

# FUSILADE MAX



An emulsifiable concentrate formulation containing 125 g/l fluzifop-p-butyl. A herbicide for post emergence control of annual and perennial grass-weeds and volunteer cereals in a range of tree nuts, pome fruit, stone fruit, table and wine grapes, other small fruit and berries, root and tuber vegetables, bulb vegetables, brassica vegetables, leaf vegetables and fresh herbs, fresh legumes, dry pulses, stem vegetables, oilseeds, chicory root, beet crops, green cover and farm forestry.

## 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 or when applying by hand held equipment

UK Only - 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.

WASH HANDS AND EXPOSED SKIN before meals and after work.

### 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

### Storage and Disposal

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 washing to sprayer at time of filling and dispose of safely.

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

## Safety Information



### WARNING

**Suspected of damaging the unborn child.**

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

Keep out of reach of children.

Use personal protective equipment as required.

IF exposed or concerned: Get medical advice/attention.

Collect 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 fluzifop-p-butyl. May produce an allergic reaction.**

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

MAPP 19013 PCS No. 05073

### Authorisation Holder & Marketing Company

Nufarm UK Limited -  
Wyke Lane, Wyke, Bradford, West Yorkshire,  
BD12 9EJ

United Kingdom

**Technical Helpline telephone number:**

**+44 (0)1274 694714**

**24-hour emergency telephone number:**

**+44 (0)1274 696603**

**PROTECT FROM FROST  
FOR PROFESSIONAL USE ONLY**

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 **Nufarm**  
Grow a better tomorrow

**IMPORTANT INFORMATION**  
**FOR PROFESSIONAL USE ONLY AS AN AGRICULTURAL/ HORTICULTURAL/ FORESTRY HERBICIDE**

Crop	Maximum Individual Dose (L product/ha)	Maximum number of applications per crop	Latest Time of Application
Oilseed rape, fodder rape	2	1	Before flowering and at least 90 days before harvest
Sunflower	2	1	Before 6 true leaves stage
Linseed	1.5	1	Before flowering and at least 90 days before harvest
Vining pea	1.5	1	Before flowering and at least 35 days before harvest
Edible podded pea <sup>1</sup>	1.5	1	Before flowering and at least 28 days before harvest
Combining pea, field bean, beans without pods (dry <sup>1</sup> ), lupin <sup>1</sup>	2	1	Before flowering and at least 90 days before harvest
Broad bean (fresh)	2	1	Before flowering and at least 35 days before harvest
Sugar beet, fodder beet	3	1	Before 50% ground cover and at least 56 days before harvest.
Carrot, parsnip <sup>1</sup> , parsley root <sup>1</sup> , red beet <sup>1</sup> , horseradish <sup>1</sup> , salsify <sup>1</sup> , radish <sup>1</sup> , mangel, turnip, swede, valerian <sup>1</sup> , mallow <sup>1</sup> , ginseng <sup>1</sup> , liquorice <sup>1</sup> , ginger <sup>1</sup> , turmeric <sup>1</sup>	2	1	Before 50% ground cover and at least 49 days before harvest
Bulb onion, garlic, shallots	3	1	28 days before harvest.
Celariac <sup>1</sup>	3	1	Before 50% ground cover and at least 49 days before harvest
Potato	2	1	Before flowering and at least 90 days before harvest
Outdoor crops of Lettuce, endive <sup>1</sup> , spinach <sup>1</sup> , spinach beet <sup>1</sup> , purslane <sup>1</sup> , lamb's lettuce <sup>1</sup> , land cress <sup>1</sup> , rocket <sup>1</sup> , red mustard <sup>1</sup> , baby leaf crops <sup>1</sup>	1.5	1	42 days before harvest
Outdoor crops of Angelica <sup>1</sup> , bay <sup>1</sup> , basil <sup>1</sup> , caraway leaves <sup>1</sup> , celery leaves <sup>1</sup> , chervil <sup>1</sup> , chives <sup>1</sup> , coriander leaves <sup>1</sup> , dill <sup>1</sup> leaves <sup>1</sup> , parsley <sup>1</sup> , lovage leaves <sup>1</sup> , mint <sup>1</sup> , rosemary <sup>1</sup> , sage <sup>1</sup> , tarragon <sup>1</sup> , thyme <sup>1</sup> , edible flowers <sup>1</sup>	1.5	1	42 days before harvest
Asparagus	1.5	1	42 days before harvest
Celery <sup>1</sup> , Florence fennel <sup>1</sup> , cardoon <sup>1</sup>	1.5	1	49 days before harvest
Around hops	3	1	30 days before harvest
Globe artichoke <sup>1</sup>	2	1	42 days before harvest

