

# Sencorex Flow

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A suspension concentrate formulation containing 600 g/l metribuzin.

A selective herbicide with contact and residual action for use in early and maincrop potatoes.

## PRODUCT BENEFITS

- Easy to use, high performing flowable formulation.
- High maximum dose rate to maximise product flexibility.
- Key component of potato weed control programmes.

**Buffer zone:** LERAP category B

**Pack size:** 5 litres

**Storage:** PROTECT FROM FROST



Grow a better tomorrow.

**IMPORTANT INFORMATION**

FOR USE ONLY AS AN AGRICULTURAL HERBICIDE.

<b>Crop</b>	<b>Maximum individual dose</b>	<b>Maximum total dose</b>	<b>Latest time of application</b>
Potato (early), potato (maincrop)	1.15 l/ha	1.15 l/ha	Pre-crop emergence
	AND	–	–
	0.55 (see 'Other specific restriction')	0.55 (see 'Other specific restriction')	Before the shoots of potatoes reach 15 cm in length

*Other specific restriction:*

- The maximum total dose for first earlies is 1.15 l product/ha applied pre-crop emergence only.

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 16167

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.

## 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.

SENCOREX FLOW is a selective herbicide, with contact and residual properties, acting by both leaf and root uptake for the control of annual weeds in early and maincrop potatoes. It may be applied pre-emergence on certain early and maincrop potato varieties.

### RESTRICTIONS

DO NOT treat the textural group of soils known as 'Sands'.

### HERBICIDE RESISTANCE MANAGEMENT

When herbicides with the same mode of action are used repeatedly over several years in the same field, selection of resistant biotypes can take place. These can propagate and may become dominating. A weed species is considered to be resistant to a herbicide if it survives a correctly-applied treatment at the recommended dose. A strategy for preventing and managing such resistance should be adopted. This should include integrating herbicides with a programme of cultural control measures. 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

### WEEDS CONTROLLED

Weed	Pre-emergence weed control	Post-emergence weed control up to one true leaf stage <sup>†</sup>
Bindweed, black	MS	S
Blackgrass	S	MS
Bugloss	S	S
Charlock	S	S
Chickweed, common	S	S
Cleavers	R	R
Clovers	S	S
Couch*, common	S	S
Deadnettle, henbit	S	S
Deadnettle, red	S	S
Fat-hen	S	S
Forget-me-not, field	S	S
Fumitory, common	S	S
Groundsel	S	S
Hemp-nettle, common	S	S
Hemp-nettle, large flowered	S	S
Knotgrass	S	MS
Marigold, corn	–	MS
Mayweeds	S	S
Meadow grass, annual	S	S
Mercury, annual	MS	S

*Continued...*

Weed	Pre-emergence weed control	Post-emergence weed control up to one true leaf stage†
Mignonette, wild	–	MS
Nettle, small	S	S
Nightshade, black	R	MS
Oilseed rape volunteers	S	S
Orache, common	S	S
Pansy, field	S	MS
Pennycress, field	S	S
Persicaria, pale	S	S
Pimpernel, scarlet	S	S
Poppy, common	S	S
Radish, wild	S	S
Redshank	S	S
Ryegrass, perennial	S	S
Shepherd's purse	S	S
Sorrel, sheep's	S	S
Sowthistle, smooth	S	MS
Speedwells	S	S
Spurge, sun	S	–
Spurrey, corn	S	S
Wild oat**		

S = Susceptible – Complete or near complete kill with standard application, or a full programme of low dose sprays.

MS = Moderately susceptible – Good kill under favourable conditions.

R = Resistant – No useful effect.

– = Insufficient information at present.

\* = SENCOREX FLOW will suppress couch grass when applied post-emergence up to the two leaf stage.

\*\* = SENCOREX FLOW will give some control of germinating wild oat seedlings up to the two leaf stage but not seedlings germinating from considerable depth.

† = Most susceptible annual broadleaved weeds are well controlled beyond the first true leaf stage when using the full dose application of SENCOREX FLOW. Perennial broadleaved weeds and grasses are not controlled.

### Specific Weed Situations

#### *Later germinating weeds, especially Black bindweed.*

Early germinating weed seedlings will be controlled by SENCOREX FLOW, but if necessary a follow-up application of SENCOREX FLOW at 0.55 l/ha can be applied on named second early and maincrop varieties to control later germinating seedlings, particularly Black bindweed, before the most advanced potato shoots have reached 15 cm (6") in length.

