

L1007748 IREL/02T PPE 4049239



syngenta

FOR USE ONLY AS AN AGRICULTURAL HERBICIDE for the post emergence control of wild-oats, annual and perennial grass weeds and volunteer cereals in sugar and fodder beet, winter and spring oilseed rape, potatoes, field beans, peas, onions, kale, mangolds, swedes and turnips, carrots, and outdoor crops of blackcurrants, strawberries, raspberries and gooseberries.

An emulsifiable concentrate containing 125g fluzifop-P-butyl per litre (13.7% w/w).

**In case of toxic or transport emergency ring (01484) 538444 anytime**

**PLEASE SEE ACCOMPANYING LEAFLET FOR PRODUCT USE DETAILS**

PROTECT FROM FROST  
SHAKE WELL BEFORE USE

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1 Litre



**FOR PROFESSIONAL USE ONLY**

To avoid risks to human health and the environment, comply with the instructions for use. FUSILADE MAXX is an emulsifiable concentrate formulation containing 125g fluzifop-P-butyl per litre (13.7% w/w).



**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 clean containers which can be disposed of as non-hazardous waste.

Contains fluzifop-P-butyl. May produce an allergic reaction.

PCS No . 01472

**Authorisation Holder**

Syngenta UK Limited  
CPC4, Capital Park, Fulbourn,  
Cambridge, CB21 5XE  
Tel: +44 (0) 1223 883400

**Marketing Company**

Syngenta Ireland Limited  
Block 6, Cleaboy Business Park,  
Old Kilmeaden Road, Waterford.  
Tel: (051) 377203

For use on: Winter and spring oilseed rape, field beans, vining and dried peas, sugar and fodder beet, carrots, potatoes, swede, turnip, blackcurrants, gooseberries, raspberries, strawberries, onions and stockfeed kale.

#### CONDITIONS FOR USE

CROP	Maximum individual dose	Maximum total dose	Maximum number of treatments	Latest spray date	PHI (days)
Blackcurrants, gooseberries, raspberries & strawberries (all outdoor crops only)	3.0l/ha	3.0l/ha	1 per year	See notes below	See notes below
Carrots	3.0l/ha	3.0l/ha	1 per crop	8 weeks before harvest	56
Field beans	3.0l/ha	3.0l/ha	1 per crop	Before visible (flower) bud stage.	-
Stockfeed kale	3.0l/ha	3.0l/ha	1 per crop	Before 50% ground cover	-
Winter oilseed rape	1.5l/ha	3.0l/ha	2 per crop	Before visible (flower) bud stage	-
Spring oilseed rape	1.5l/ha	1.5l/ha	1 per crop	Before 5 true leaves	-
Onions	3.0l/ha	3.0l/ha	1 per crop	4 weeks before harvest	32
Potatoes (Ware crops only)	3.0l/ha	3.0l/ha	1 per crop	8 weeks before harvest	56
Vining and combining peas	1.5l/ha	1.5l/ha	1 per crop	Before first flower buds are visible	-
Sugar and fodder beet	3.0l/ha	6.0l/ha	2 per crop	8 weeks before harvest	56
Swedes, turnips and mangolds	3.0l/ha	3.0l/ha	1 per crop	Before 50% ground cover	56

- **APPLICATIONS TO BLACKCURRANT, GOOSEBERRY, RASPBERRY AND STRAWBERRY MUST NOT BE MADE BETWEEN FLOWERING AND HARVEST IN THE SEASON OF APPLICATION.**

**Processed Crops:** CONSULT PROCESSORS BEFORE TREATING CROPS INTENDED FOR PROCESSING

#### **Additional Safety Information.**

##### **(a) Operator protection**

Wash splashes from skin and eyes immediately.  
Wash hands and exposed skin before meals and after work.  
FOR USE BY TRACTOR MOUNTED/TRAILED SPRAYER ONLY

##### **(b) Environmental protection**

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

##### **(c) Storage and disposal.**

Keep in original container, tightly closed in a safe place.  
Wash out containers thoroughly, preferably using an integrated pressure rinsing device, or manually rinse three times. Add washings to the sprayer at the time of filling. Complete filling to the required volume and continue to agitate throughout the spraying operation.  
Do not reuse container for any other purpose.