Crop	Maximum Individual Dose (L product/ha)	Maximum number of applications per crop	Latest Time of Application
Around almond, hazelnut, Walnut and chestnuts	1	1	21 days before harvest
Around apple, pear, cherry, plum, apricot, quince, table grapes, wine grapes	1	1	28 days before harvest
Around raspberry, blackberry, loganberry and rubus hybrids	1	1	45 days before harvest
Around blackcurrant and redcurrant, gooseberry, blueberry, cranberry, rosehip, mulberry, elderberry, bilberry	1	1	90 days before harvest
Chicory root <sup>1</sup>	3	1	56 days before harvest
Rhubarb	1.5	1	49 days before harvest
Farm forestry	3	one per annum	-

<sup>1</sup>These are qualified recommendations as crop safety on these crops is based on limited evidence. For all qualified recommendations users are advised to test a small area first to establish crop safety.

*Other Specific Restrictions:*

- When applying in farm forests this product must not be used for forestry establishment on land that was not previously under arable cultivation or improved grassland.
- When using around tree, bush and cane fruit, hops and grapevines or in farm forestry; this product must be applied to the area immediately around trees. The total surface area treated must be equal to or less than 30 % of the total area. To protect groundwater do not apply this product until large weeds have established and ground cover has reached approximately 25%
- To avoid the build-up of resistance do not apply products containing an ACCase inhibitor herbicide more than twice to any crop. In addition, do not use this product in mixture or sequence with any other product containing fluazifop-p-butyl<sup>1</sup>.

When applying to chicory root the maximum concentration of spray solution must not exceed 3 L product in 122.5 litres water/ha.

**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.

### GENERAL INFORMATION

FUSILADE MAX containing fluzafop-p-butyl is a herbicide for control of wild oats, volunteer cereals and other grass weeds, post emergence in broad-leaved crops and other situations.

FUSILADE MAX is rapidly absorbed through the leaves and moves upwards and downwards throughout the plant to the growing points. FUSILADE MAX is effective against both annual and perennial grass weeds including Common Couch. Decay of the growing points in stems is visible after 7 days. Foliar kill is complete in 3-4 weeks when weeds are actively growing under warm conditions.

FUSILADE MAX is independent of soil type as it acts through the foliage.

### RESTRICTIONS

Consult processors before treating crops intended for processing.

Avoid drift and possible damage to neighbouring crops. Do not spray in windy weather, especially if applying a FINE spray when the risk of drift is increased.

Cereal or grass crops should not be sown for at least 8 weeks after application of the 3 litres per hectare rate or at least 2 weeks after application of the 1 – 1.5 litres per hectare rates.

Annual Meadow grass and broad leaved weeds are not controlled.

Weeds germinating after application will not be controlled.

FUSILADE MAX is rainfast within 1-2 hours of application.

### WEEDS CONTROLLED

The following weeds are controlled by post emergence applications at the rates given below. Refer also to the crop recommendations for the maximum recommended rate in each crop.

Weed type/species	Application rate L/ha	Weed growth stage
<b>Annual Grass Weeds</b>		
Barren (sterile) Brome Volunteer Cereals Wild Oats	1 or 1.5	2 expanded leaves to fully tillered. The higher rate will give more rapid and reliable control of well tillered weeds.
Barley cover crops	1 or 2.0	See notes below on cover crops.
<b>Perennial Grass Weeds</b>		
Italian Ryegrass Perennial Ryegrass	1.5	2 expanded leaves to fully tillered.
Black Bent Creeping Bent (Watergrass) Common Couch	3	4 leaves. The majority of stems should have emerged.

Fusilade Max can contribute to the control of blackgrass as part of a herbicide resistance management strategy, involving mixtures and sequences with herbicides of alternative modes of action. Where resistant biotypes are present control from Fusilade Max will be unacceptable

Couch control is best when the rhizomes have been fragmented by cultivation or seedbed preparation. This encourages maximum emergence of couch shoots providing a good actively-growing target for the FUSILADE MAX spray. In perennial crops, where the rhizomes are left undisturbed regrowth may occur from dormant buds

Under dry conditions control of weeds may be reduced. For maximum effect on Common Couch do not

cultivate for 2 weeks after spraying

The effects of FUSILADE MAX on overwintered weeds have not been investigated.

