

**HARVEST**Version 2 / GB  
102000012341

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Revision Date: 23.11.2011

Print Date: 30.11.2011

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

Trade name	HARVEST
Product code (UVP)	06470025
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: <a href="mailto:ukinfo@bayercropscience.com">ukinfo@bayercropscience.com</a>
Emergency telephone no.	0800-220876 (UK 24 hr) +44(0)1603-242424 (Overseas 24 hr)

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

May impair fertility.  
Possible risk of harm to the unborn child.  
Harmful: danger of serious damage to health by prolonged exposure if swallowed.  
Harmful in contact with skin and if swallowed.  
Risk of serious damage to eyes.

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

Soluble concentrate (SL)  
contains Glufosinate-ammonium 150 g/l

**Hazardous components**

Name	CAS-No. / EC-No.	Symbol(s)	R-phrase(s)	Concentration [%]
Glufosinate ammonium	77182-82-2 278-636-5	T	R60, R20/21/22, R48/20/22, R63	13.50
Alkylethersulfate, sodium salt	68891-38-3	Xi	R38, R41	> 10.00
1-Methoxy-2-propanol	107-98-2 203-539-1		R10, R67	> 1.00 - < 15.00

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



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### 4. FIRST AID MEASURES

#### Inhalation

If symptoms persist, call a physician. Move to fresh air. Keep patient warm and at rest.

#### Skin contact

Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

#### Eye contact

Wash off immediately with plenty of water 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. Keep at rest. Rinse mouth. Call a physician or poison control center immediately.

#### Notes to physician

#### Symptoms

Vomiting, Diarrhoea, Abdominal pain, Tremors, Hypotension, Muscular weakness, Unconsciousness, Coma, Convulsions, Respiratory failure, Nausea, Tachycardia

#### Symptoms

Symptoms may be delayed.

#### Risks

Watch victim for at least 48 hours because of possible delayed signs of poisoning.

#### Treatment

Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

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.

Forced alkaline diuresis and hemodialysis may be considered.

There is no specific antidote.

In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens.

If not effective, phenobarbital may be used.

Contraindication: atropine.

Oxygen or artificial respiration if needed.

Keep respiratory tract clear.

ECG - monitoring (Electrocardiogram).

EEG - monitoring (Electroencephalogram).

Monitor: respiratory, cardiac and central nervous system.

Keep under medical supervision for at least 48 hours.

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### 5. FIRE-FIGHTING MEASURES

#### Suitable extinguishing media

Water spray

Foam

Carbon dioxide (CO<sub>2</sub>)

Dry powder



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### Extinguishing media which shall not be used for safety reasons

High volume water jet

### Specific hazards during firefighting

In the event of fire the following may be released:

Carbon monoxide (CO)

Nitrogen oxides (NO<sub>x</sub>)

Oxides of phosphorus

Sulphur oxides

### Special protective equipment for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

### Further information

Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat.

Whenever possible, contain fire-fighting water by diking area with sand or earth.

Do not allow run-off from fire fighting to enter drains or water courses.

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## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Use personal protective equipment.

Remove all sources of ignition.

### 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

Keep in suitable, closed containers for disposal.

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

### Additional advice

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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## 7. HANDLING AND STORAGE

### Handling

Advice on safe handling

No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice.

Ensure adequate ventilation.

### Storage

Requirements for storage areas and containers

Store in original container.

Keep containers tightly closed in a dry, cool and well-ventilated place.

Keep away from direct sunlight.

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Protect from freezing.

Advice on common storage

Keep away from food, drink and animal feedingstuffs.

Suitable materials

HDPE (1000L IBC)

**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
Glufosinate ammonium	77182-82-2	0.9 mg/m <sup>3</sup> (TWA)		OES BCS*
1-Methoxy-2-propanol	107-98-2	375 mg/m <sup>3</sup> / 100 ppm (TWA)	2007	EH40 WEL
1-Methoxy-2-propanol	107-98-2	560 mg/m <sup>3</sup> / 150 ppm (STEL)	2007	EH40 WEL
1-Methoxy-2-propanol	107-98-2	375 mg/m <sup>3</sup> / 100 ppm (TWA)	12 2009	EU ELV
1-Methoxy-2-propanol	107-98-2	568 mg/m <sup>3</sup> / 150 ppm (STEL)	12 2009	EU ELV

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

**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 6 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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## Hygiene measures

Remove soiled clothing immediately and clean thoroughly before using again.

Keep working clothes separately.

Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

When using, do not eat, drink or smoke.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form	liquid
Colour	blue to blue green
Odour	weakly pungent

**Safety data**

pH	6.8 - 7.8 at 100 % (23 °C)
Boiling point/boiling range	ca. 99 °C at 1,013 hPa Test conducted with a similar formulation.
Flash point	ca. 57 °C The product does not sustain combustion.
Autoignition temperature	ca. 405 °C
Density	ca. 1.11 g/cm <sup>3</sup> at 20 °C
Surface tension	ca. 29 mN/m at 40 °C
Impact Sensitivity	not impact-sensitive
Explosivity	Not explosive

**10. STABILITY AND REACTIVITY**

Conditions to avoid	Extremes of temperature and direct sunlight.
Materials to avoid	Bases
Hazardous Decomposition Products	Ammonia
Thermal decomposition	> 200 °C , Heating rate: 10 K/min Test conducted with a similar formulation.
Hazardous reactions	Stable under recommended storage conditions.

