

**FIREBIRD**Version 1 / GB
102000007948

1/8

Revision Date: 28.10.2009

Print Date: 21.12.2011

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**Product information**

Trade name FIREBIRD
Product code (UVP) 05700094
Usage Herbicide
Company Bayer CropScience Limited
230 Cambridge Science Park
Milton Road
Cambridge
Cambridgeshire CB4 0WB
Great Britain

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

Emergency telephone number 0800-220876 (UK 24 hr)
+44(0)1603-242424 (Overseas 24 hr)

2. HAZARDS IDENTIFICATION**Risk advice to man and the environment**

Harmful if swallowed.
May cause sensitization by skin contact.
Harmful: danger of serious damage to health by prolonged exposure if swallowed.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Chemical nature**

Suspension concentrate (=flowable concentrate)(SC)
Flufenacet/Diflufenican 400:200 g/l

Hazardous components

Chemical Name	CAS-No. / EC-No.	Symbol(s)	R-phrase(s)	Concentration [%]
Flufenacet	142459-58-3	Xn, N	R22, R43, R48/22, R50/53	32.50
Diflufenican	83164-33-4		R52/53	16.50
Glycerine	56-81-5 200-289-5			> 1.00

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

4. FIRST AID MEASURES



FIREBIRD

Version 1 / GB
102000007948

2/8

Revision Date: 28.10.2009

Print Date: 21.12.2011

General advice

Move out of dangerous area. Remove contaminated clothing immediately and dispose of safely. Place and transport victim in stable position (lying sideways).

Inhalation

Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.

Skin contact

Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water.

Eye contact

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.

Ingestion

Do NOT induce vomiting. Call a physician or poison control center immediately. Rinse mouth.

Notes to Physician

Treatment

Treat symptomatically.
Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water spray
Carbon dioxide (CO₂)
Foam
Sand

Specific hazards during fire fighting

Carbon monoxide (CO)
Nitrogen oxides (NO_x)
Hydrogen fluoride (HF)
Hydrogen cyanide (hydrocyanic acid)
Sulphur oxides

Special protective equipment for fire-fighters

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.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Avoid contact with spilled product or contaminated surfaces.
Use personal protective equipment.

**FIREBIRD**Version 1 / GB
102000007948

3/8

Revision Date: 28.10.2009

Print Date: 21.12.2011

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).

Methods for cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
 Collect and transfer the product into a properly labelled and tightly closed container.
 Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional Advice

Information regarding personal protective equipment, see section 8.
 Information regarding waste disposal, see section 13.

7. HANDLING AND STORAGE**Handling**

Advice on protection against fire and explosion
 Keep away from heat and sources of ignition.

Storage

Requirements for storage areas and containers
 Store in a place accessible by authorized persons only.
 Keep containers tightly closed in a dry, cool and well-ventilated place.

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

Storage stability
 Storage temperature -10 - < 40 °C

Temperature tolerance min.
 -10 °C

Suitable materials
 HDPE (high density polyethylene)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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.

Components with workplace control parameters

Components	CAS-No.	Control parameters	Update	Basis
Flufenacet	142459-58-3	0.47 mg/m ³ (TWA)		OES BCS*
Diflufenican	83164-33-4	1.1 mg/m ³ (TWA)		OES BCS*
Glycerine (Mist.)	56-81-5	10 mg/m ³ (TWA)	2007	EH40 WEL

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

**FIREBIRD**Version 1 / GB
102000007948

4/8

Revision Date: 28.10.2009

Print Date: 21.12.2011

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	No personal respiratory protective equipment normally required. 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 0,40 mm). Wash when contaminated. Dispose of when contaminated inside, when perforated or when contamination outside cannot be removed. Wash hands always before eating, drinking, smoking or using the toilet.
Eye protection	Wear goggles conforming to EN166 (Field of Use 5 or equivalent).
Skin and body protection	Wear standard coverall and type 3 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.
Hygiene measures	Avoid contact with skin, eyes and clothing. Keep working clothes separately. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt). Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	liquid, suspension
Colour	white to beige
Odour	weak, characteristic

Safety data

pH	4.0 - 6.5 at 100 % (23 °C)
Flash point	> 100 °C No flash point - Determination conducted up to the boiling point.
Ignition temperature	445 °C
Density	approx. 1.24 g/cm ³ at 20 °C
Water solubility	dispersible
Viscosity, dynamic	150 - 400 mPa.s at 20 °C Velocity gradient 20 /s

**FIREBIRD**Version 1 / GB
102000007948

5/8

Revision Date: 28.10.2009

Print Date: 21.12.2011

Viscosity, dynamic	60 - 200 mPa.s at 20 °C Velocity gradient 100 /s
Surface tension	40.6 mN/m
Explosivity	Not explosive.

