VALDOR®

Flex

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Herbicide

A non-selective herbicide for the control of annual and perennial weeds in non-crop areas (permeable surfaces overlying soil), amenity vegetation (around) and railway ballast.

A water dispersible granule formulation containing 360 g/kg diflufenican and 10 g/kg iodosulfuron-methyl-sodium.

For professional use only.

Safety information

VALDOR® FLEX

A water dispersible granule formulation containing 360 g/kg diflufenican and 10 g/kg iodosulfuron-methyl-sodium.

Causes serious eye irritation

Very toxic to aquatic life with long lasting effects

Wear eye / face protection.

If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Pick up spillage.

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.

Contains disodium maleate. May produce an allergic reaction.

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

PCS No. 05882 - UFI : 72Q0-8052-C006-UMTY

envu™

500 g e

Pre and early-post emergent

Directions for use

FOR USE ONLY AS AN INDUSTRIAL HERBICIDE

FOR PROFESSIONAL USE ONLY

Situation: Pre- and post-emergence total weed control in non-crop areas (permeable surfaces overlying soil), amenity vegetation (around) and railway ballast

Maximum individual dose: 0.5 kg product/ha

Maximum number of treatments: 1 per year

Method of Application: Hand-held / knapsack sprayer, tractor-mounted sprayer or train sprayer

Equipment	Area	Product required	Water volume
Hand-held / knapsack*	200 m^2	10 g	6 – 10 L
Tractor-mounted boom sprayer, or train sprayer	1 ha	0.5 kg	300 – 500 L

**To minimise spray drift, the product must be applied using a nozzle capable of producing a coarse quality spray (e.g. Hypro Polijet AN0.6 or equivalent).*

This product must not be applied to any non-porous man-made surfaces.

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.

Further information is available from: Tel: 00800 12149451

For 24 hour emergency information contact Telephone: +44 20 3807 3798

www.uk.envu.com for SDS and larger label.

For information or to report a poisoning incident contact The National Poisons Information Centre, Beaumont Hospital, Dublin (01-8092166), retain the label for reference.

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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 FACE PROTECTION (FACESHIELD) when handling the product.
WASH HANDS AND EXPOSED SKIN before eating and drinking and after work.
IF SWALLOWED, seek medical advice immediately and show this container or label.

Environmental Protection

Do not contaminate water with the product or its container. (Do not clean application equipment near surface water / Avoid contamination via drains, farmyards and roads).
Extreme care must be taken to avoid spray drift onto non-target plants outside the target area.
Hand-held equipment: To protect aquatic organisms respect an unsprayed buffer zone of 2 m to surface water bodies.
Tractor-mounted or train sprayer: To protect aquatic organisms respect an unsprayed buffer zone of 12 m* to surface water bodies. Do not allow direct overspray of static or flowing surface waters.

** To reduce this buffer zone please refer to PRCD Guidance – STRIPE (Surface water Tool for Reducing the Impact of Pesticides in the Environment).*

Storage and Disposal

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS.
KEEP OUT OF REACH OF CHILDREN.
KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.
EMPTY CONTAINER COMPLETELY and dispose of safely.
PROTECT FROM FROST.
RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinse three times. Add washings to sprayer at time of filling and dispose of safely.
Triple rinsed containers should be punctured to prevent re-use and may be disposed of by an authorised contractor or at a municipal waste recycling site.

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.

GENERAL INFORMATION

VALDOR FLEX is a water dispersible granule formulation containing 360 g/kg diflufenican and 10 g/kg iodosulfuron-methyl-sodium.
VALDOR FLEX is a persistent, non-selective/"total" herbicide for control of a wide range of annual and perennial grasses and broad-leaved weeds for up to 4 months on non-crop areas (permeable surfaces overlying soil) such as: gravel paths and driveways, porous surfaces alongside roadways and fence lines, porous strips of land adjacent to buildings, industrial sites, timber yards, farm yards, oil and gas storage sites, power stations, electric sub-stations, beneath pylons, around street/park obstacles and furniture, porous areas near to trees and shrubs and other natural surfaces where vegetation is not desirable, and railway ballast. VALDOR FLEX may also be used around the base of trees, shrubs and other plants in areas of semi-natural or ornamental vegetation, including parks, roadsides and other amenity areas.