## RESISTANCE MANAGEMENT

- This product contains fluzazifop-p-butyl which is an ACCase inhibitor also classified by the Herbicide Resistance Action Committee (HRAC) as 'Group A'.
- To reduce the risk of developing resistance applications should be made to young, actively growing weeds.
- Use only as part of a herbicide resistance management strategy that includes cultural methods of control such as crop rotation.
- Do not use 'FUSILADE MAX' or any other ACCase inhibitors as the sole chemical method of grass weed control in successive crops.
- Use grass weed herbicides with different modes of action throughout the cropping rotation.
- Use tank/product mixes or sequences of herbicides with different modes of action within individual crops, or successive crops.
- Monitor weed control effectiveness and investigate any odd patches of poor grass weed control. If unexplained contact your agronomist who may consider a resistance test appropriate.
- Strains of some annual grasses (e.g. black-grass, wild oats and Italian rye-grass) have developed resistance to herbicides which may lead to poor control. A strategy for preventing and managing such resistance should be adopted. Guidelines have been produced by the Weed Resistance Action Group (WRAG) and copies are available from the HGCA, CPA, your distributor, crop advisor or product manufacturer.
- Always follow WRAG guidelines for preventing and managing herbicide resistant grass weeds

## CROP SPECIFIC INFORMATION

RATES OF APPLICATION	TIMING OF APPLICATION (CROP GROWTH STAGE)
Oilseed rape, safflower*, poppy*, borage*	
1-2 l/ha	Foliar application from 1 true leaf to before flowering up to 90 days before harvest. Crops may be treated at the cotyledon stage if there is severe weed competition.
Linseed/flax	
1.0-1.5 l/ha	For linseed earliest application is from 2 true leaves up to 90 days before harvest. Crops may be treated at the cotyledon stage if there is severe weed competition.
Sunflower	
1-2 l/ha	Foliar application from 1 true leaf to 6 pairs leaves stage up to 90 days before harvest. Crops may be treated at the cotyledon stage if there is severe weed competition
Vining peas	
1.5 l/ha	Foliar application before flowering from second node stage but before first flower bud visible Latest application timing 35 days before harvest.
Broad beans (fresh)*, Beans without pods (dry)	
1 – 2 l/ha	Foliar application before flowering from second node stage but before first flower bud visible. Latest application timing 28 days before harvest.
Field beans, lupin*	
1 – 2 l/ha	Foliar application before flowering from second node stage but before first flower bud visible. Latest application timing 90 days before harvest.

RATES OF APPLICATION	TIMING OF APPLICATION (CROP GROWTH STAGE)
Combining peas	
1.5 l/ha	Foliar application before flowering from second node stage but before first flower bud visible. Latest application timing 90 days before harvest.
Edible podded pea	
1.5 l/ha	Foliar application before fourth node stage but before first flower visible. Suppression of couch only. Latest application timing 28 days before harvest.
Sugar beet and fodder beet	
1-3 l/ha	Foliar application from 1 true lead stage to approximately 50% ground cover but no later than 56 days before harvest.
Swede and turnip	
1-2 l/ha	Foliar application from 4 true leaf stage until 50% crop ground cover. A slight check to growth, crinkling of foliage and de-waxing may occur which is soon outgrown. Latest application timing 49 days before harvest.
Carrot, parsnip* beetroot (red beet)*, horseradish*, salsify*, radish*, valerian*, mallow*, ginseng*, mangel, liquorice*, ginger* and turmeric*	
1-2 l/ha	Foliar application from 2 true leaf stage. Best results with application made before 50% ground cover. Latest application timing 49 days before harvest.
Bulb onion, garlic, shallot	
1-3 l/ha	Foliar application from 2 true leaf stage. Latest application timing 28 days before harvest.
Celeriac*	
1-3 l/ha	Foliar application up to 49 days before harvest.
Potato	
1-2 l/ha	Foliar application pre-flowering, pre-tuber formation and before any row closure. Latest application timing 90 days before harvest.
Lettuce, endive*, spinach*, purslane*, spinach beet*, Lamb's lettuce*, land cress*, rocket*, red mustard*, baby leaf crops*, celery leaves*, chervil*, chives*, sage*, rosemary*, thyme*, basil*, mint*, bay*, tarragon*, edible flowers*, parsley*, lovage leaves*, dill leaves*, coriander leaves*, caraway leaves*, angelica*	
1.5 l/ha	Foliar application up to 42 days before harvest
Asparagus	
1.5-2 l/ha	Foliar application up to 1.5 l/ha up to 42 days before harvest.
Celery, Florence fennel and cardoon	
1.5 l/ha	Foliar application up to 49 days before harvest.
Hops	
1-3 l/ha	Basal application up to 30 days before harvest.
Globe Artichokes*	
1-2 l/ha	Foliar application up to 42 days before harvest.
Almond, hazelnut, walnut and chestnut	
1-3 l/ha	Basal application up to 21 days before harvest.
Apple, pear, cherry, plum, apricot, quince, table and wine grapes	
1 l/ha	Basal application up to 28 days before harvest.