##### **(d) Phytotoxic or residual effects.**

Before using in onions and vining or dried peas check that there is sufficient leaf wax using the crystal violet test. When in doubt and where the wax is insufficient or damaged do not spray. Use the crystal violet test as a routine before sequentially applying herbicides.

##### **(e) Other specific restrictions.**

Do not apply by hand held equipment.

#### **DIRECTIONS FOR USE**

IMPORTANT: this information is approved as part of the Product Label. All instructions within this section must be carefully read in order to obtain safe and successful use of this product.

#### **WEEDS CONTROLLED**

FUSILADE MAX containing fluzifop-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.

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 litres/hectare	Weed growth stage
<b>ANNUAL GRASS-WEEDS</b> Black-grass Barren (Sterile) Brome Volunteer Cereals Wild Oats	1.0 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	1.0 or 2.0	See notes below on cover crops.
<b>PERENNIAL GRASS-WEEDS</b> Italian Rye-grass Perennial Rye-grass	1.5	2 expanded leaves to fully tillered.
Black Bent Creeping Bent (Watergrass) Common Couch	3.0	4 leaves. The majority of stems should have emerged.

#### 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.

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.

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. Contact your distributor, crop advisor or product manufacturer for further information.

Annual Meadow-grass and broad-leaved weeds are not controlled.

Weeds germinating after application will not be controlled.

#### WEATHER

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

#### CROP SPECIFIC INFORMATION

##### RATES OF USE AND SPRAY TIMING

RATES OF APPLICATION	TIMING OF APPLICATION (CROP GROWTH STAGE)	NOTES
<b>BLACKCURRANTS, GOOSEBERRIES, RASPBERRIES &amp; STRAWBERRIES (OUTDOOR CROPS ONLY)</b>		
1.0 – 3.0 l/ha	Before flowering or after harvest	Where possible, a directed spray should be used.
<b>CARROTS</b>		
1.0 – 3.0 l/ha	From 2 true leaf stage until 8 weeks before harvest.	Best results with applications made before 50% ground cover.
<b>FIELD BEANS</b>		
1.0 – 3.0 l/ha	From second node stage but before first flower bud visible.	
<b>KALE (STOCKFEED ONLY)</b>		
1.0 – 3.0 l/ha	From 4 true leaf stage until 50% crop ground cover.	A slight crop check may occur together with some de-waxing, but this is soon outgrown.
<b>WINTER OILSEED RAPE</b>		
1.0 – 1.5 l/ha	From 1 true leaf to before visible (flower) bud stage. Crops may be treated at the cotyledon stage if there is severe weed competition.  Allow crop to recover from any de-waxing before second application.	At these rates Common Couch will be suppressed. For the control of late emerging grass weeds a further application of 1.0 litre per hectare may be applied in the Spring.
<b>SPRING OILSEED RAPE</b>		
1-1.5 l/ha	From 1 true leaf to before 5 leaves.	Crops may be treated at the cotyledon stage if there is severe weed competition. At these rates Common Couch will be suppressed.

RATES OF APPLICATION	TIMING OF APPLICATION (CROP GROWTH STAGE)	NOTES
<b>ONIONS *</b>		
1.0 – 3.0 l/ha	From 2 true leaf stage until 4 weeks before harvest.*	May be used in autumn or spring provided weeds are actively growing.
<b>POTATOES</b>		
1.0 – 3.0 l/ha	One application up to 8 weeks before harvest.	DO NOT apply to crops grown for seed production.
<b>VINING AND DRIED PEAS *</b>		
1.0 – 1.5 l/ha	From fourth node stage but before 1st flower visible.*	At these rates Common Couch will be suppressed.
<b>SUGAR AND FODDER BEET</b>		
1.0 – 3.0 l/ha**	From 1 true leaf stage to approximately 50% ground cover, but not later than 8 weeks before harvest.	Where two applications are required for very severe Common Couch infestations, the second application should be made when grass is at the 3 - 4 leaf stage but before crop cover exceeds 50%.
<b>SWEDES, TURNIPS AND MANGOLDS</b>		
1.0 – 3.0 l/ha	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.

\*\*Maximum total dose applied must not exceed 3 litres/ha per crop.

