280

Wear protective gloves and eye/face protection.

P261c

Avoid breathing mist.

P264

Wash with plenty of water and soap thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

P272

Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statements (Response):

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338

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

P333 + P313

IF skin irritation or rash occurs: Get medical advice/attention.

P363

Wash contaminated clothing before reuse.

P301 + P312

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

P330

Rinse mouth.



Precautionary Statements (Disposal):

P501

Dispose of contents/container to hazardous or special waste collection point.

According to Regulation (EC) No 1272/2008 [CLP]

Hazard determining component(s) for labelling: BENTAZONE-SODIUM

According to Directive 67/548/EEC or 1999/45/EC

Classification/labelling in accordance with Irish regulations.

Hazard symbol(s)

Xn

Harmful.



R-phrases(s)

R22

Harmful if swallowed.

R43

May cause sensitization by skin contact.

S-phrases(s)

S2

Keep out of the reach of children.

S13

Keep away from food, drink and animal feeding stuffs.

S24

Avoid contact with skin.

S35

This material and its container must be disposed of in a safe way.

S37

Wear suitable gloves.

S46

If swallowed, seek medical advice immediately and show this container or label.

Hazard determining component(s) for labelling: BENTAZONE-SODIUM

Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

Acute Tox. 4 (oral)

Eye Dam./Irrit. 2

Skin Sens. 1B

Aquatic Chronic 3

According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards: Harmful if swallowed. May cause sensitization by skin contact.

For the classifications not written out in full in this section the full text can be found in section 16.

Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

See section 12 – Results of PBT and vPvB assessment.

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition/Information on Ingredients

Mixtures

Chemical nature

crop protection product, herbicide, Soluble concentrate (SL)

Contains: bentazone

as Bentazone Sodium salt

Hazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

bentazone-sodium

Content (W/W): 44 %

CAS Number: 50723-80-3

EC-Number: 256-735-4

Acute Tox. 4 (oral)

Skin Sens. 1B

Eye Dam./Irrit. 2

H302, H319, H317

Hazardous ingredients

according to Directive 1999/45/EC

bentazone-sodium

Content (W/W): 44 %

CAS Number: 50723-80-3

EC-Number: 256-735-4

Hazard symbol(s): Xn R-phrases(s): 22, 43

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

4. First-Aid Measures

Description of first aid measures

Remove contaminated clothing.

If inhaled: Keep patient calm, remove to fresh air, seek medical attention.

On skin contact: Wash thoroughly with soap and water.

On contact with eyes: Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion: Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media: water spray, foam, dry powder, carbon dioxide

Special hazards arising from the substance or mixture

carbon monoxide, Carbon dioxide, nitrogen oxides, sulfur oxides

The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Special protective equipment: Wear self-contained breathing apparatus and chemical-protective clothing.

Further information: Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/spray. Use personal protective clothing. Avoid contact with the skin, eyes and clothing.

Environmental precautions

Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

Do not allow contamination of public drains or surface or ground waters. Inform local water plc if spillage enters drains and the Environmental Protection Agency if it enters surface or ground waters. Keep people and animals away.

Methods and material for containment and cleaning up

For small amounts: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).

For large amounts: Dike spillage. Pump off product.

Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

7. Handling and Storage

Precautions for safe handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. Protection against fire and explosion:

No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Keep away from heat. Protect from direct sunlight.

Protect from temperatures below: 0 °C

The product can crystallize below the limit temperature. Protect from temperatures above: 40 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. Exposure Controls/Personal Protection

Control parameters

Components with workplace control parameters

none Refer to the current schedule of occupational exposure standards published by the Irish HSA. For normal use and handling refer to the product label/leaflet. In all other cases the following apply.

Exposure controls

Personal protective equipment

Respiratory protection: Suitable respiratory protection for higher concentrations or long-term effect: Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection: Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other

Eye protection: Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection: Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Form:	liquid
Colour:	yellow to red
Odour:	fruity, faint odour
Odour threshold:	not determined
pH value:	approx. 6 – 7 (CIPAC standard water D, 1 % (m), 20 °C)
Melting point:	approx. 0 °C (1,013.3 hPa) Information applies to the solvent.
Boiling point:	approx. 100 °C (1,013.3 hPa) Information applies to the solvent.
Flash point:	No flash point – Measurement made up to the boiling point.
Evaporation rate:	not applicable
Flammability:	not self-igniting

(DIN EN 22719; ISO 2719)