RATES OF APPLICATION	TIMING OF APPLICATION (CROP GROWTH STAGE)
Raspberry, blackberry, loganberry, dewberry, rubus hybrid,	
1 l/ha	Foliar application before flowering no later than 45 days before harvest. No application must be made between flowering and harvest in the season of application.
Red currant, white currant, black currant, gooseberry, blueberry, cranberry, rose hips, mulberry, elderberry, bilberry	
1 l/ha	Foliar application before flowering no later than 90 days before harvest. No application must be made between flowering and harvest in the season of application.
Chicory root*	
1 – 3 l/ha	Foliar application up to 56 days before harvest.
Rhubarb	
1.5 l/ha	Basal application up to 49 days before harvest.
Forest nursery (protected)	
1 – 3 l/ha	Basal application
Farm forestry	
1 - 3 l/ha	See Farm Forestry Section for details Trees are most sensitive immediately after bud burst/flushing. Overall or directed sprays can be used but it is not advisable to apply overall when trees are at bud burst/flushing and before new foliage has hardened in the Spring.

\* These are qualified recommendation as crop safety on these crops is based on limited evidence. For all qualified recommendations users are advised to test a small area first to establish crop safety

#### Notes

- Before using on pea crops and alliums, check there is sufficient leaf wax using the crystal violet test. When in doubt and where wax is insufficient or damaged, do not spray. Use the crystal violet test as a routine before sequentially applying herbicides.
- Use rates according to weed species present (see Weed Control table).

#### FARM FORESTRY

FUSILADE MAX may be applied by tractor-mounted sprayer as an overall or band treatment in farm forestry. A total of 3 litres of FUSILADE MAX per hectare per year may be applied. The following tree species are tolerant to FUSILADE MAX at any interval after planting, when dormant or in leaf:

BROAD LEAVED	CONIFEROUS
Alder	Japanese Larch
Ash	Silver Fir
Beech	Douglas Fir
Elm	Cypress
Common Oak	Blue Spruce
Sycamore	Norway Spruce
Willow	Sitka Spruce
Maple	Pine
	Thuja

### Timing of Application

The timing of application is determined by the growth stage of the target weed (see weed control Table above). FUSILADE MAX is not recommended for the destruction of established grass swards.

Overall or directed sprays can be used but it is not advisable to apply overall when trees are at bud burst/flushing and before new foliage has hardened in the spring. Do not apply FUSILADE MAX during periods of bright sunlight or high temperatures as this may lead to foliage scorch. If applications are needed in mid-summer then they should be made in the evening. Do not apply FUSILADE MAX when the ground is waterlogged or the trees are under stress from drought.

Note: Where a significant grass weed problem is present, the rate appropriate to the weed species must be used if this is higher than the rate required for cover crop removal.

### FOLLOWING CROPS

Following normal harvest of a treated crop, any broad leaved or cereal crop may be sown.

### MIXING AND SPRAYING

#### Mixing

Ensure the sprayer is clean and in good working order. Calibrate according to sprayer. Half fill the spray tank with CLEAN water and start agitation. Shake the container and add the correct amount of FUSILADE MAX to the sprayer using a filling device (e.g. induction hopper) or by direct addition to the spray tank. Complete filling and agitate thoroughly. Continue agitation during spraying and stoppages. Wash out container thoroughly. Preferably use an integrated pressure rinsing device or manually rinse three times. Add washings to the sprayer at the time of filling. Dispose of rinsed containers safely according to DEFRA /HSE Code of Practice – UK only

#### Water Volume

Even cover of the weeds is essential for good results.

80 - 200 litres per hectare may be used in open crops with light weed infestations.

200 - 500 litres per hectare should be used in dense crop or in dense weed situations.

### APPLICATION METHODS

Even cover of the weeds is essential for good results. Apply through a conventional hydraulic sprayer using a pressure of 2-4 bars.

**For spray volumes 80 to 200 litres per hectare apply as a FINE spray.**

**For spray volumes above 200 litres per hectare apply as a MEDIUM spray.**

Ensure that the sprayer is properly cleaned and washed before use, spray contamination may damage crops.

Correctly calibrate sprayer before use. Do not leave spray liquid in the sprayer for long periods (i.e. during meals or overnight).

Application by air or through controlled droplet application equipment is not permitted.

### BAND SPRAYING

FUSILADE MAX may be applied through a standard band sprayer for the control of annual grass weeds. Common Couch may be treated but re-growth from untreated band may reduce efficacy.

### AFTER USE

Wash equipment thoroughly after use with a commercial tank cleaner, in accordance with the



manufacturer's instructions. Dispose of tank washings and rinse containers safely according to the DEFRA Code of Practice.

