



## VIGON

Version 3 / GB  
102000015984

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Revision Date: 09.05.2014  
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### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifier

Trade name VIGON  
Product code (UVP) 79479824

#### 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

Supplier Bayer CropScience Limited  
230 Cambridge Science Park  
Milton Road  
Cambridge  
Cambridgeshire CB4 0WB  
United Kingdom

Telephone +44(0)1223 226500  
Telefax +44(0)1223 426240  
Responsible Department Email: [ukinfo@bayercropscience.com](mailto:ukinfo@bayercropscience.com)

#### 1.4 Emergency telephone no.

Emergency telephone no. 0800-220876 (UK 24 hr)  
+44(0)1635-563000 (Overseas 24 hr)

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

**Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.**

Acute aquatic toxicity: Category 4  
H302 Harmful if swallowed.

Specific target organ toxicity - repeated exposure: Category 2  
H373 May cause damage to organs (nervous system) through prolonged or repeated exposure if swallowed.

Acute aquatic toxicity: Category 1  
H400 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 1  
H410 Very toxic to aquatic life with long lasting effects.

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

Xn Harmful, R22  
Xn Harmful, R48/22  
N Dangerous for the environment, R50/53

#### 2.2 Label elements

**Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.**

Hazard label for supply/use required.

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- Flufenacet
- Flurtamone
- Diflufenican

**Signal word:** Warning**Hazard statements**

H302	Harmful if swallowed.
H373	May cause damage to organs (nervous system) through prolonged or repeated exposure if swallowed.
H410	Very toxic to aquatic life with long lasting effects.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.
EUH208	Contains Flufenacet, 1,2-Benzisothiazolin-3-one. May produce an allergic reaction.

**Precautionary statements**

P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P501	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.

**2.3 Other hazards**

No other hazards known.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.2 Mixtures****Chemical nature**Suspension concentrate (=flowable concentrate)(SC)  
Diflufenican/Flufenacet/Flurtamone 60:240:120 g/l**Hazardous components**R-phrases according to EC directive 67/548/EEC  
Hazard statements according to Regulation (EC) No. 1907/2006

Name	CAS-No. / EC-No.	Classification		Conc. [%]
		EC Directive 67/548/EEC	Regulation (EC) No 1272/2008	
Diflufenican	83164-33-4 617-446-2	R52/53	Aquatic Chronic 3, H412	5.20
Flufenacet	142459-58-3 604-290-5	Xn; R22, R48/22 R43 N; R50/53	Acute Tox. 4, H302 STOT RE 2, H373 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	20.90
Flurtamone	96525-23-4	N; R50/53	Aquatic Acute 1, H400	10.40

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	619-224-0		Aquatic Chronic 1, H410	
1,2-Benzisothiazol-3(2H)-one	2634-33-5 220-120-9	Xn; R22 Xi; R38, R41 R43 N; R50	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400	> 0.005 - < 0.05
1,2-Propanediol	57-55-6 200-338-0	Not classified	Not classified	> 1.00

**Further information**

Flufenacet	142459-58-3	M-Factor: 100 (acute)
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For the full text of the R-phrases/ Hazard statements mentioned in this Section, see Section 16.

**SECTION 4: FIRST AID MEASURES****4.1 Description of first aid measures**

<b>General advice</b>	Move out of dangerous area. Remove contaminated clothing immediately and dispose of safely. Place and transport victim in stable position (lying sideways).
<b>Inhalation</b>	Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.
<b>Skin contact</b>	Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately. Rinse mouth.

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

<b>Symptoms</b>	The absorption of this product into the body may lead to the formation of methaemoglobine that, in sufficient concentration, causes cyanosis.  If large amounts are ingested, the following symptoms may occur:  Shortness of breath, Drowsiness, Cyanosis, Headache, Tiredness, Dizziness, Nausea  Symptoms and hazards refer to effects observed after intake of significant amounts of the active ingredient(s).
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**4.3 Indication of any immediate medical attention and special treatment needed**

<b>Risks</b>	Danger of formation of methaemoglobin.
<b>Treatment</b>	Treat symptomatically. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. In case of methaemoglobinemia, oxygen and specific antidotes (methylene blue/ toluidine blue) should be given. There is no specific antidote.