VALDOR FLEX can be applied alone to give pre- and early post-emergence weed control, or in a tank mixture with a commercially approved glyphosate formulation to give post-emergence weed control. One application of VALDOR FLEX can be made in each year. VALDOR FLEX can be applied during cold weather, however application to frozen ground should be avoided.

VALDOR FLEX is to be dispersed in water (0.5 kg in 300 - 500 L) and should be applied using hand-held applicators or a tractor-mounted boom sprayer. A drift shield is recommended for use around amenity vegetation, and in other areas where desired vegetation may be present. For application to railway ballast, a track dedicated low drift application system may also be used.

Bayer Tip: For established deep rooted perennial weeds such as dandelion, thistle, dock and nettles which may be re-generating, a post-emergence application with a commercially approved glyphosate formulation is ideally required.

RESTRICTIONS

Since there is a risk to aquatic life from use, direct spray from hand-held equipment must not be allowed to fall within 2 m of the top of the bank of any static or flowing waterbody or the top of a ditch which is dry at the time of application. Spray must be aimed away from water. Direct spray from a tractor-mounted or train sprayer must not be allowed to fall within 12 m* of the top of the bank of a static or flowing water body. Do not allow direct overspray of static or flowing surface waters.

* To reduce this buffer zone please refer to PRCD Guidance – STRIPE (Surface water Tool for Reducing the Impact of Pesticides in the Environment).
Applications should not be made to plants growing under stress conditions, such as drought or waterlogging, as reduced levels of control may result.
Do not spray in windy weather.
Extreme care must be taken to avoid drift onto non-target plants, this includes: all green plant parts such as leaf surfaces, young bark or suckers of valued plants. Failure to do so may result in permanent damage or plant death.
Where VALDOR FLEX has been applied to sites that are subsequently to be cleared or grubbed, a period of at least 6 months should elapse between treatment and the sowing and planting of subsequent crops. In addition, the soil should be ploughed or dug afterwards to ensure thorough mixing in order to remove any risk of damaging subsequent crops or planting.
Where VALDOR FLEX or other products containing diflufenican are applied in successive years, levels of diflufenican will build up in the soil. Even where soils are thoroughly dug there may be a risk of damage to subsequent plantings.
Care should be taken when applying VALDOR FLEX as heavy rain following application may wash the herbicide onto sensitive areas such as newly sown grass and areas about to be planted.
Where the soil organic matter content is greater than 10%, or for example where leaves have collected or where a mat of organic matter has built up, pre-emergence activity will be reduced.
For maximum persistence of activity the area treated should not be cultivated or raked following application.
For maximum pre-emergence and residual activity from VALDOR FLEX please ensure good coverage of the spray swath.
Overdosing should be avoided.
DO NOT APPLY VALDOR FLEX OVER DRAINS OR IN DRAINAGE CHANNELS,
GULLIES OR SIMILAR STRUCTURES FOR MOVING WATER.

WEEDS CONTROLLED

Strains of some annual weeds (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. This should include integrating herbicides with a programme of cultural control measures. Guidelines have been produced by the Weed Resistance Action Group (WRAG) and copies are available from Teagasc, your distributor, crop adviser or product manufacturer.

The presence of enhanced metabolism herbicide resistant populations of Italian rye-grass may lead to unacceptable levels of control. To reduce the risk of developing resistance or where resistance to sulfonylurea herbicides is suspected, applications should be made to young, actively growing weeds.