Black bindweed is best controlled at the cotyledon to two true leaf stage – it is less sensitive to pre-emergence applications.

## CROP SPECIFIC INFORMATION

### Pre-emergence applications

#### First earlies

All commercially available varieties may be treated, except those grown on sands. Refer to the 'Following crops' section before application.

#### Second earlies

All commercially available varieties except Fambo and crops grown on sands. Do not treat Shepody grown on sands or very light soils.

#### Maincrop

All commercially available varieties except crops grown on sands. Do NOT treat Maris Piper or Sante grown on 'Sands' or 'Very Light Soils' (ADAS '85 Classification).

For information on **new** potato varieties please contact Interfarm UK Ltd. or your SENCOREX FLOW distributor.

SENCOREX FLOW may be applied in accordance with one of the methods outlined in the 'Application' section below.

### Post-emergence applications

The following varieties may be treated post-emergence providing the shoots are no longer than 15 cm.

#### First earlies

Do NOT treat post-emergence.

#### Second earlies

Marfona	Red Craigs Royal	Spunta
Osprey	Saxon	Yukon Gold
Penta		

#### Maincrop

Arran Banner	Glamis	Majestic	Redskin
Bintje	Golden Wonder	Navan	Rembrandt
Cara	Jewel	Pentland Crown	Robinta
Cultra	Kerr's Pink	Pentland Dell	Romano
Desiree	King Edward	Pentland Squire	Up-to-Date
Diana	Kingston	Pink Fir Apple	Vivaldi
Famosa	Kirsty	Record	

*Continued...*

Do NOT treat the following maincrop varieties.

Agria	Draga	Morag	Russet Burbank
Ailsa	Fianna	Morene	Sante
Atlantic	Harmony	Obelix	Saturna
Avalanche	Hermes	Pentland Hawk	Shasta
Brodick	Kondor	Pentland Ivory	Sierra
Buchan	Lady Rosetta	Picasso	Sovereign
Cabaret	Maris Piper	Prevalent	Stemster
Caear	Markies	Redstar	Symfonia
Cosmos	Maxine	Remarka	Valor
Cramond	Melody	Rooster	Victoria

For information on new potato varieties please contact Interfarm UK Ltd. or your Sencorex Flow distributor.

## DOSE RATE

### Maximum individual dose

Soil type #	SENCOREX FLOW l/ha		
	First earlies	Second earlies	Main crop
Very light and light soils	0.85 l/ha	0.85 l/ha	1.15 l/ha
Medium and heavy soils	1.15 l/ha	1.15 l/ha	1.15 l/ha <sup>†</sup>
Organic and peaty soils	1.15 l/ha <sup>†</sup>	1.15 l/ha <sup>†</sup>	1.15 l/ha <sup>†</sup>

# ADAS '85 classification.

<sup>†</sup> Persistence and residual activity and weed control may be less than the listed susceptibilities on these soil types.

A 'top-up' dose of 0.55 l/ha may be applied early post-emergence to named varieties on the soil types listed above providing the most advanced shoots have not reached 15 cm in length.

Do not exceed a maximum total dose of 1.7 l/ha.

### Application

For 'traditional' application, overall to the soil surface, apply as a 'MEDIUM' quality spray (BCPC classification) using not less than 200 litres water per hectare. Increase the water volume where any soil clods are unavoidably present.

Ensure that the boom is set at the correct height and an even coverage to both sides of the potato ridge is obtained. In post-emergence applications it is particularly important to achieve good penetration so that weeds shaded by the crop are covered. For optimum results avoid spraying in windy conditions.

### Pre-planting incorporation

This method of application is suitable for second early or main crop potatoes grown on soils with more than 10% organic matter. Incorporation gives increased activity on Fen soils and is particularly useful with the variety 'Maris Piper' which is sensitive to post-emergence treatment with SENCOREX FLOW.

Apply 1.15 l/ha in 200 litres of water per hectare.

Incorporate SENCOREX FLOW thoroughly to a depth of 10–15 cm (4–6") during the final cultivation before planting. Satisfactory incorporation may be achieved with rotary harrows (e.g. Lely Roterra), rotary cultivators or spring tine harrows. For the best results ensure thorough and even incorporation. Where a granular nematicide is required a single incorporation at 10–15 cm, according to manufacturer's recommendations for the particular nematicide used, will also ensure correct incorporation of SENCOREX FLOW.

Ridge up as soon as possible after planting taking care that the ridging body does not penetrate into untreated soil, which would allow weeds to establish in the furrow bottom. For this reason shallow incorporation is not recommended. A final ridging may be made, if necessary, before the crop covers the rows.