### **COMPANY ADVISORY INFORMATION**

This section is not part of the Product Label under the Plant Protection Products Regulations 2011. It provides additional advice on use of the product.

#### **Optimum Control of Weeds**

For best release from early competition use FUSILADE MAX at the earliest recommended time. Speed of kill will be more rapid when weeds are actively growing under warm conditions and with adequate soil moisture. Treatment under cool conditions will give slower activity. In poor growing conditions use the higher rate for more rapid and reliable control.

This product is to be used only in accordance with the recommendations and instructions given on the labels provided with this pack. Use in any other circumstances is entirely at user's risk.

#### **ACKNOWLEDGMENTS**

FUSILADE MAX is a registered trademark.

#### **CONDITIONS OF SUPPLY**

All goods supplied by us are of high grade and we believe them to be suitable but (as we cannot exercise any control over their mixing or use) all conditions and warranties, statutory or otherwise, as to the quality and fitness for any purpose of our goods are excluded, except in so far as such exclusion is prevented by law, and no responsibility will be accepted by us for any damage or injury whatsoever arising from their storage, handling, application or use.

This product is to be used only in accordance with the recommendations and instructions given on the labels provided with this pack. Use in any other circumstances is entirely at users risk.

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 Date of issue: 17/09/2018 Revision date: 17/09/2018 Version: 1.0

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

#### 1.1 Product identifier

CA Code (Nufarm): 2157  
Oracle Recipe  
Code (Nufarm): 610000247  
Item codes: 100013042  
Product form: Mixture  
Trade name: FUSILADE MAX  
Type (Nufarm): Country Specific  
Country (Nufarm): United Kingdom

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

##### 1.2.1 Relevant identified uses

Main use category: Professional use  
Use of the substance/mixture: Herbicide

##### 1.2.2 Uses advised against

No additional information available

#### 1.3 Details of the supplier of the safety data sheet

##### Supplier

Nufarm UK Limited  
Wyke Lane, Wyke, Bradford, West Yorkshire, BD12 9EJ  
United Kingdom  
T +44 (0)1274 691234  
[infouk@uk.nufarm.com](mailto:infouk@uk.nufarm.com)

#### 1.4 Emergency telephone number

Emergency number: +44 (0)1274 696603 (24 hours)

## 2. Hazards identification

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Reproductive

toxicity, Category 2: H361d

Hazardous  
to the aquatic  
environment —  
Acute Hazard,  
Category 1:

H400

Hazardous  
to the aquatic  
environment —  
Chronic Hazard,  
Category 2:

H411

Full text of hazard classes and H-statements : see section 16

### Adverse physicochemical, human health and environmental effects

Suspected of damaging the unborn child. Very toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):



GHS08



GHS09

Signal word (CLP):

Warning

Hazardous ingredients: Fluzafop-p-butyl

Hazard statements (CLP): H361d - Suspected of damaging the unborn child.

H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (CLP):

P102 - Keep out of reach of children.

P201 - Obtain special instructions before use.

P280 - Wear protective clothing, protective gloves.  
P308+P313 - IF exposed or concerned:

Get medical advice/attention.

P391 - Collect spillage.

P501 - Dispose of contents and container to hazardous or special

waste collection point, in accordance with local, regional, national and/or international regulation.

EUH-statements :

EUH401 - To avoid risks to human health and the environment, comply with the instructions for use.  
EUH208 - Contains fluazifop-P-butyl (ISO); butyl (R)-2-[4-(5-trifluoromethyl-2-pyridyloxy)phenoxy] propionate. May produce an allergic reaction.

## 2.3 Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII. This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

## 3. Composition/information on ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
POLY(OXY-1,2 ETHANEDIYL), ALPHA-9- OCTADECYNYL-OMEGA-HYDROXY, (Z)	(CAS-No.) 68920-66-1	20-30	Skin Irrit. 2, H315
Octan-1-ol	(CAS-No.) 111-87-5 (EC-No.) 203-917-6 (REACH-no) 012119486978-10	5-15	Eye Irrit. 2, H319 Aquatic Chronic 3, H412
Fluazifop-p-butyl	(CAS-No.) 79241-46-6	13.4	Skin Sens. 1, H317 Repr. 2, H361d Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Calcium dodecylsulphonate	(CAS-No.) 26264-06-2; 90194-26-6 (EC-No.) 247-557-8	1-5	Skin Irrit. 2, H315 Eye Dam. 1, H318
2-methylpropan-1-ol; iso-butanol	(CAS-No.) 78-83-1 (EC-No.) 201-148-0 (EC Index-No.) 603-108-00-1 (REACH-no) 1-2119484609-23	1-5	Flam. Liq. 3, H226 STOT SE 3, H335 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H336

Full text of H-statements: see section 16

## 4. First aid measures

### 4.1 Description of first aid measures

First-aid

measures general:

If exposed or concerned:  
Get medical advice/  
attention. See material  
safety data sheet.