10. STABILITY AND REACTIVITY

Conditions to Avoid	Extremes of temperature and direct sunlight.
Hazardous Reactions	No hazardous reactions when stored and handled according to prescribed instructions.

11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity	LD50 (rat) 500 - 2,000 mg/kg
Acute Inhalation Toxicity	LC50 (rat) > 2.078 mg/l Exposure time: 4 h Highest attainable concentration.
Acute Dermal Toxicity	LD50 (rat) > 4,000 mg/kg
Skin Irritation	No skin irritation. (rabbit)
Eye Irritation	No eye irritation. (rabbit)
Sensitization	sensitizing (guinea pig) OECD Test Guideline 406, Magnusson & Kligman test

12. ECOLOGICAL INFORMATION**Ecotoxicity effects**

Toxicity to Fish	LC50 (Lepomis macrochirus (Bluegill sunfish)) 2.13 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient flufenacet.
Toxicity to Fish	LC50 (Rainbow trout (Oncorhynchus mykiss)) > 109 µg/l Exposure time: 96 h The value mentioned relates to the active ingredient diflufenican. No acute toxicity was observed at its limit of water solubility.
Toxicity to daphnia	LC50 (Water flea (Daphnia magna)) 30.9 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient flufenacet.

**FIREBIRD**Version 1 / GB
102000007948

6/8

Revision Date: 28.10.2009

Print Date: 21.12.2011

Toxicity to daphnia	(Water flea (<i>Daphnia magna</i>)) > 240 µg/l Exposure time: 48 h The value mentioned relates to the active ingredient diflufenican. No acute toxicity was observed at its limit of water solubility.
Toxicity to algae	EC50 (<i>Pseudokirchneriella subcapitata</i>) 0.00663 mg/l Growth rate; Exposure time: 72 h
Toxicity to algae	EC50 (<i>Lemna gibba</i> (duckweed)) 0.307 mg/l Growth rate

13. DISPOSAL CONSIDERATIONS**Product**

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).

Contaminated packaging

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.

Waste key for the unused product

020108 agrochemical waste containing dangerous substances

14. TRANSPORT INFORMATION**ADR/RID/ADNR**

UN-Number	3082
Labels	9
Packaging group	III
Hazard no.	90
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUFENACET, DIFLUFENICAN SOLUTION)
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

UN-Number	3082
Labels	9
Packaging group	III
EmS	F-A , S-F
Marine pollutant	Marine pollutant
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

**FIREBIRD**Version 1 / GB
102000007948

7/8

Revision Date: 28.10.2009

Print Date: 21.12.2011

(FLUFENACET, DIFLUFENICAN SOLUTION)

IATA

UN-Number	3082
Labels	9
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUFENACET, DIFLUFENICAN SOLUTION)

UK 'Carriage' Regulations

UN-Number	3082
Labels	9
Packaging group	III
Hazard no.	90
Emergency action code	3Z
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUFENACET, DIFLUFENICAN SOLUTION)

15. REGULATORY INFORMATION

This product has been classified in accordance with The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002: CHIP 3 and any subsequent amendments.

Classification:

Labelling according to EC Directives

Hazardous components which must be listed on the label:

- Flufenacet
- Diflufenican

Symbol(s)

Xn	Harmful
N	Dangerous for the environment

R-phrases(s)

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

S-phrases(s)

S24	Avoid contact with skin.
S35	This material and its container must be disposed of in a safe way.
S37	Wear suitable gloves.
S57	Use appropriate container to avoid environmental contamination.

CLASSIFICATION ACCORDING TO SPECIFIC UK REGULATIONS:

The labelling information below is that which has been approved under 'The Control of Pesticides Regulations 1986' and/or 'Part III of the Food and Environment Protection Act 1985' and/or 'Plant Protection Product Regulations 1999' and any subsequent amendments and may differ from that indicated by any toxicological and/or other testing otherwise indicated in this 'Safety Data Sheet'.

**FIREBIRD**Version 1 / GB
1020000079488/8
Revision Date: 28.10.2009
Print Date: 21.12.2011

Symbol(s)

Xn	Harmful
N	Dangerous for the environment

R-phrases(s)

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

S-phrases(s)

S24	Avoid contact with skin.
S35	This material and its container must be disposed of in a safe way.
S37	Wear suitable gloves.
S46	If swallowed, seek medical advice immediately and show this container or label.
S57	Use appropriate container to avoid environmental contamination.

Exceptional labelling

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

Further information

WHO-classification: III (Slightly hazardous)

16. OTHER INFORMATION**Further information**

Text of R-phrases mentioned in Section 3

R22	Harmful if swallowed.
R43	May cause sensitization by skin contact.
R48/22	Harmful: danger of serious damage to health by prolonged exposure if swallowed.
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.

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.

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