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**SECTION 5: FIREFIGHTING MEASURES****5.1 Extinguishing media****Suitable** Water spray, Carbon dioxide (CO<sub>2</sub>), Foam, Sand**5.2 Special hazards arising from the substance or mixture** In the event of fire the following may be released: Hydrogen cyanide (hydrocyanic acid), Hydrogen fluoride, Carbon monoxide (CO), Nitrogen oxides (NO<sub>x</sub>), Sulphur oxides**5.3 Advice for firefighters****Special protective equipment for fire-fighters** In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.**Further information** Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

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**SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures****Precautions** Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.**6.2 Environmental precautions** Do not allow to get into surface water, drains and ground water. If spillage enters drains leading to sewage works inform local water company immediately. If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).**6.3 Methods and materials for containment and cleaning up****Methods for cleaning up** Clean contaminated floors and objects thoroughly, observing environmental regulations. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.**6.4 Reference to other sections** Information regarding safe handling, see section 7.  
Information regarding personal protective equipment, see section 8.  
Information regarding waste disposal, see section 13.

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**SECTION 7: HANDLING AND STORAGE****7.1 Precautions for safe handling****Advice on safe handling** No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Ensure adequate ventilation.**Advice on protection against fire and explosion** No special precautions required.**Hygiene measures** Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly

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before using again. Garments that cannot be cleaned must be destroyed (burnt).

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

**Requirements for storage areas and containers** Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Store in a place accessible by authorized persons only. Protect from frost. Keep away from direct sunlight.

**Advice on common storage** Keep away from food, drink and animal feedingstuffs.

**Suitable materials** HDPE (1000L IBC)

**7.3 Specific end uses** Refer to the label and/or leaflet.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Diflufenican	83164-33-4	5.5 mg/m <sup>3</sup> (TWA)		OES BCS*
Flufenacet	142459-58-3	0.47 mg/m <sup>3</sup> (TWA)		OES BCS*
Flurtamone	96525-23-4	1.4 mg/m <sup>3</sup> (TWA)		OES BCS*
1,2-Propanediol (Total vapour and particulates.)	57-55-6	474 mg/m <sup>3</sup> /150 ppm (TWA)	12 2011	EH40 WEL
1,2-Propanediol (Particulate.)	57-55-6	10 mg/m <sup>3</sup> (TWA)	12 2011	EH40 WEL

\*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

**8.2 Exposure controls**

Refer to COSHH assessment (Control of Substances Hazardous to Health (Amendment) Regulations 2004). Engineering controls should be used in preference to personal protective equipment wherever practicable. Refer also to COSHH Essentials.

**Personal protective equipment**

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

**Respiratory protection**

Respiratory protection is not required under anticipated circumstances of exposure.  
Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

**Hand protection**

Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination

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	on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.
<b>Eye protection</b>	Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).
<b>Skin and body protection</b>	Wear standard coveralls and Category 3 Type 6 suit. If there is a risk of significant exposure, consider a higher protective type suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

<b>Form</b>	suspension
<b>Colour</b>	white to beige
<b>Odour</b>	weakly pungent
<b>pH</b>	3.0 - 4.0 at 100 % (23 °C)
<b>Flash point</b>	>100 °C Not relevant; aqueous solution
<b>Ignition temperature</b>	570 °C
<b>Density</b>	ca. 1.15 g/cm <sup>3</sup> at 20 °C
<b>Partition coefficient: n-octanol/water</b>	Diflufenican: log Pow: 4.2 Flufenacet: log Pow: 3.2
<b>Surface tension</b>	34.3 mN/m at 25 °C Determined in the undiluted form.
<b>Oxidizing properties</b>	No oxidizing properties
<b>Explosivity</b>	Not explosive
<b>9.2 Other information</b>	Further safety related physical-chemical data are not known.