Lower explosion limit:	not determined	
Upper explosion limit:	not determined	
Ignition temperature:	555 °C	(Directive 92/69/EEC, A.15)
Vapour pressure:	The product has not been tested.	
Density:	approx. 1.19 g/cm ³ (20 °C)	(OECD Guideline 109)
Relative vapour density (air):	not determined	
Solubility in water:	fully soluble	
<i>Information on: bentazone</i>		
<i>Partitioning coefficient n-octanol/water (log Kow): 0.77</i>		
<i>(22 °C; pH value: 5)</i>		

Thermal decomposition:	not determined	
Viscosity, dynamic:	approx. 9 mPa.s (20 °C, 100 1/s)	(OECD 114)
Explosion hazard:	not explosive	
Fire promoting properties:	not fire-propagating	(Directive 2004/73/EC, A.21)

Other information

Other information: If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid

See MSDS section 7 – Handling and storage.

Incompatible materials

Substances to avoid: strong bases, strong acids, strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Assessment of acute toxicity: Of moderate toxicity after single ingestion. Virtually nontoxic after a single skin contact.

Virtually nontoxic by inhalation.

Experimental/calculated data:

LD₅₀ rat (oral): > 1,000 – < 2,000 mg/kg (OECD Guideline 401)

LC₅₀ rat (by inhalation): > 4.8 mg/14 h (OECD Guideline 403) An aerosol was tested.

LD₅₀ rat (dermal): > 4,000 mg/kg (OECD Guideline 402)

Irritation

Assessment of irritating effects: May cause slight irritation to the eyes. Not irritating to the skin.

Experimental/calculated data: Skin corrosion/irritation rabbit: non-irritant

Serious eye damage/irritation rabbit: Slightly irritating.

Respiratory/Skin sensitization

Assessment of sensitization: Sensitization after skin contact possible. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: bentazone

Experimental/calculated data: Guinea pig maximization test guinea pig: skin sensitizing (OECD Guideline 406)

Germ cell mutagenicity

Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity

Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of various animal studies gave no indication of a carcinogenic effect.

Reproductive toxicity

Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. No substance-specific organotoxicity was observed after repeated administration of high doses to animals.

Other relevant toxicity information

Misuse can be harmful to health.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity: Acutely harmful for aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Toxicity to fish: LC_{50} (96 h) > 100 mg/l, *Oncorhynchus mykiss* (OECD Guideline 203)

Aquatic invertebrates: LC_{50} (48 h) > 100 mg/l, *Daphnia magna* (OECD Guideline 202, part 1)

Aquatic plants: EC_{50} (7 d) 30.5 mg/l, *Lemna gibba* (OECD guideline 221)

Chronic toxicity to fish: No observed effect concentration (28 d) > 100 mg/l

Chronic toxicity to aquatic invertebrates: No observed effect concentration, > 250 mg/l

Persistence and degradability

Assessment biodegradation and elimination (H₂O): The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: bentazone

Assessment biodegradation and elimination (H₂O): *Not readily biodegradable (by OECD criteria).*

Bioaccumulative potential

Assessment bioaccumulation potential: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: bentazone Bioaccumulation potential:

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Mobility in soil (and other compartments if available)

Assessment transport between environmental compartments: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: bentazone

Assessment transport between environmental compartments: *Following exposure to soil, the product trickles away and can – dependant on degradation - be transported to deeper soil areas with larger water loads.*

Results of PBT and vPvB assessment

The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

Additional information

Other ecotoxicological advice: Do not discharge product into the environment without control.

13. Disposal Considerations

Waste treatment methods

Must be sent to a suitable incineration plant, observing local regulations.

Contaminated packaging: Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

14. Transport Information

Land transport

ADR

Not classified as a dangerous good under transport regulations

RID

Not classified as a dangerous good under transport regulations

Inland waterway transport

ADN

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

For the user of this plant-protective product applies: 'To avoid risks to man and the environment, comply with the instructions for use.' (Directive 1999/45/EC, Article 10, No. 1.2)

This product may be subject to the Seveso II Directive and amendments if specific threshold tonnages are exceeded.

For further medical advice Doctors should contact the National Poisons Information Centre at Beaumont Hospital, Dublin.

Chemical Safety Assessment

Advice on product handling can be found in sections 7 and 8 of this safety data sheet.

16. Other Information

For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

Xn

Harmful

22

Harmful if swallowed.

43

May cause sensitization by skin contact.

Acute Tox.

Acute toxicity

Eye Dam./Irrit.

Serious eye damage/eye irritation

Skin Sens.

Skin sensitization

Aquatic Chronic

Hazardous to the aquatic environment – chronic

H302

Harmful if swallowed.

H319

Causes serious eye irritation.

H317

May cause an allergic skin reaction.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

(Version: 1.0)