#### NOTES

1. Use rates according to weed species present (see Weed Control table).
- 2.\* Before using in onions and vining or dried peas check that there is sufficient leaf wax using the crystal violet test. When in doubt and where the wax is insufficient or damaged do not spray. Use the crystal violet test as a routine before sequentially applying herbicides.

#### AGRICULTURAL PRACTICE

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 3.0 litres per hectare rate or at least 2 weeks after application of the 1.0 – 1.5 litres per hectare rates.

#### COVER CROPS

Spray when the risk of wind blow has passed and before there is serious competition with the crop. To remove cover crops, use 1.0 litre per hectare except where any of the following factors apply, then 2.0 litres per hectare must be used:-

- where spraying is late and a quick kill is required to avoid competition.
- where the cover crop is drilled overall.
- where the cover crop is well developed i.e. leaf sheath erect stage or later.
- where the crops are under moisture stress.

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.

#### MIXING AND SPRAYING

##### PREPARATION OF SPRAY

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 Local Code of Practice.

#### VOLUME OF WATER

Even cover of the weeds is essential for good results.

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

200 to 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. Do not apply by knapsack or other hand-held sprayers.

#### 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 local Code of Practice.

DO NOT RE-USE CONTAINER FOR ANY PURPOSE.

**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.**

#### COMPATIBILITY

FUSILADE MAX may be tank-mixed with a variety of plant protection products providing that the application timing is correct for both FUSILADE MAX and the partner(s) in the mixture.

The products should be added separately to the bulk of water in the spray tank. Continuous agitation should be maintained and the products used immediately after mixing.

For further information on the approval status of mixture partners, consult Syngenta Ireland Limited.

#### USE IN PROGRAMMES

FUSILADE MAX may be used in programmes with herbicides approved for the relevant crop, provided there is a 7 day interval between applications. Ensure herbicide sensitive crops are unaffected and actively growing before treatment.

FUSILADE MAX may be used in programmes with low volume, low dose sprays in sugar beet, provided there is a 3 day interval between applications.

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#### ADDITIONAL PRODUCT SAFETY INFORMATION

This section does not form part of the approved product label.

#### SAFETY DATA SHEET

##### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

###### 1.1 Product Identifier

**Product Name:** FUSILADE MAX  
**Design Code:** A12791B

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

Use: Herbicide

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

**Company:** Syngenta UK Ltd  
GPC4, Capital Park, Fulbourn, Cambridge, CB21 5XE  
**Phone:** (01223) 883400  
**Fax:** (01223) 882196  
**Website:** www.syngenta.co.uk

###### 1.4 Emergency telephone number

Emergency phone No.: +44 (0) 1484 538444 (24h)

##### 2. HAZARDS IDENTIFICATION

###### 2.1 Classification of the substance or mixture

###### Classification according to Regulation (EU) 1272/2008

Reproduction toxicity	Category 2	H361d
Acute aquatic toxicity	Category 1	H400
Chronic aquatic toxicity	Category 2	H411

For the full text of the H-Statements mentioned in this Section, see Section 16.


###### Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xn	Harmful
N	Dangerous to the environment
R38	Irritating to skin
R50/53	Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.
R63	Possible risk of harm to the unborn child

## 2.2 Label elements

Labelling: Regulation (EC) No. 1272/2008



Hazard pictograms

		
Signal Word	Warning	
Hazard Statements	H361d H410	Suspected of damaging the unborn child. Very toxic to aquatic life with long lasting effects.
Precautions Statements	P102 P201 P280 P308/P313 P391 P501	Keep out of reach of children. Obtain special instructions before use. Wear protective gloves/protective clothing. 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 empty clean containers which can be disposed of as non-hazardous waste.
Supplemental Information	EUH401	Contains fluazifop-P-butyl. May produce an allergic reaction. To avoid risks to human health and the environment comply with the instructions for use.

Hazardous components which must be listed on the label:

- Fluazifop-p-butyl

Labelling: EU Directives 67/548/EEC or 1999/45/EC

<b>Symbol(s)</b>			
		<b>HARMFUL</b>	<b>DANGEROUS FOR THE ENVIRONMENT</b>
<b>R-phrases(s)</b>		R38 R50/53 R63	Irritating to skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of harm to the unborn child.
<b>S-phrases(s)</b>		S2 S13 S20/21 S35 S36/37 S57	Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. When using do not eat, drink or smoke. This material and its container must be disposed of in a safe way. Wear suitable protective clothing and gloves. Use appropriate containment to avoid environmental contamination.
<b>Special labelling of certain mixtures</b>		Contains fluazifop-p-butyl. May produce an allergic reaction. To avoid risks to man and the environment, comply with instructions for use.	

