

Bayer Environmental Science
Safety Data Sheet
Spearhead® Selective Herbicide



Version 2 / AUS
102000022432

Revision Date: 27.06.2013

SECTION 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name: **Spearhead® Selective Herbicide**
Other names: None
Product code (UVP): 06069215
Recommended use: Herbicide

Chemical formulation: Suspension concentrate (=flowable concentrate)(SC)

Company: Bayer CropScience Pty. Ltd.
ABN 87 000 226 022
391-393 Tooronga Road, East Hawthorn
Victoria 3123, Australia

Telephone: (03) 9248 6888
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Emergency telephone no.: 1800 033 111 Orica SH&E Shared Services

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

HAZARDOUS SUBSTANCE	DANGEROUS GOODS
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Hazardous classification:	Hazardous (National Occupational Health and Safety Commission - NOHSC).
R-phrases(s):	R41 - Risk of serious damage to eyes. R22 - Harmful if swallowed. R38 - Irritating to skin. R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases(s):	See sections 4, 5, 6, 7, 8, 10, 13.
ADG Classification:	Not a "Dangerous good" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. For transport by sea, Spearhead Selective Herbicide is a MARINE POLLUTANT. See Section 14.
SUSMP classification (Poison Schedule):	Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: MCPA/Clopyralid/Diflufenican 300:20:15 g/L

Chemical Name	CAS-No.	Concentration [%]
MCPA	94-74-6	25.64
Clopyralid	1702-17-6	1.71

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Diflufenican	83164-33-4	1.28
1,2-Propanediol	57-55-6	>=1.00 - <=5.00
Other ingredients (non-hazardous) to 100 %		

SECTION 4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Safety Data Sheet to the doctor.

Inhalation

Move to fresh air. If symptoms persist, call a physician.

Skin contact

Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation or redness persists, see an ophthalmologist.

Ingestion

Rinse mouth. Keep at rest. Obtain medical attention.

Notes to physician

Symptoms

Local: Prolonged and repeated contact with skin, eyes or mucous membranes may cause irritation.
Systemic: Mild acidosis, tachycardia, irregular cardiac activity, low blood pressure, circulatory collapse, cough, shortness of breath, nausea, vomiting, diarrhoea, abdominal pain, rhabdomyolysis, somnolence, coma, fever, convulsions.

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.
Elimination by dialysis (forced alkaline diuresis).
There is no specific antidote.

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Water
Foam
Dry chemical

Hazards from combustion products

In the event of fire the following may be released:
Carbon monoxide (CO)
Carbon dioxide (CO₂)
Nitrogen oxides (NO_x)
Hydrogen fluoride
Hydrogen chloride (HCl)



Precautions for fire-fighting

Wear self-contained breathing apparatus and protective suit.
Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat.
Do not allow run-off from fire fighting to enter drains or water courses.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Whenever possible, contain fire-fighting water by diking area with sand or earth.

Hazchem Code •3Z

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions

An emergency shower must be readily accessible to the work area.
Avoid contact with spilled product or contaminated surfaces.
When dealing with a spillage do not eat, drink or smoke.
Use personal protective equipment.
Keep unauthorized people away.

Environmental precautions

Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Collect and transfer the product into a properly labelled and tightly closed container.

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.

SECTION 7. HANDLING AND STORAGE

Handling

Hygiene measures:
Avoid contact with skin, eyes and clothing.

Storage

Requirements for storage areas and containers:
Keep out of the reach of children.
Store in original container.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep away from direct sunlight.
Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed.



SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters:

Components	CAS-No.	Control parameters	Basis
1,2-Propanediol (Total vapour and particulates)	57-55-6	474 mg/m ³ / 150 ppm	AU OEL
1,2-Propanediol (Particulate)	57-55-6	10 mg/m ³ (TWA)	AU OEL

For further details on the Occupational Exposure Standards, See Section 16.

Personal protective equipment - End user

Respiratory protection: No personal respiratory protective equipment normally required.

Hand protection: Elbow-length PVC or nitrile gloves

Eye protection: Goggles.

Skin and body protection: Cotton overall buttoned to the neck and wrist.
 Washable hat.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form: Suspension
 Colour: Brown
 Odour: Almost odourless

Safety data

pH: 9.0 - 11.0 at 100 % (23 °C)

Flash point: No data available

Ignition temperature: No data available

Upper explosion limit: No data available

Lower explosion limit: No data available

Vapour pressure: No data available

Relative vapour density: No data available

Density: ca. 1.17 g/cm³ at 20 °C

Water solubility: No data available

Partition coefficient: n-octanol/water: No data available



SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid:	Extremes of temperature and direct sunlight.
Materials to avoid:	No data available.
Hazardous decomposition products:	No decomposition products expected under normal conditions of use.
Hazardous reactions:	No hazardous reactions when stored and handled according to prescribed instructions.

SECTION 11. TOXICOLOGICAL INFORMATION

Potential health effects

Inhalation:	May be harmful if inhaled.
Skin:	Irritating to skin.
Eye:	May cause irreversible eye damage.
Ingestion:	Harmful if swallowed.