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**SECTION 10: STABILITY AND REACTIVITY****10.1 Reactivity****Thermal decomposition** Stable under normal conditions.**10.2 Chemical stability** Stable under recommended storage conditions.**10.3 Possibility of hazardous reactions** No hazardous reactions when stored and handled according to prescribed instructions.

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- 10.4 Conditions to avoid** Extremes of temperature and direct sunlight.
- 10.5 Incompatible materials** Store only in the original container.
- 10.6 Hazardous decomposition products** No decomposition products expected under normal conditions of use.

**SECTION 11: TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects**

<b>Acute oral toxicity</b>	LD50 (rat) > 300 - 2,000 mg/kg
<b>Acute inhalation toxicity</b>	LC50 (rat) > 1.647 mg/l Exposure time: 4 h Highest attainable concentration. Determined in the form of liquid aerosol.
<b>Acute dermal toxicity</b>	LD50 (rat) > 2,000 mg/kg
<b>Skin irritation</b>	No skin irritation (rabbit)
<b>Eye irritation</b>	No eye irritation (rabbit)
<b>Sensitisation</b>	Non-sensitizing. (mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

**Assessment repeated dose toxicity**

Diflufenican did not cause specific target organ toxicity in experimental animal studies.  
Flufenacet caused neurobehavioral effects and/or neuropathological changes in animal studies.  
Flurtamone did not cause specific target organ toxicity in experimental animal studies.

**Assessment Mutagenicity**

Diflufenican was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.  
Flufenacet was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.  
Flurtamone was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment Carcinogenicity**

Diflufenican was not carcinogenic in lifetime feeding studies in rats and mice.  
Flufenacet was not carcinogenic in lifetime feeding studies in rats and mice.  
Flurtamone was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**

Diflufenican did not cause reproductive toxicity in a two-generation study in rats.  
Flufenacet did not cause reproductive toxicity in a two-generation study in rats.  
Flurtamone did not cause reproductive toxicity in a two-generation study in rats.

**Assessment developmental toxicity**

Diflufenican did not cause developmental toxicity in rats and rabbits.  
Flufenacet caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Flufenacet are related to maternal toxicity.  
Flurtamone did not cause developmental toxicity in rats and rabbits.

**Further information**

The toxicological data refer to a similar formulation.

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Exposure time: 96 h**Toxicity to aquatic invertebrates** EC50 (Water flea (*Daphnia magna*)) 72 mg/l  
Exposure time: 48 h**Toxicity to aquatic plants** EC50 (*Lemna gibba* (duckweed)) 0.0475 mg/l  
Growth rate; Exposure time: 7 d  
EC50 (*Pseudokirchneriella subcapitata*) 0.0205 mg/l  
Growth rate; Exposure time: 72 h**12.2 Persistence and degradability****Biodegradability** Diflufenican:  
not rapidly biodegradable  
Flufenacet:  
not rapidly biodegradable  
Flurtamone:  
not rapidly biodegradable**Koc** Diflufenican: Koc: 3417  
Flufenacet: Koc: 202  
Flurtamone: Koc: 329**12.3 Bioaccumulative potential****Bioaccumulation** Diflufenican: Bioconcentration factor (BCF) 1,596  
Does not bioaccumulate.  
Flufenacet: Bioconcentration factor (BCF) 71  
Does not bioaccumulate.  
Flurtamone: Bioconcentration factor (BCF) 28  
Does not bioaccumulate.**12.4 Mobility in soil****Mobility in soil** Diflufenican: Slightly mobile in soils  
Flufenacet: Moderately mobile in soils  
Flurtamone: Moderately mobile in soils**12.5 Results of PBT and vPvB assessment****PBT and vPvB assessment** Diflufenican: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).  
Flufenacet: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).  
Flurtamone: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).**12.6 Other adverse effects****Additional ecological information** No other effects to be mentioned.