Hazardous components which must be listed on the label:

- Fluazifop-p-butyl

## 2.3 Other hazards

None known.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

#### 3.2 Mixtures

##### Hazardous Component(s)

Chemical Name	CAS No. EC No. Registration Number	Classification (67/548/EEC)	Classification (REGULATION (EC) No. 1272/2008)	Concentration
Fluazifop-p-butyl	79241-46-6	Xn, N R43 R63 R50/53	Skin Sens.1; H317 Repr.2; H361d Aquatic Acute1; H400 Aquatic Chronic1; H410	13.4 % w/w
(E)-18-ethoxyoctadec-3-ene	68920-66-1	Xi R38	Skin Irrit.2; H315	20 – 30 %w/w
Octan-1-ol	111-87-5 203-917-6 01-2119486978-10-0005	Xi R36	Eye Irrit.2; H319 Aquatic Chronic3; H412	5 – 15 % w/w
Calcium dodecyl benzene sulphonate	26264-06-2 90194-26-6 247-557-8	Xi R38 R41	Skin Irrit.2; H315 Eye Dam.1; H318	1 - 5 % w/w
2-methylpropan-1-ol	78-83-1 201-148-0 01-2119484609-23-0012	Xi R10 R37/38 R41 R67	Flam. Liq.3; H226 STOT SE3; H335 Skin Irrit.2; H315 Eye Dam.1; H318 STOT SE3; H336	1 - 5 % w/w

Substances for which there are Community workplace exposure limits

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-statements mentioned in this Section, see Section 16.

#### 4. FIRST-AID MEASURES

##### 4.1 Description of first aid measures

**General Advice:** Have the product container, label or Material Safety Data Sheet with you when calling the Syngenta emergency number, a poison control centre or physician, or going for treatment.

**Inhalation:** Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or Poison Control Centre immediately.

**Skin Contact:** Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

**Eye Contact:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

**Ingestion:** If swallowed, seek medical advice immediately and show this container or label. Do **NOT** induce vomiting: contains petroleum distillates and/or aromatic solvents.

##### 4.2 Most Important symptoms and effects, both acute and delayed

Symptoms: No information available.

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

**Medical advice:** There is no specific antidote available. Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

##### 5.1 Extinguishing media

Extinguishing media - small fires

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media - large fires

Use alcohol-resistant foam or water spray.

Do not use a solid water stream as it may scatter and spread fire.

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

As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.

##### 5.3 Advice for fire-fighters

Wear full protective clothing and self-contained breathing apparatus.

Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

#### 6. ACCIDENTAL RELEASE MEASURES

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

Refer to protective measures listed in sections 7 and 8.

##### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

##### 6.3 Methods and materials for containment and cleaning up

Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). If the product contaminates rivers and lakes or drains inform respective authorities.

##### 6.4 Reference to other sections

Refer to protective measures listed in sections 7 and 8

Refer to disposal considerations listed in section 13.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

No special protective measures against fire required. Avoid contact with skin and eyes. When using, do not eat, drink or smoke. For personal protection see section 8.

### 7.2 Conditions for safe storage, including any incompatibilities

No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feeding stuffs.

### 7.3 Specific end use(s)

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

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

Components	Exposure limit(s)	Type of exposure limit	Source
Fluazifop-p-butyl	0.5 mg/m <sup>3</sup>	8 h TWA	SYNGENTA
2-methylpropan-1-ol	1,600 ppm 50 ppm 100 ppm 50 ppm 100 ppm 50 ppm, 231 mg/m <sup>3</sup>	8 h TWA 15 min STEL 8 h TWA 8 h TWA 8 h TWA	NIOSH SUVA SUVA ACGIH DFG UK HSE

The following recommendations for exposure controls/personal protection are intended for the manufacture, formulation and packaging of the product.

### 8.2 Exposure controls

**Engineering Measures:** Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. If airborne mist or vapours are generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit. Where necessary, seek additional occupational hygiene advice.

**Protective measures:** The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice. Personal protective equipment should be certified to appropriate standards.

