BASF
We create chemistry

# Sovorna®


**MAPP 20853**
**A capsule suspension containing 400 g/l cinmethylin and 67 g/l picolinafen.**
**A residual and contact herbicide for the control of blackgrass, ryegrass, annual meadow grass and broad leaved weeds in winter wheat and spring barley.**

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

**This product must be sold and used only in England, Scotland and Wales.**

**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 CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling the concentrate.
However, engineering controls may replace personal protective equipment if a COSHH assessment shows that they provide an equal or higher standard of protection.
WASH ALL PROTECTIVE CLOTHING thoroughly after use, especially the insides of gloves.
WHEN USING DO NOT EAT, DRINK OR SMOKE.
WASH HANDS before eating and after work.
IF YOU FEEL UNWELL, seek medical advice immediately (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.
To protect aquatic organisms respect an unsprayed buffer zone to surface water bodies as specified for the crop.
HORIZONTAL BOOM SPRAYERS MUST BE FITTED WITH THREE STAR DRIFT REDUCTION TECHNOLOGY FOR ALL USES
Low drift spraying equipment must be operated according to the specific conditions stated in the official three star rating for that equipment as published on HSE Chemicals Regulation Directorate's website.
Maintain three star operating conditions until 30 m from the top of the bank of any surface water bodies.
DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within the distance specified for the crop to the top of the bank of a static or flowing waterbody, or within 1m of the top of a ditch which is dry at the time of application.
Aim spray away from water.
NOTE: BUFFER ZONES OF MORE THAN 5 M CANNOT BE REDUCED UNDER THE LOCAL ENVIRONMENT RISK ASSESSMENT FOR PESTICIDES (LERAP) SCHEME.
The statutory buffer zone must be maintained and the distance recorded in Section A of the LERAP record form.
The LERAP record form must be kept available for three years.
Extreme care must be taken to avoid spray drift onto non-crop plants outside the target area.
To protect non-target plants respect an untreated buffer zone of 5 metres to non-crop land.

**Storage and disposal**
KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.
KEEP OUT OF REACH OF CHILDREN.
KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.
DO NOT RE-USE CONTAINER FOR ANY PURPOSE.
On emptying the 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.

**This label is compliant with the CPA Voluntary Initiative Guidance**

**Supplied by:**
**BASF plc, 4th and 5th Floors, 2 Stockport Exchange, Railway Road, Stockport, SK1 3GG**
**Telephone: 0161 475 3000**

**Emergency Information (24 hours freephone):**
**0049 180 227 3112**
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The Voluntary Initiative

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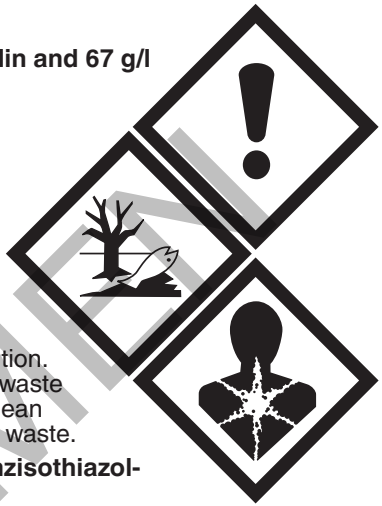

**Warning**

**May cause an allergic skin reaction.**
**May cause damage to the nervous system.**
**Very toxic to aquatic life with long lasting effects.**

If medical advice is needed, have product container or label at hand.
Wear protective gloves.
Do not breath mist/vapour/spray
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
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.