Key aspects of the VALDOR FLEX resistance management strategy are:
- ALWAYS follow WRAG guidelines for preventing and managing herbicide resistant grass and broad-leaved weeds.
- DO NOT use VALDOR FLEX as a stand-alone spring treatment for black-grass, rye-grass or common chickweed. Use only in sequence with a robust herbicide programme based on products with non-ALS modes of action.
- IDEALLY apply VALDOR FLEX early to young actively growing weeds and before stem extension of grass weeds.
- DO NOT use VALDOR FLEX as the sole means of grass weed or broad-leaved weed control in successive years.
- ALWAYS rotate use of grass and broad-leaved weed herbicides with non-ALS modes of action.
- ALWAYS monitor weed control effectiveness and investigate any odd patches of poor grass or broad-leaved weed control. If unexplained contact your agronomist or technical advisor, who may consider a resistance test appropriate.
- Only one application of VALDOR FLEX may be made per year.

VALDOR FLEX controls susceptible annual and perennial weeds if applied pre- or early post-emergence, as directed in **Rates of Use**, or post-emergence in tank mixture with an authorised formulation of glyphosate. Effectiveness when using drift reduction technology may be reduced.

On natural surfaces not intended to bear vegetation, permeable surfaces overlying soil and amenity vegetation (around)

Grass weeds:

Annual meadow-grass *(Poa annua)*
Cock's-foot *(Dactylis glomerata)*
Perennial rye-grass from seed *(Lolium perenne)*

Broad-leaved weeds:

Black nightshade *(Solanum nigrum)*
Bristly oxtongue *(Helminthotheca echioides)*
Canadian fleabane *(Erigeron canadensis)*
Common field speed-well *(Veronica persica)*
Common groundsel *(Senecio vulgaris)*
Common purslane *(Portulaca oleracea)*
Common Stork's-bill *(Erodium cicutarium)*
Cut-leaved crane's-bill *(Geranium dissectum)*
Dandelion *(Taraxacum officinale)*
Dove's-foot cranes-bill *(Geranium molle)*
Fat hen *(Chenopodium album)*
Field pansy *(Viola arvensis)*
Greater plantain *(Plantago major)*
Hairy bitter-cress *(Cardamine hirsuta)*
Knotgrass *(Polygonum aviculare)*
Lesser trefoil *(Triflium dubium)*
Mayweeds *(Matricaria sp.)*
Mouse-ear hawkweed *(Pilosella officinarum)*
Narrow-leaved ragwort *(Senecio inaequidens)*
Perennial sow-thistle *(Sonchus arvensis)*
Prickly sow-thistle *(Sonchus asper)*
Ribwort Plantain *(Plantago lanceolata)*
Rosebay willowherb *(Chamerion angustifolium)*
Scarlet pimpernel *(Anagallis arvensis)*
Shepherd's purse *(Capsella bursa-pastoris)*
Smooth sow-thistle *(Sonchus oleraceus)*
Sowthistles *(Sonchus sp.)*
Spotted spurge *(Chamaesyce maculate)*
Tussock hawkweed *(Hieracium lachenalii)*
White clover *(Trifolium repens)*
Willowherbs *(Epilobium sp.)*
Yarrow *(Achillea millefolium)*

On hard surfaces (railway ballast only)

Grass weeds:

Annual meadow-grass *(Poa annua)*

Broad-leaved weeds:

Bristly oxtongue *(Helminthotheca echioides)*
Creeping thistle *(Cirsium arvense)*
Cut-leaved cranesbill *(Geranium dissectum)*
Dandelion *(Taraxacum officinale)*
Dove's-foot cranesbill *(Geranium molle)*
Field bindweed *(Convolvulus arvensis)*
Lesser trefoil *(Trifolium dubium)*
Mayweeds *(Matricaria sp.)*
Ribwort *(Plantago lanceolata)*
Rosebay willowherb *(Chamerion angustifolium)*
Shepherd's purse *(Capsella bursa-pastoris)*
Sow-thistles *(Sonchus sp.)*
Willowherbs *(Epilobium sp.)*

Well-developed or established weeds (greater than 2 true leaves) will not be controlled.