First-aid measures  
after inhalation:

Remove person to fresh air  
and keep comfortable  
for breathing. Give oxygen  
or artificial respiration if  
necessary. If experiencing  
respiratory symptoms: Call  
a poison center or a doctor

First-aid measures  
after skin contact:

Take off contaminated  
clothing and wash it before  
reuse. Wash skin with plenty  
of water. If skin irritation or  
rash occurs: Get medical  
advice/attention.

First-aid measures  
after eye contact:

In case of contact with  
eyes, rinse immediately  
with plenty of water and  
seek medical advice.  
Remove contact lenses,  
if present and easy to do.  
Continue rinsing. If eye

Irritation persists: Get medical advice/attention.

First-aid measures after ingestion:

Call a poison center or a doctor if you feel unwell. Do not induce vomiting.

## **4.2 Most important symptoms and effects, both acute and delayed**

Symptoms/effects after skin contact : May cause an allergic skin reaction.

## **4.3 Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

## **5. Firefighting measures**

### **5.1 Extinguishing media**

Suitable

extinguishing media: Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable

extinguishing media: Do not use a heavy water stream.

## **5.2 Special hazards arising from the substance or mixture**

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### **5.3 Advice for firefighters**

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## **6. Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

#### **6.1.1 For non-emergency personnel**

Emergency procedures :

Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

#### **6.1.2 For emergency responders**

Protective equipment :

Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### **6.2 Environmental precautions**

Avoid release to the environment.

### **6.3 Methods and material for containment and cleaning up**

For containment :

Collect spillage.

Methods for cleaning up :

Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information :

Dispose of materials or solid residues at an authorized site.

### **6.4 Reference to other sections**

For further information refer to section 13.

## **7. Handling and storage**

### **7.1 Precautions for safe handling**

Precautions for safe handling :

Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid breathing mist.

## Hygiene measures:

Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage conditions:

Store locked up. Store in a well-ventilated place. Keep cool.

### Maximum

### storage period:

2 year

### Information on mixed storage:

Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children.

### Special rules

### on packaging:

Keep only in original container. Store in a closed container.

## 7.3 Specific end use(s)

No additional information available

## 8. Exposure controls/personal protection

### 8.1 Control parameters

Fluazifop-p-butyl (79241-46-6)		
EU	Notes	8 h TWA: 0.5 mg/m <sup>3</sup> (Nufarm)
2-methylpropan-1-ol; iso-butanol (78-83-1)		
Ireland	Local name	Isobutyl alcohol
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	150 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	50 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	222 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	75 ppm

### 2-methylpropan-1-ol; iso-butanol (78-83-1)

Ireland	Regulatory reference	Code of Practice for the Chemical Agents Regulations 2018
United Kingdom	Local name	2-Methylpropan-1-ol
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	154 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	50 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	231 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	75 ppm
United Kingdom	Regulatory reference	EH40/2005 (Third edicon, 2018) HSE

## 8.2 Exposure controls

### Appropriate engineering controls:

Ensure good ventilation of the work station.

### Personal protective equipment:

Protective clothing. Gloves. Safety glasses.

Insufficient ventilation: wear respiratory protection.

### Hand protection:

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Reusable gloves	Nitrile rubber (NBR)	6 (>480 minutes)	0.5		

### Eye protection:

Safety glasses. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure

### Skin and body protection:

Wear suitable protective clothing

### Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection. Local exhaust is needed at source of vapours



### Environmental exposure controls:

Avoid release to the environment.

## 9. Physical and chemical properties

## 9.1 Information on basic physical and chemical properties

Physical state :	Liquid
Appearance :	Clear to cloudy.
Colour :	brown.
Odour :	mild, alcohol-like.
Odour threshold :	No data available
pH :	4 - 8
pH solution concentration :	1 % (20-25 °C)
Relative evaporation rate (butylacetate=1) :	No data available
Melting point :	Not applicable
Freezing point :	No data available
Boiling point :	No data available
Flash point :	81 - 89 °C Closed cup
Auto-ignition temperature :	265 °C
Decomposition temperature :	No data available
Flammability (solid, gas) :	Not applicable
Vapour pressure :	No data available
Relative vapour density at 20 °C :	No data available
Relative density :	No data available Density 0.939 g/cm <sup>3</sup> (20 °C)
Solubility :	Water: Miscible with water
Log Pow :	No data available
Viscosity, kinematic :	22.3 mm <sup>2</sup> /s (40 °C)
Viscosity, kinematic :	54.8 m <sup>2</sup> /s (20 °C)
Viscosity, dynamic :	50.7 mPa.s (20 °C)
Viscosity, dynamic :	20.6 mPa.s (40 °C)
Explosive properties :	Not explosive.
Oxidising properties :	Non oxidizing material according to EC criteria. Explosive limits No data available

## 9.2 Other information

No additional information available

## 10. Stability and reactivity

### 10.1 Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4 Conditions to avoid

None under recommended storage and handling conditions (see section 7). Heating can release hazardous gases.