**Respiratory protection:** A combination gas, vapour and particulate filter respirator may be necessary until effective technical measures are installed. Protection provided by air-purifying respirators is limited. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

**Hand protection:** Chemical resistant gloves should be used. Gloves should be certified to an appropriate standard. Gloves should have a minimum breakthrough time that is appropriate to the duration of exposure.

The breakthrough time of gloves varies according to the thickness, material and manufacturer. Gloves should be changed when breakthrough is suspected. Suitable material: nitrile rubber.

**Eye Protection:** Eye protection is not usually required. Follow any site specific eye protection policies.

**Skin and body protection:** Assess the exposure and select chemical resistant clothing based on the potential for contact and the permeation / penetration characteristics of the clothing material. Wash with soap and water after removing protective clothing. Decontaminate clothing before re-use, or use disposable equipment (suits, aprons, sleeves, boots, etc.). Wear as appropriate: impervious protective suit.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Physical State:	Liquid
Form:	Clear to slightly turbid liquid
Colour:	Brown
Odour:	Like alcohol, weak
Odour Threshold:	No data available
pH:	4 - 8 at 1 % w/v (20 - 25 °C) (as a dispersion)
Melting point/range:	No data available
Boiling point/boiling range:	No data available
Flash point:	84 °C
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Lower explosion limit:	No data available
Upper explosion limit:	No data available
Vapour pressure:	No data available
Relative vapour density:	No data available
Density:	0.936 g/cm <sup>3</sup> at 20 °C
Solubility in other solvents:	No data available
Partition Coefficient n-octanol/water:	No data available
Autoignition temperature:	440 °C
Thermal decomposition:	No data available
Viscosity, dynamic:	51.6 mP.a.s at 20 °C 20.6 mP.a.s at 40 °C 22.3 mm <sup>2</sup> /s at 40 °C 54.8 mm <sup>2</sup> /s at 20 °C
Viscosity, kinematic:	
Explosive properties:	Not explosive
Oxidizing properties:	Not oxidising

### 9.2 Other Information

Miscibility:	Miscible
Surface tension:	30.8 mN/m at 25 °C



## 10. STABILITY AND REACTIVITY

**10.1 Reactivity:** No information available

**10.2 Chemical Stability:** No information available

**10.3 Possibility of hazardous reactions:** None known. Hazardous polymerisation does not occur.

**10.4 Conditions to avoid:** No information available

**10.5 Incompatible materials:** No information available

**10.6 Hazardous decomposition products:** Combustion or thermal decomposition will evolve toxic and irritant vapours.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute oral toxicity:** LD50 male and female rat, > 2,000 mg/kg

**Acute inhalational toxicity:** Acute toxicity estimate, > 5.0 mg/l, 4 h

**Acute dermal toxicity:** LD50 male and female rat, > 2,000 mg/kg

**Skin corrosion/irritation:** Rabbit: mildly irritating

**Serious eye damage/eye irritation:** Rabbit: mildly irritating

**Respiratory or skin sensitisation:** Guinea pig: slightly sensitising.

**Germ cell mutagenicity**

**fluazifop-p-butyl:** Did not show mutagenic effects in animal experiments.

**(E)-18ethoxyoctadec-3-ene:** Not mutagenic in Ames Test.

**octan-1-ol:** Not mutagenic in Ames Test.

**2-methylpropan-1-ol:** Did not show mutagenic effects in animal experiments.

**Carcinogenicity:**

**fluazifop-p-butyl:** Did not show carcinogenic effects in animal experiments.

**2-methylpropan-1-ol:** Did not show carcinogenic effects in animal experiments.

**Teratogenicity:**

**fluazifop-p-butyl:** Did not show teratogenic effects in animal experiments.

**Reproductive toxicity:**

**fluazifop-p-butyl:** Did not show reproductive toxicity effects in animal experiments.

**octan-1-ol:** No toxicity to reproduction.

**2-methylpropan-1-ol:** Did not show reproductive toxicity effects in animal experiments.

**STOT – single exposure**

**2-methylpropan-1-ol:** May cause drowsiness or dizziness

**STOT – repeated exposure**

**fluazifop-p-butyl:** No adverse effect has been observed in chronic toxicity tests.

**2-methylpropan-1-ol:** No adverse effect has been observed in chronic toxicity tests.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