SUSCEPTIBILITY OF NON-TARGET SPECIES

Trials have been conducted to evaluate the susceptibility of ornamental plants which could be exposed to spray drift during application. The following deciduous trees, shrubs and conifer species are resistant to the product when applied as recommended. Transient effects such as discoloration or chlorosis may occur if spray drift comes in to direct contact with the foliage, but this should have no long-lasting adverse effect on the plants.

Alder *(Alnus glutinosa)*
American alder *(Alnus incana)*
American red oak *(Quercus rubra L).*
Ash-leaved maple *(Acer negundo)*
Bull bay *(Magnolia grandiflora)*
Canoe birch *(Betula papyrifera)*
Common rowan *(Sorbus aucuparia)*
Crab apple *(Malus sylvestris)*
Elms *(Ulmus L. spec.)*
English oak *(Quercus robur)*
European ash *(Fraxinus excelsior)*
European beech *(Fagus sylvatica)*
Evergreen oak *(Quercus ilex L.)*
Field maple *(Acer campestre)*
Ginkgo
Gleditsia L. spec.
Himalayan birch *(Betula utilis)*
Horse chestnut *(Aesculus hippocastanum)*
Italian alder *(Alnus cordata)*
Large-leaved linden *(Tilia platyphyllos)*
London plane *(Platanus hybrida)*
Magnolia sp.
Norway maple *(Acer platanoides)*
Pussy willow *(Salix caprea)*
Quercus L. spec.
Red gum *(Liquidambar styraciflua)*
Silver birch *(Betula pendula)*
Small-leaved linden *(Tilia cordata)*
Sycamore *(Acer pseudoplatanus)*
Tulip tree *(Liriodendron tulipifera L).*
White oak *(Quercus pubescens)*

Alder buckthorn *(Rhamnus frangula)*
Blackthorn *(Prunus spinosa)*
Cherry laurel *(Prunus laurocerasus)*
Chokeberry *(Aronia prunifolia)*
Common box *(Buxus sempervirens)*
Common holly *(Ilex aquifolium L.)*
Common lilac *(Syringa vulgaris)*
Dogwoods *(Cornus spectabilis)*
Elaeagnus sp.
European hazel *(Corylus avellana)*
Forsythia *(Forsythia x intermedia)*
Garden privet *(Ligustrum ovalifolium)*
Golden currant *(Ribes aureum)*
Hibiscus L. spec.
Holly-leaved barberry *(Mahonia aquifolium)*
Japanese barberry *(Berberis thunbergii)*
Juneberry *(Amelanchier canadensis)*
Privets *(Ligustrum spectabilis)*
Prunus ornamental species
Prunus sp.
Red-flowered currant *(Ribes sanguineum)*
Rhododendron L. spec.
shrubby cinquefoil *(Potentilla fruticosa)*
Siberian pea tree *(Caragana arborescens)*
Snowberry *(Symphoricarpos)*
Spindle *(Euonymus europaeus)*
Spiraea sp.
Spiraea x vanhouttei
Viburnum tinus L.
White beech *(Carpinus betulus)*
Wild privet *(Ligustrum vulgare)*
Wintercreeper *(Euonymus fortunei)*

Austrian pine *(Pinus austriaca)*
Chinese juniper *(Juniperus media)*
Chinese thuja *(Thuja orientalis)*
Colorado spruce *(Picea pungens)*
Lawson's false cypress *(Chamaecyparis lawsoniana)*
Leyland cypress *(Cupressocyparis leylandii)*
Nordmann fir *(Abies nordmanniana)*
Northern white cedar *(Thuja occidentalis)*
Norway spruce *(Picea abies)*
Picea sp.
Scots pine *(Pinus sylvestris)*
Western red cedar Excelsa *(Thuja plicata excelsa)*

List of sensitive ornamental plants: spray drift may cause significant damage, such as necrosis, discoloration, chlorosis or stunting of European yew *(Taxus baccata), rosa, cotoneaster* and *crataegus* species.

Do not apply Valdor Flex around or under shrubs of the *Rosacea* family.