### 10.5 Incompatible materials

No additional information available

### 10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. Toxicological information

### 11.1 Information on toxicological effects

FUSILADE MAX	
LD50 oral rat	>2000 mg/kg
LD50 dermal rat	>2000 mg/kg
Fluazifop-p-butyl (79241-46-6)	
LD50 oral rat	2451 - 3680 mg/kg
LD50 dermal rabbit	>2110 mg/kg
LC50 inhalation rat (mg/l)	>5.2 mg/l/4h rat
Acute toxicity (oral) :	Not classified
Acute toxicity (dermal) :	Not classified
Acute toxicity (inhalation) :	Not classified
Skin corrosion/irritation :	Not classified (Based on available data, the classification criteria are not met) pH: 4 - 8
Serious eye damage/irritation :	Not classified (Based on available data, the

	classification criteria are not met) pH: 4 - 8
Respiratory or skin sensitisation :	Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity :	Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity :	Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity :	Suspected of damaging the unborn child.
STOT-single exposure :	Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure :	Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard :	Not classified (Based on available data, the classification criteria are not met)

FUSILADE MAX	
Viscosity, kinematic	22.3 mm <sup>2</sup> /s (40 °C)

## 12. Ecological information

### 12.1 Toxicity

Ecology - general :	Toxic to aquatic life with long lasting effects.
Acute aquatic toxicity :	Very toxic to aquatic life. Chronic aquatic toxicity Toxic to aquatic life with long lasting effects.

FUSILADE MAX	
LC50 96h fish	20 mg/l Oncorhynchus mykiss (Rainbow trout)

FUSILADE MAX	
EC50 48h crustacea	20 mg/l Daphnia magna
EC50 72h algae	0.672 mg/l Pseudokirchneriella subcapitata

Additional Ecotox information	
EbC50 Pseudokirchneriella subcapitata, 0.184 mg/l, 72 h	

Fluazifop-p-butyl (79241-46-6)	
LC50 96h fish	1.41 mg/l Oncorhynchus mykiss (Rainbow trout)
LC50 96h fish	1.31 mg/l Cyprinus carpio (Common carp)
EC50 48h crustacea	>0.62 mg/l Daphnia magna
EC50 other aquatic organisms <sup>1</sup>	0.54 mg/l Americamysis bahia; 96h
EC50 72h algae	1.4 mg/l Navicula pelliculosa
EC50 96h algae	>1.8 mg/l Pseudokirchneriella subcapitata
NOEC chronic fish	0.077 mg/l Pimephales promelas; 32 d

Additional Ecotox information	
NOErC Pseudokirchneriella subcapitata, 1.8 mg/l, 96 h	
NOErC Navicula pelliculosa, 0.34 mg/l, 72 h	

Octan-1-ol (111-87-5)	
Additional Ecotox information	

Calcium dodecylsulphonate (26264-06-2; 90194-26-6)	
Additional Ecotox information	

POLY(OXY-1,2 ETHANEDIYL), ALPHA-9-OCTADECYNYL-OMEGA-HYDROXY-, (Z) (68920-66-1)	
Additional Ecotox information	

2-methylpropan-1-ol; iso-butanol (78-83-1)	
Additional Ecotox information	

## 12.2 Persistence and degradability

Fluazifop-p-butyl (79241-46-6)	
Persistence and degradability	Not readily biodegradable.

Fluazifop-p-butyl (79241-46-6)	
Biodegradation	DT50(water) 1.5-1.7h; DT50(soil) <2d

## 12.3 Bioaccumulative potential

Fluazifop-p-butyl (79241-46-6)	
Log Pow	> 5.3 (25°C)
Bioaccumulative potential	No bioaccumulation.

## 12.4 Mobility in soil

FUSILADE MAX	
Surface tension	31.5 mN/m (25 °C)
Fluazifop-p-butyl (79241-46-6)	
Mobility in soil	Adsorbs into the soil
Surface tension	66.1 mN/m (20°C)

## 12.5 Results of PBT and vPvB assessment

FUSILADE MAX	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

## 12.6 Other adverse effects

No additional information available

## 13. Disposal considerations

### 13.1 Waste treatment methods

Waste treatment methods : Dispose of contents/ container in accordance with licensed collector's sorting instructions.