**11. TOXICOLOGICAL INFORMATION**

Acute oral toxicity	LD50 (rat) 1,730 mg/kg
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Acute inhalation toxicity	LC50 (rat) 2.97 mg/l Exposure time: 4 h Determined in the form of a respirable aerosol. During intended and foreseen applications, no respirable aerosol is formed.
Acute dermal toxicity	LD50 (rat) 593 mg/kg
Skin irritation	Slight irritant effect - does not require labelling. (rabbit)
Eye irritation	Severe eye irritation. (rabbit)
Sensitisation	Non-sensitizing. (guinea pig) OECD Test Guideline 406, Buehler test

**Assessment repeated dose toxicity**

Glufosinate-ammonium has demonstrated effects on the central nervous system at high dose levels in standard toxicity studies using laboratory animals. Glufosinate-ammonium was well tolerated in the rat but less well tolerated in the dog in subchronic studies.

**Assessment Mutagenicity**

Glufosinate-ammonium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment Carcinogenicity**

Glufosinate-ammonium was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment Toxicity to Reproduction**

Implantation loss occurred at high dose levels in a rat multigeneration study with Glufosinate-ammonium. There were no effects on male fertility.

**Assessment developmental toxicity**

Glufosinate-ammonium was a developmental toxicant in rats and rabbits.

**Further information**

The toxicological data refer to a similar formulation.

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**12. ECOLOGICAL INFORMATION****Elimination information (persistence and degradability)**

Biodegradability                      The single components are biologically degradable.

**Ecotoxicity effects**

Toxicity to fish                      LC50 (Oncorhynchus mykiss (rainbow trout)) 13.4 mg/l  
Exposure time: 96 h  
Test conducted with a similar formulation.

Toxicity to aquatic invertebrates                      EC50 (Water flea (Daphnia magna)) 17.8 mg/l  
Exposure time: 48 h  
Test conducted with a similar formulation.

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Toxicity to aquatic plants	EC50 (Selenastrum capricornutum) 71.3 mg/l Exposure time: 72 h Test conducted with a similar formulation.
Toxicity to bacteria	EC50 (Activated sludge) > 1,000 mg/l Exposure time: 3 h The value mentioned relates to the active ingredient glufosinate-ammonium.

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**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

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

UN-Number	<b>2902</b>
Labels	6.1
Packaging group	III
Hazard no.	60
Environm. Hazardous Mark	NO
Description of the goods	PESTICIDE, LIQUID, TOXIC, N.O.S. (GLUFOSINATE-AMMONIUM 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	<b>2902</b>
Labels	6.1
Packaging group	III
EmS	F-A , S-A
Marine pollutant	NO
Description of the goods	PESTICIDE, LIQUID, TOXIC, N.O.S. (GLUFOSINATE-AMMONIUM SOLUTION)

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**IATA**

UN-Number	<b>2902</b>
Labels	6.1
Packaging group	III
Environm. Hazardous Mark	NO
Description of the goods	PESTICIDE, LIQUID, TOXIC, N.O.S. (GLUFOSINATE-AMMONIUM SOLUTION )

**UK 'Carriage' Regulations**

UN-Number	<b>2902</b>
Labels	6.1
Packaging group	III
Hazard no.	60
Emergency action code	2X
Environm. Hazardous Mark	NO
Description of the goods	PESTICIDE, LIQUID, TOXIC, N.O.S. (GLUFOSINATE-AMMONIUM SOLUTION)

**15. REGULATORY INFORMATION**

**This product has been classified/labelled in accordance with The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009: CHIP 4 and any subsequent amendments which apply in both the United Kingdom and Northern Ireland.**

Classified as hazardous for supply/use.

Hazardous components which must be listed on the label:

- Glufosinate ammonium

## Symbol(s)

T Toxic

## R-phrases

R60 May impair fertility.  
R63 Possible risk of harm to the unborn child.  
R21/22 Harmful in contact with skin and if swallowed.  
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.  
R41 Risk of serious damage to eyes.

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

## S-phrases

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
S53 Avoid exposure - obtain special instructions before use.

**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**

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**indicated in this 'Safety Data Sheet'.**

## Symbol(s)

T Toxic

## R-phrases(s)

R21/22 Harmful in contact with skin and if swallowed.

R41 Risk of serious damage to eyes.

R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

R60 May impair fertility.

R63 Possible risk of harm to the unborn child.

## S-phrases(s)

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S53 Avoid exposure - obtain special instructions before use.

## Exceptional labelling

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

## Further information

WHO-classification: II (Moderately hazardous)

**16. OTHER INFORMATION****Further information**

## Text of R-phrases mentioned in Section 3

R10 Flammable.

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R38 Irritating to skin.

R41 Risk of serious damage to eyes.

R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

R60 May impair fertility.

R63 Possible risk of harm to the unborn child.

R67 Vapours may cause drowsiness and dizziness.

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