**Contains 2-methylisothiazol-3(2H)-one and 1,2-benzisothiazol-3(2H)-one.**

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



**IMPORTANT INFORMATION**

## FOR USE ONLY AS A PROFESSIONAL HERBICIDE

| Crops | Maximum individual dose | Maximum total dose (per crop) | Latest time of application | Aquatic Buffer zones |
|---|---|---|---|---|
| Winter wheat, Spring barley | 1.25 litres product/ha | 1.25 litres product/ha | Up to and including the three leaf stage (GS13) | 12 metres |
| Winter wheat, Spring barley | 0.63 litres product/ha | 0.63 litres product/ha | Up to and including the three leaf stage (GS13) | 6 metres |

**Other specific restriction:** Do not apply via hand-held equipment.

**IMPORTANT**: Note that goods treated under the terms of this Great Britain (GB) authorisation can be legally marketed in Northern Ireland if they are being moved under the Northern Ireland Retail Movement Scheme. All other treated goods can only be marketed in Northern Ireland if they are in accordance with the statutory EU Maximum Residue Level (MRL) set under Regulation (EC) No 396/2005. This may also apply to residues in animal products where treated crops are fed to livestock. Growers are advised to draw this to the attention of distributors and retailers so that EU MRL breaches and any associated enforcement against goods marketed in Northern Ireland are avoided.

**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.**

## 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.

## Restrictions/Warnings

### Efficacy

Some soil moisture is required for residual activity. Control may be reduced under prolonged dry conditions or on soils with a high organic matter content.

Loose or cloddy seedbeds must be consolidated before application otherwise reduced weed control or crop damage may result due to inadequate seed cover. Crop damage may lead to effects on yield.

Do not disturb the soil after application.

### Soil types

Sovorna is suitable for use on all soil types as defined by Soil Texture (85) System, except sands, very light soils and very stony or gravelly soils as there is an increased risk of crop damage.

Do not use on water-logged soil or soils prone to water logging.

Do not use on soils with more than 10% organic matter.

### Seedbed preparation

For pre-emergence treatments, seed should be sown into a fine, firm seedbed so that seed is adequately covered with a minimum of 3.0 cm of settled soil. With direct drilled crops, harrow across slits to cover the seed before spraying.

Trash and straw should be incorporated during seedbed preparation.

### Crop safety

Do not apply Sovorna when heavy rain is forecast and do not use on waterlogged soil or soils prone to waterlogging. Crop thinning or reductions in crop vigour, which may result in yield reductions, can occur if there is very wet weather after application. If a crop check has occurred, this normally grows out after a few weeks and yields are normally unaffected.

Do not apply Sovorna either alone or in tank mixture to crops suffering from stress, which may be caused, for example, by pests, disease, poor seedbed conditions, wind abrasion, nutrient deficiences or previous chemical treatment.

Shallow crops should only be treated post-emergence.

Care should be taken to avoid spray overlap, as crop damage may occur which may not be outgrown and may lead to reduced yield.

Some transient bleaching may be seen after application to some crops. This does not lead to yield loss.

Do not spray during periods of prolonged or severe frosts.

Do not roll emerged crops prior to application.

Do not roll autumn treated crops until the spring.

Do not incorporate Sovorna into the soil.

Do not use Sovorna in undersown crops or those to be undersown.

**Spray drift**

Effectiveness using three star drift reduction technology may be reduced.

Avoid spray drift on to neighbouring crops and plants outside the target area.

To protect non-target plants, respect an untreated buffer zone of 5 metres to non-crop land.

## Weed control

**Susceptibility of weeds to single applications of Sovorna.**

Best results will be achieved by application pre-em of the weed or early post-emergence on to small actively growing weeds.

| Weed | Sovorna | | | |
|---|---|---|---|---|
| | 0.625 l/ha | | 1.25 l/ha | |
| | pre | post | pre | post |
| **Grass Weeds** | | | | |
| Annual Meadow Grass | S | S up to 3 leaves | | |
| Blackgrass | | | MS | MS up to 3 leaves |
| Italian Ryegrass | | | S | MS up to 3 leaves |
| Perennial Ryegrass* | | | S | |
| Loose Silky bent | S | S up to 1 leaf | | |
| **Broadleaved Weeds** | | | | |
| Cleavers | | | S | S up to 3 whorls |
| Common Chickweed | S | S up to 6 leaves | | |
| Common Field Speedwell | S | | | S up to 2 leaves |
| Common Poppy | S | S up to 2 leaves | | |
| Field Pansy | S | S up to 4 leaves | | |
| Hairy bittercress | S | | | |
| Cut leaved cranesbill | S | MS up to 3 leaves | | |
| Round leaved Geranium | | MS up to 3 leaves | | |
| Shepherds Purse | S | S up to 4 leaves | | |
| Ivy-leaved Speedwell | MR | | S | S up to 6 leaves |
| Mayweeds | MS | MS up to 4 leaves | S | S up to 4 leaves |
| Volunteer Oilseed Rape | | S up to 2 leaves | | S up to 3 leaves |