## 14. Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA
14.1 UN number		
3082	3082	3082
14.2 UN proper shipping name		

ADR	IMDG	IATA
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUAZIFOP-P-BUTYL)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUAZIFOP-P-BUTYL)	Environmentally hazardous substance, liquid, n.o.s. (FLUAZIFOP-P-BUTYL)
Transport document description		
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUAZIFOP-P-BUTYL), 9, III, (I)	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUAZIFOP-P-BUTYL), 9, III, MARINE POLLUTANT	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (FLUAZIFOP-P-BUTYL), 9, III
9	9	9
14.4 Packing group		
III	III	III
14.5 Environmental hazards		
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes
No supplementary information available		

## 14.6 Special precautions for user

### - Overland transport

Classification code (ADR) : M6

Special provisions (ADR) : 274, 335, 375, 601

Limited quantities (ADR) : 5I

Excepted quantities (ADR) : EI

Packing instructions (ADR) : P001, IBC03, LP01, R001

Special packing provisions (ADR) : PP1

Mixed packing provisions (ADR) : MP19



Portable tank and bulk container instructions (ADR) : T4

Portable tank and bulk container special provisions (ADR) : TP1, TP29

Tank code (ADR) : LGBV

Vehicle for tank carriage : AT

Transport category (ADR) : 3

Special provisions for carriage - Packages (ADR) : VI2

Special provisions for carriage - Loading, unloading and handling (ADR) : CV13

Hazard identification number (Kemler No.) : 90

Orange plates :



Tunnel restriction code (ADR) : -

EAC code : -

#### Transport by sea

Special provisions (IMDG) : 274, 335, 969

Limited quantities (IMDG) : 5 L

Excepted quantities (IMDG) : EI

Packing instructions (IMDG) : P001, LP01

Special packing provisions (IMDG) : PP1

IBC packing instructions (IMDG) : IBC03

Tank instructions (IMDG) : T4

Tank special provisions (IMDG) : TP2, TP29

EMS-No. (Fire) : F-A

EMS-No. (Spillage) : S-F

Stowage category (IMDG) : A

#### - Air transport

PCA Excepted quantities (IATA) : EI

PCA Limited quantities (IATA) : Y964 ; Y964

PCA limited quantity max net quantity (IATA) : 30kgG

PCA packing instructions (IATA) : 964

PCA max net quantity (IATA) : 450L

CAO packing instructions (IATA) : 964

CAO max net quantity (IATA) : 450L : A97, A158, A197

Special provisions (IATA) ERG code (IATA) : 9L

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**  
Not applicable

#### 15. Regulatory information

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

##### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list  
Contains no REACH Annex XIV substances

##### 15.1.2. National regulations

No additional information available

#### 15.2 Chemical safety assessment

No chemical safety assessment has been carried out

#### 16. Other information

Full text of H- and EUH-statements:

Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
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Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH208	Contains . May produce an allergic reaction.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

# FUSILADE MAX



NAPP 19013  
PCS No. 05073

An emulsifiable concentrate formulation containing 125 g/l fluzifop-p-butyl. A herbicide for post emergence control of annual and perennial grass-weeds and volunteer cereals in a range of tree nuts, pome fruit, stone fruit, table and wine grapes, other small fruit and berries, root and tuber vegetables, bulb vegetables, brassica vegetables, leaf vegetables and fresh herbs, fresh legumes, dry pulses, stem vegetables, oilseeds, chicory root, beet crops, green cover and farm forestry.

## 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 or when applying by hand held equipment

UK Only - 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.

WASH HANDS AND EXPOSED SKIN before meals and after work.

### 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

### Storage and Disposal

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 washing to sprayer at time of filling and dispose of safely.

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

## Safety Information



### WARNING

**Suspected of damaging the unborn child.**

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

Keep out of reach of children.

Use personal protective equipment as required.

IF exposed or concerned: Get medical advice/attention.

Collect 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 fluzifop-p-butyl. May produce an allergic reaction.**

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

NAPP 19013 PCS No. 05073

### Authorisation Holder & Marketing Company

Nufarm UK Limited -

Wyke Lane, Wyke, Bradford, West Yorkshire,  
BD12 9EJ

United Kingdom

**Technical Helpline telephone number:**

**+44 (0)1274 694714**

**24-hour emergency telephone number:**

**+44 (0)1274 696603**

**PROTECT FROM FROST  
FOR PROFESSIONAL USE ONLY**

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 **Nufarm**  
Grow a better tomorrow