Where main crop potatoes are grown in twin row beds on organic soils a pre-planting incorporated application may be made as detailed above. However, to ensure optimum weed control a follow-up application of 0.55 l/ha in 200 litres of water per hectare is recommended after crop emergence to control germinating weed seedlings, particularly in inter-row areas.

### Post-planting incorporation

This is an alternative method of incorporating SENCOREX FLOW applied to second early and main crop potatoes grown on organic soils. The technique offers increased activity compared with surface applications, particularly under dry conditions.

Apply SENCOREX FLOW at 1.15 l/ha overall shortly after planting potato tubers in shallow ridges then, before any of the crop begins to emerge, cultivate shallowly to incorporate the SENCOREX FLOW during the final ridging-up process using a cultivator fitted with suitable ridging bodies.

To ensure optimal weed control this initial treatment should be followed with an overall application of 0.55 l/ha SENCOREX FLOW in 200 litres of water.

On named varieties of potatoes the follow-up spray of 0.55 l/ha SENCOREX FLOW may be applied post-emergence of the crop, but before the leading shoots are 15 cm (6") long.

### Low dose programme technique

By improving the retention of spray deposit on leaf surfaces it is possible to obtain effective weed control using a programme of reduced doses of SENCOREX FLOW. This improvement in spray cover is achieved by producing a smaller droplet size through smaller nozzle orifices, increased pressure, or a combination of both. This technique offers the advantage of speedier application, saving time compared with conventional spraying, at the same time enabling growers to improve the accuracy of timing their sprays.

Apply as an overall post-emergence programme of sprays to the weeds.

Up to three applications of 0.4 l/ha or two applications of 0.55 l/ha of SENCOREX FLOW may be made on all soil types except 'Sands' (ADAS '85 classification) but not after the most advanced shoots of the potatoes have reached 15 cm (6") in length.

It is essential to apply the first spray at the early cotyledon stage of the weeds, and pre-emergence of the crop. Subsequent applications are made when flushes of weeds are at the early cotyledon stage. Fields should be monitored every few days to check weed growth. If weeds have survived an application, a further application should be made after 7–10 days even if no new weeds have emerged. No more than one application should be made post-emergence of the crop.

Where weeds are beyond the early cotyledon stage at the time of first treatment apply SENCOREX FLOW according to traditional application methods above.

Use a 'FINE' (BCPC classification) quality spray.

The required fineness of spray and water volume per hectare can be achieved by a selection of appropriate nozzle/pressure combinations in conjunction with forward speed within the recommendations given below.

Do not use finer than 80 mesh filters in spray lines or nozzles.

A forward speed for spraying of 8 kph should not be exceeded.

Pressure 3–5 bar.

Water volume 80–100 litres per hectare.

### Temporary plastic mulches

SENCOREX FLOW may be applied pre-emergence of suitable early varieties of potatoes prior to covering with plastic mulches. Application of SENCOREX FLOW to well-prepared clod-free ridges should be made in at least 200 litres of water per hectare.

Weed control by SENCOREX FLOW is dependent upon adequate soil moisture being present to allow sufficient uptake of the product by seedling weeds. If the soil moisture status is low at application weed control will be impaired. The soil should, therefore, be thoroughly wetted by irrigation or rainfall before the plastic mulch is applied.

On mineral soils with high organic matter content or peaty or organic soils the residual activity of SENCOREX FLOW may be reduced, resulting in inadequate weed control.

### Soils and cultivations

Cultivations should produce a soil tilth that requires no further improvement after planting. Cultivation after spraying will encourage weed germination and reduce the residual activity of SENCOREX FLOW. For best control of weeds germinating after application the soil should be moist at the time of treatment and the ridges well rounded with few clods.

Dry soil conditions may reduce the activity of SENCOREX FLOW and weed control may be less satisfactory.

Where the soil is cloddy it is advisable to increase the volume of water. In post-emergence applications it is particularly important to achieve good spray penetration so that weeds shaded by the crop are covered.

On mineral soils with a high organic matter content and on peaty or organic soils the residual activity of SENCOREX FLOW may be reduced.

On stony or gravelly soils there is a risk of crop damage especially if heavy rain falls soon after application.

### Drift

Take care to avoid spray drift onto neighbouring plants and crops; particularly sensitive crops which include sugar beet, lettuce and brassicas.