Animal toxicity studies

Acute oral toxicity:	LD ₅₀ (rat) 2675 – 3738 mg/kg The value mentioned relates to the active ingredient clopyralid.
Acute oral toxicity:	LD ₅₀ (rat) > 2,000 mg/kg The value mentioned relates to the active ingredient diflufenican.
Acute oral toxicity:	LD ₅₀ (rat) 900 – 1160 mg/kg The value mentioned relates to the active ingredient MCPA.
Acute inhalation toxicity:	LC ₅₀ (rat) > 0.38 mg/L Exposure time: 4 h The value mentioned relates to the active ingredient clopyralid.
Acute inhalation toxicity:	LC ₅₀ (rat) > 2.34 mg/L Exposure time: 4 h The value mentioned relates to the active ingredient diflufenican.
Acute inhalation toxicity:	LC ₅₀ (rat) > 6.36 mg/L Exposure time: 4 h The value mentioned relates to the active ingredient MCPA.
Acute dermal toxicity:	LD ₅₀ (rabbit) > 2,000 mg/kg The value mentioned relates to the active ingredient clopyralid.
Acute dermal toxicity:	LD ₅₀ (rat) > 2,000 mg/kg The value mentioned relates to the active ingredient diflufenican.
Acute dermal toxicity:	LD ₅₀ (rat) > 4,000 mg/kg The value mentioned relates to the active ingredient MCPA.



Skin irritation: Mild skin irritation.
Data refer to main components.

Eye irritation: Severe eye irritation.
Data refer to main components.

Sensitization: No data available for product.

Assessment mutagenicity

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

Assessment carcinogenicity

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

Assessment toxicity to reproduction

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

Assessment developmental toxicity

MCPA caused developmental toxicity only at dose levels toxic to the dams. MCPA caused delayed foetal growth.
Diflufenican did not cause developmental toxicity in rats and rabbits.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish: LC₅₀ (*Oncorhynchus mykiss* (Rainbow trout)) 103.5 mg/L
Exposure time: 96 h
The value mentioned relates to the active ingredient clopyralid.

Toxicity to fish: LC₅₀ (*Oncorhynchus mykiss* (Rainbow trout)) 56 - 100mg/L
Exposure time: 96 h
The value mentioned relates to the active ingredient diflufenican.

Toxicity to fish: LC₅₀ (*Oncorhynchus mykiss* (Rainbow trout)) 232 mg/L
Exposure time: 96 h
The value mentioned relates to the active ingredient MCPA.

Toxicity to aquatic invertebrates: EC₅₀ (*Daphnia*) 225 mg/L
Exposure time: 48 h
The value mentioned relates to the active ingredient clopyralid.

Toxicity to aquatic invertebrates: LC₅₀ (*Daphnia*) 10 mg/L
Exposure time: 48 h
The value mentioned relates to the active ingredient diflufenican.

Toxicity to aquatic invertebrates: LC₅₀ (*Daphnia*) > 100 mg/L
The value mentioned relates to the active ingredient MCPA.

Toxicity to aquatic plants: EC₅₀ (*Selenastrum capricornutum*) 6.9 mg/L
Exposure time: 96 h
The value mentioned relates to the active ingredient clopyralid.



Toxicity to aquatic plants:	(Algae) 10 mg/L The value mentioned relates to the active ingredient diflufenican.
Toxicity to other organisms:	LD ₅₀ (<i>Colinus virginianus</i> (Bobwhite quail)) > 2,000 mg/kg The value mentioned relates to the active ingredient clopyralid.
Toxicity to other organisms:	LD ₅₀ (<i>Colinus virginianus</i> (Bobwhite quail)) > 2,150 mg/kg The value mentioned relates to the active ingredient diflufenican.
Toxicity to other organisms:	LD ₅₀ (<i>Colinus virginianus</i> (Bobwhite quail)) 377 mg/kg The value mentioned relates to the active ingredient MCPA.
Toxicity to other organisms:	(<i>Apis mellifera</i> (bees)) Non-hazardous for bees. The value mentioned relates to the active ingredient clopyralid.
Toxicity to other organisms:	(<i>Apis mellifera</i> (bees)) Non-hazardous for bees. The value mentioned relates to the active ingredient diflufenican.
Toxicity to other organisms:	LD ₅₀ (<i>Apis mellifera</i> (bees)) 0.104 mg/bee The value mentioned relates to the active ingredient MCPA.

SECTION 13. DISPOSAL CONSIDERATIONS

Metal drums and plastic containers

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

SECTION 14. TRANSPORT INFORMATION

ADG

UN-Number	3082
Class	9
Subsidiary Risk	None
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIFLUFENICAN SOLUTION)
Hazchem Code	•3Z

According to AU01, Environmentally Hazardous Substances in packagings, IBC or any other receptacle not exceeding 500 kg or 500 L are not subject to the ADG Code.

IMDG

UN-Number	3082
Class	9
Subsidiary Risk	None
Packaging group	III
EmS	F-A , S-F
Marine pollutant	YES

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Description of the goods ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(DIFLUFENICAN SOLUTION)

IATA

UN-Number	3082
Class	9
Subsidiary Risk	None
Packaging group	III
Environm. Hazardous Mark	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIFLUFENICAN SOLUTION)

SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994.

Australian Pesticides and Veterinary Medicines Authority approval number: 53833.

See also Section 2.

SECTION 16. OTHER INFORMATION

Trademark information

Spearhead® is registered trademark of the Bayer Group.

Further details on the Occupational Exposure Standards mentioned in Section 8

CEILING: Ceiling Limit Value

OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

PEAK: Exposure Standard - Peak means a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.

STEL: Exposure standard - short term exposure limit (STEL): A 15 minute TWA exposure which should not be exceeded at any time during a working day even if the eight-hour TWA average is within the TWA exposure standard. Exposures at the STEL should not be longer than 15 minutes and should not be repeated more than four times per day. There should be at least 60 minutes between successive exposures at the STEL.

SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure.

TWA: Exposure standard - time-weighted average (TWA): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.

This SDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is

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sent to our customers and is also available on request.

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

END OF SDS