*From seed
S = Susceptible
MS = Moderately susceptible
MR = Moderately resistant

## Resistance Management

| GROUP | 12 | 30 | HERBICIDES |
|---|---|---|---|

Strains of some annual grasses (e.g. Black-grass, Wild-Oats, and Italian Ryegrass) have developed resistance to herbicides, which may lead to poor control. A strategy for preventing and managing such resistance should be adopted. Sovorna contains cinmethylin which belongs to the HRAC Group 30 class of herbicides (Inhibition of Fatty Acid Thioesterase) and picolinafen which belongs to HRAC Group 12 (Inhibition of PDS).

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. Guidelines have been produced by the Weed Resistance Action Group (WRAG) and can be found on the WRAG website The Weed Resistance Action Group (WRAG) I AHDB. Alternatively contact CropLife UK, your distributor, crop advisor or product manufacturer.

Key elements of the weed resistance management strategy for Sovorna include:-
- 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).
- Adopt as diverse a rotation as possible using autumn and spring sown crops.
- Use a program of tank mixes or herbicide sequences with different modes of action within individual crops or succeeding crops. Do not rely on one mode of action for the control of grass or broad-leaved weeds in the same field over several years.
- Apply post-emergence products/mixtures to small, actively growing weeds to maximise the level of control.
- Monitor fields regularly and investigate the reasons for any poor control.

## Crop Specific Information

**Crops**
Sovorna can be used on all varieties of winter wheat and spring barley.

**Time of application**
Sovorna should be applied from pre-emergence up to and including GS 13 of the crop.

**Rate of application**
Apply Sovorna at 1.25 litre per hectare.

## Following Crops

**Following crops after normal harvest**
There are no restrictions on following crops after the normal harvest of winter wheat treated with Sovorna alone.

Between application of Sovorna and the planting with any type of ryegrass or other forage grasses, observe a minimum interval of 12 months.

Following application in spring barley, there are no restrictions if planting any type of cereal crop in the same autumn. For any other crop following application in spring barley, plough to at least 15cm before planting.

**In the event of crop failure**
In the event of crop failure the following crops may be sown in accordance with the minimum interval after application specified in the following table:

| | |
|---|---|
| Spring Barley | Minimum interval of 3 months, deep and intensive soil preparation to a minimum of 15 cm prior to planting |
| Spring Wheat | Minimum interval of 3 months, deep and intensive soil preparation prior to planting to a minimum of 15 cm. |
| Sugar beet | Minimum interval of 3 months, deep and intensive soil preparation prior to planting to a minimum of 15 cm. |
| Winter Wheat | Not recommended |
| Maize | Minimum interval of 5 months with soil thoroughly cultivated to a minimum depth of 15cm |
| Spring Peas and Spring Beans | Minimum interval of of 5 months with soil thoroughly cultivated to a minimum depth of 15cm |
| Potatoes | Not recommended |

## Mixing and Application

**Application**
Apply Sovorna in a water volume of 150-400 litres per hectare.

Apply with a MEDIUM spray as defined by BCPC.

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 manufacturer.

**Mixing**
Never prepare more spray solution than is required.

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 Sovorna to the spray tank while re-circulating. 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.

**Sprayer cleaning**
After spraying, thoroughly clean and flush out application machinery with a minimum of two rinses to ensure that all traces of the product are removed.

## Compatibility

For current details of other compatible tank-mixes contact the BASF Technical Services Hotline 0845 602 2553, your distributor or local BASF representative.

## Company Advisory Information

### The following does not form part of the authorised label text.

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.

agricentre.basf.co.uk/Sovorna/MSDS

Alternatively, contact your supplier.

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