**Toxicity to fish:** LC50 *Oncorhynchus mykiss* (rainbow trout), 20 mg/l, 96 h

**Toxicity to aquatic invertebrates:** EC50 *Daphnia magna* (water flea), 20 mg/l, 48 h

**Toxicity to aquatic plants:** EbC50 *Pseudokirchneriella subcapitata* (green algae), 0.184 mg/l, 72 h

ErC50 *Pseudokirchneriella subcapitata* (green algae), 0.672 mg/l, 72 h

### 12.2 Persistence and degradability

**Stability in water**

**fluazifop-p-butyl:** Degradation half life: 1.5 - 1.7 h. Not persistent in water

**Stability in soil**

**fluazifop-p-butyl:** Degradation half life: < 2 d. Not persistent in soil

### 12.3 Bioaccumulative potential:

**fluazifop-p-butyl:** Does not bioaccumulate.

### 12.4 Mobility in soil:

**fluazifop-p-butyl:** Immobile in soil.

### 12.5 Results of PBT and vPvB assessment

**fluazifop-p-butyl,** These substances are not considered to be persistent, bioaccumulating nor toxic (PBT).

**octan-1-ol:** These substances are not considered to be very persistent nor very bioaccumulating (vPvB).

### 12.6 Other adverse effects

Classification of the products is based on the summation of the concentrations of classified components.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Product:** Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

**Contaminated packaging:** Empty remaining contents. Triple rinse containers. Empty containers should be taken for local recycling or waste disposal. Do not re-use empty containers.

## 14. TRANSPORT INFORMATION

**Land transport (ADR/RID)**

<b>14.1 UN Number</b>	UN 3082
<b>14.2 UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID N.O.S. (FLUAZIFOP-P-BUTYL)
<b>14.3 Transport hazard class(es)</b>	9
<b>14.4 Packing Group</b>	III
<b>Labels</b>	9
<b>14.5 Environmental hazards</b>	Environmentally hazardous

**Sea transport (IMDG)**

<b>14.1 UN Number</b>	UN 3082
<b>14.2 UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID N.O.S. (FLUAZIFOP-P-BUTYL)
<b>14.3 Transport hazard class(es)</b>	9
<b>14.4 Packing Group</b>	III
<b>Labels</b>	9
<b>14.5 Environmental hazards</b>	Marine pollutant

**Air transport (IATA-DGR)**

<b>14.1 UN Number</b>	UN 3082
<b>14.2 UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID N.O.S. (FLUAZIFOP-P-BUTYL)
<b>14.3 Transport hazard class(es)</b>	9
<b>14.4 Packing Group</b>	III
<b>Labels</b>	9
<b>14.6 Special precautions for user</b>	None

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

**15. REGULATORY INFORMATION****15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture**

GHS-Labeling

Hazard pictograms



<b>Signal Word</b>	<b>Warning</b>	
<b>Hazard Statements</b>	H227 H316 H361d H410	Combustible liquid. Causes mild irritation. Suspected of damaging the unborn child. Very toxic to aquatic life with long lasting effects.
<b>Precautions Statements</b>	P102 P201 P280 P308/P313 P391 P501	Keep out of reach of children. Obtain special instructions before use. Wear protective gloves/protective clothing. 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 empty clean containers which can be disposed of as non-hazardous waste.
<b>Supplemental Information</b>	EUH401	Contains fluzifop-P-butyl. May produce an allergic reaction. To avoid risks to human health and the environment comply with the instructions for use.

Hazardous components which must be listed on the label:

- Fluzifop-p-butyl

**15.2 Chemical Safety Assessment**

A chemical safety assessment is not required for this substance.

**16. OTHER INFORMATION**

Approval number, PCS No. 01472.

Use plant protection products safely. Always read the label and product information before use.

Based upon SDS release dated 19/11/2014, version 11 with local amendment.

Full text of R phrases referred to under Section 2 and 3:

R10	Flammable
R36	Irritating to eyes.
R37/38	Irritating to respiratory system and skin.
R38	Irritating to skin.
R41	Risk of serious damage to eyes
R43	May cause sensitisation by skin contact
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R63	Possible risk of harm to the unborn child
R67	Vapours may cause drowsiness and dizziness

Full text of H-statements referred to under sections 2 and 3:

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.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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