Application around or under other species not listed here is not recommended.

SITUATION SPECIFIC INFORMATION

Use Areas

Natural surfaces not intended to bear vegetation, permeable surfaces overlying soil

VALDOR FLEX may be used in non-crop areas against weeds in open soil and against weeds growing in gravel or other porous surfaces. Examples of suitable use areas include gravel paths and driveways, porous surfaces alongside roadways and fence lines, porous strips of land adjacent to buildings, industrial sites, timber yards, farm yards, oil and gas storage sites, power stations, electric sub-stations, beneath pylons, around street/park obstacles and furniture, porous areas near to trees and shrubs and other natural surfaces where vegetation is not desirable.

Railway ballast

VALDOR FLEX may be used on railway track, railway sidings and other ballast areas of rail infrastructure.

Amenity vegetation (around)

VALDOR FLEX may be used around the base of trees, shrubs and other plants in areas of semi-natural or ornamental vegetation, including parks, roadsides and other amenity areas. A drift shield is recommended for use around amenity vegetation, and in other areas where desired vegetation may be present.

Rates of Use

Equipment	Area	Product required	Water volume	Buffer zone
Hand-held / knapsack*	200 m^2	10 g	6 – 10 L	2 m
Tractor-mounted boom sprayer, or train sprayer	1 ha	0.5 kg	300 – 500 L	12 m#

**To minimise spray drift, the product must be applied using a nozzle capable of producing a coarse quality spray (e.g. Hypro Polijet AN0.6 or equivalent).*

 # To reduce this buffer zone please refer to PRCD Guidance – STRIPE (Surface water Tool for Reducing the Impact of Pesticides in the Environment).

Application Timing
Apply at any time of the year to weed-free soil, or apply in a tank-mix with an authorised glyphosate-containing product if unwanted vegetation is already present. At least six hours, but preferably 24 hours of dry weather are required immediately following application of a tank-mix with glyphosate for optimum control.

Bayer Tip: For post-emergence application ideally annual broad-leaved weeds should have at least two fully expanded true leaves and annual grasses should be at the one leaf growth stage or beyond. Some perennial weeds, including docks, perennial sowthistle and willowherb are best treated just before flowering or the setting of seed.

MIXING AND SPRAYING
Half fill the spray tank with clean water. Add the required quantity of VALDOR FLEX. Top up to the required volume with water and agitate to ensure the granules are dissolved. Use immediately.
WASH OUT THE SPRAYER THOROUGHLY AFTER USE, USING A WETTING AGENT OR PROPRIETARY TANK CLEANER WITH TWO RINSES, AS TRACES OF VALDOR FLEX MAY CAUSE HARM TO OTHER SUSCEPTIBLE PLANTS SPRAYED LATER.

Equipment

Hand-held / knapsack
Use a hand-held / knapsack sprayer fitted with a coarse nozzle using a pressure of around 1-2 bars to provide a coarse spray. Use of anti-drift nozzles or the use of a protector shield to avoid any drift is recommended.

NOZZLE:
Hypro Polijet AN0.6 nozzle provided gives, subject to calibration: a coarse spray with a flow rate of 0.6 L/min at 1 bar, giving 225 L/ha at 4kph walking speed, swath width of 40 cm, 40 cm nozzle height or use similar nozzles that give coarse spray. Good and even coverage of foliage and soil is essential for optimum activity.

Tractor-mounted applications and train sprayer
Use a tractor-mounted boom sprayer with a pressure of around 1-2 bars to provide a medium spray quality. Good and even coverage of foliage and soil is essential for optimum activity.

Application to railway ballast may also be made via a spray train using a low drift, train-mounted nozzle. Good and even coverage of foliage and ballast is essential for optimum activity.

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Maximum individual dose:	0.5 kg product/ha
Maximum number of treatments:	1 per year
Method of Application:	Hand-held / knapsack sprayer, tractor-mounted sprayer or train sprayer

Equipment	Area	Product required	Water volume
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