### Factors affecting crop tolerance

- Occasionally when SENCOREX FLOW is applied after crop emergence and under unfavourable growing conditions, yellowing of the foliage may occur (which is normally outgrown). These symptoms occur more frequently if spraying is carried out within three days after a period of cool, cloudy weather and particularly if a sudden change to hot, sunny conditions occurs at the time of spraying. Whenever intensive sunshine and high daytime temperatures prevail, spraying should be delayed until evening.
- Some cultivars may be sensitive to post-emergence applications of SENCOREX FLOW where a previously applied residual herbicide still remains in the soil or if the crop is under stress, e.g. from such factors as physical damage, virus diseases, blackleg, nematodes, *rhizoctonia*, excessive alkalinity or acidity.

In some cases damage may occur which will not be outgrown.

### SUCCEEDING CROPS

Before drilling or planting any succeeding crop the soil MUST be mouldboard ploughed to a depth of at least 15 cm (6") taking care to ensure that the furrow slice is inverted. Ploughing



should be carried out as soon as possible (preferably within three to four weeks) after lifting the potato crop, **but certainly no later than the end of December**.

#### *In the same year*

- Provided at least 16 weeks have elapsed after the application of the recommended rate of SENCOREX FLOW, the following crops, may be grown; ryegrass, cereals and winter beans.
- In West Cornwall, on soil with more than 5% organic matter, early potatoes which have been treated with the recommended rate of SENCOREX FLOW may be followed by summer planted brassica crops provided that at least 14 weeks have elapsed from spraying, spring rainfall was normal, and that mouldboard ploughing takes place after potato lifting and before drilling or transplanting the brassica crop.

#### *In the following year*

- Do not grow (i) any vegetable brassica crop (including cauliflowers, calabrese, Brussels sprouts and cabbages) on silt soils in Lincolnshire, or (ii) lettuce and radish crops anywhere in the UK, on land treated with SENCOREX FLOW in the previous year.
- Any other crop may be grown from spring onwards in the year following SENCOREX FLOW use.

### **MIXING**

Half fill the spray tank with clean water. Commence agitation. Steadily add the recommended quantity of SENCOREX FLOW to the spray tank (pre-mixing is not necessary). Complete filling and maintain agitation of the suspension before and during spraying until the tank is empty. After spraying, thoroughly clean and flush out application machinery with a minimum of three rinses. Ensure that all traces of the product are removed.

### **COMPANY ADVISORY INFORMATION**

#### *Factors relating to product/crop agronomy.*

Certain weeds may develop resistance to Bayer products. Since such circumstances are beyond our control, Bayer CropScience will be under no liability for any resulting loss or damage whatsoever.

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## SENCOREX FLOW

Contains 600 g/l metribuzin.



### WARNING

**May cause damage to organs (liver, kidneys) through prolonged or repeated exposure if swallowed.**

**Very toxic to aquatic life with long lasting effects.**

Do not breathe dust/fume/gas/mist/vapours/spray.

Get medical advice/attention if you feel unwell.

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

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

## SAFETY PRECAUTIONS

### Operator protection

Engineering control of operator exposure must be used where reasonably practical in addition to the following personal protective equipment:

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling the concentrate, handling contaminated surfaces or applying the product.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.

WHEN USING DO NOT EAT, DRINK OR SMOKE.

WASH CONCENTRATE from skin or eyes immediately.

AVOID ALL CONTACT BY MOUTH.

DO NOT BREATHE SPRAY.

WASH HANDS AND EXPOSED SKIN before meals and after work.

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

### Environmental protection

Do not contaminate water with the product or its container. Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads.

Extreme care must be taken to avoid spray drift onto non-crop plants outside of the target area.

To protect aquatic organisms respect an unsprayed buffer zone to surface water bodies in line with LERAP requirements.

DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within five metres of the top of the bank of a static or flowing waterbody unless a Local Environmental Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within one metre of the top of a ditch which is dry at the time of application.

Aim spray away from water.

This product qualifies for inclusion within the Local Environmental Risk Assessment for Pesticides (LERAP) scheme. Before each spraying operation from a horizontal boom sprayer, either a LERAP must be carried out in accordance with CRD published guidance or the statutory buffer zone must be maintained. The results of the LERAP must be recorded and the records kept available for inspection for three years.

### **Storage and disposal**

KEEP IN ORIGINAL CONTAINER tightly closed in a safe place.

EMPTY CONTAINER COMPLETELY and dispose of safely.

KEEP OUT OF REACH OF CHILDREN.

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDSTUFFS.

SHAKE WELL BEFORE USE.