The ecological data refer to a similar formulation.



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<b>Product</b>	In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant. Advice may be obtained from the local waste regulation authority (part of the Environment Agency in the UK).
<b>Contaminated packaging</b>	Small containers (< 10 l or < 10 kg) should be rinsed thoroughly using an integrated pressure rinsing device, or, by manually rinsing three times. Add washings to sprayer at time of filling. Dispose of empty and cleaned packaging safely. Large containers (> 25 l or > 25 kg) should not be rinsed or re-used for any other purpose. Return large containers to supplier. Follow advice on product label and/or leaflet.
<b>Waste key for the unused product</b>	<b>020108</b> agrochemical waste containing dangerous substances

**SECTION 14: TRANSPORT INFORMATION****ADR/RID/ADN**

14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUFENACET SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES
Hazard no.	90
Tunnel Code	E

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

**IMDG**

14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUFENACET SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Marine pollutant	YES

**IATA**

14.1 UN number	<b>3082</b>
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUFENACET SOLUTION )
14.3 Transport hazard class(es)	9



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14.4 Packing group III  
14.5 Environm. Hazardous Mark YES

### UK 'Carriage' Regulations

14.1 UN number **3082**  
14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUFENACET SOLUTION)  
14.3 Transport hazard class(es) 9  
14.4 Packing group III  
14.5 Environm. Hazardous Mark YES  
Emergency action code 3Z

### 14.6 Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.

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

No transport in bulk according to the IBC Code.

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## SECTION 15: REGULATORY INFORMATION

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

#### UK and Northern Ireland Regulatory References

This material may be subject to some or all of the following regulations (and any subsequent amendments). Users must ensure that any uses and restrictions as indicated on the label and/or leaflet are followed.

#### Transport

Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No 1348)

Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997 (SI 1997 No 2367)

Air Navigation Dangerous Goods Regulations 2002 (SI 2002 No 2786)

#### Supply and Use

Chemical (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No 716)

Chemical (Hazard Information and Packaging for Supply) (Northern Ireland) Regulations 2009

Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No 2677)

EH40 Occupational Exposure Limits - Table 1 List of approved workplace exposure limits

Control of Pesticide Regulations 1986

Dangerous Substances and Explosive Atmospheres Regulations 2002

#### Waste Treatment

Environmental Protection Act 1990, Part II

Environmental Protection (Duty of Care) Regulations 1991

The Waste Management Licensing Regulations 1994 (as amended)

Hazardous Waste Regulations 2005 (Replacing Special Waste Regulations 1996 as amended)

Landfill Directive

Regulation on Substances That Deplete the Ozone Layer 1994 (EEC/3093/94)

Water Resources Act 1991

Anti-Pollution Works Regulations 1999

#### Further information

WHO-classification: II (Moderately hazardous)

### 15.2 Chemical Safety Assessment



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A chemical safety assessment is not required.

### SECTION 16: OTHER INFORMATION

#### Text of R-phrases mentioned in Section 3

R22	Harmful if swallowed.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R48/22	Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R50	Very toxic to aquatic organisms.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Text of the hazard statements mentioned in Section 3

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

The above information is intended to give general health and safety guidance on the storage and transport of the product.

It is not intended to apply to the use of the product for which purposes the product label and any appropriate technical usage literature available should be consulted and any relevant licenses, consents or approvals complied with.

The requirements or recommendations of any relevant site or working procedure, system or policy in force or arising from any risk assessment involving the substance or product should take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given.

The information provided in this safety data sheet is accurate at the date of publication and will be updated as and when appropriate.

No liability will be accepted for any injury, loss or damage resulting from any failure to take account of information or advice contained in this safety data sheet.

**Reason for Revision:** Section 12. Ecological information. Safety Data Sheet according to Regulation (EU) No. 453/2010.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.