

# MATERIAL SAFETY DATA SHEET

## Spearhead® Selective Herbicide

Date of Issue: September 4<sup>th</sup> 2009

### 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

**Product name:** Spearhead® Selective Herbicide  
**Other names:** None  
**Product code:** Not available  
**Recommended use:** For the control of broadleaf weeds in turf.  
**Supplier:** Bayer Environmental Science – A Business Operation of Bayer CropScience Pty Ltd  
ABN 87 000 226 022  
**Address:** 391 - 393 Tooronga Road, East Hawthorn  
Victoria 3123, Australia  
**Telephone:** (03) 9248 6888  
**Facsimile:** (03) 9248 6800  
**Website:** [www.bayeres.com.au](http://www.bayeres.com.au)  
**Contact:** Technical Manager (03) 9248 6888  
**Emergency Telephone Number:** 1800 033 111 – Orica SH&E Shared Services

### 2. HAZARDS IDENTIFICATION

**HAZARDOUS SUBSTANCE - NON-DANGEROUS GOOD**  
Risk of serious eye damage. Harmful if swallowed. Irritating to skin.

**Hazard designation:** Hazardous (National Occupational Health and Safety Commission - NOHSC)

**Risk phrases:** R41 – Risk of serious eye damage  
R22 – Harmful if swallowed  
R38 – Irritating to skin

**Safety phrases:** See Sections 4, 5, 6, 7, 8, 9, 13

**ADG classification:** Not “dangerous goods” for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

**SUSDP classification:** Schedule 5 (Standard for the Uniform Scheduling of Drugs and Poisons)

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients:	CAS Number:	Concentration (g/L):
MCPA present as the potassium salt	[94-74-6]	300
Clopyralid	[1702-17-6]	20
Diffenican	[83164-33-4]	15
Propylene glycol	[57-55-6]	~50
Other ingredients	(non hazardous)	615

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### 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 Material Safety Data Sheet to a doctor.

- Inhalation:** Remove victim to fresh air. Seek medical advice.
- Skin contact:** If product on skin remove contaminated clothing and immediately wash area with plenty of soap and water. Obtain medical advice if symptoms occur
- Eye contact:** If product in eyes, wash eyes immediately with copious quantities of water for at least 15 minutes. Seek medical assistance if irritation develops.
- Ingestion:** If swallowed wash out mouth with water. Keep patient at rest. Seek immediate medical assistance.
- First Aid Facilities:** Ensure washing facilities are available - including eye-wash station.
- Symptoms:** Local: The product causes irritation of eyes, skin and mucous membranes.  
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
- Medical attention:** Treatment  
Basic aid, decontamination, symptomatic treatment and if necessary administration of antidote.  
Note for physicians  
In the event of a mouthful or more being ingested, the following measures should be considered:  
Treat large intakes with gastric lavage, and charcoal administration. Observe specific parameters: blood pressure, levels of MCPA in plasma and urine, pH in urine. Elimination by dialysis (forced alkaline diuresis). There is no specific antidote.

### 5. FIRE FIGHTING MEASURES

- Extinguishing media:** Extinguish fire using: Water, Fog, Foam, Dry agent
- Hazards from combustion products:** In case of fire, gaseous oxides of carbon and nitrogen, hydrogen fluoride and hydrogen chloride may be emitted.
- Precautions for fire fighters:** Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1716), as toxic and irritating decomposition products may be produced in a fire. If it can be done safely, remove intact containers from the fire. Otherwise, use water spray to cool them. Bund area to prevent contamination of water sources. Dispose of fire control extinguishing agent and spillage later in a safe manner. Do not release contaminated water into the environment.

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### 6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled material or contaminated surfaces. When dealing with the spillage do not eat, drink or smoke and wear personal protective clothing and equipment as detailed in 'Personal Protection' section. Keep people and animals away. Prevent spillage from entering drains, sewers or watercourses. Contain/absorb spillage in sand/earth or other suitable inert material. Transfer collected material to sealable containers. Seal and label containers ready for disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

### 7. HANDLING AND STORAGE

**Handling:** Keep out of reach of children. Avoid contact with the eyes, skin and clothing or inhalation of product.

**Storage:** Store in the closed original container in a dry, cool well-ventilated area, out of direct sunlight. Store in a locked room or place away from children, animals, food, feedstuffs, seed and fertilisers.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure standards:** No occupational exposure standards have been established for the product or its ingredients.

**Engineering controls:** Use in a well-ventilated area only.

**Personal Protective Equipment:** Eyes: Wear face shield.  
Clothing: When preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist and a washable hat.  
Gloves: Elbow-length PVC gloves.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Viscous light brown liquid.  
**Odour:** Negligible (very slight sweet smell)  
**Vapour pressure:** Diflufenican  $4.25 \times 10^{-3}$  mPa; Clopyralid 1.33 mPa (pure); MCPA  $2.3 \times 10^{-2}$  mPa  
**Vapour density:** Not determined  
**Boiling point:** Not determined  
**Solubility:** Dispersible in water  
**Density:** 1.170 g/cm<sup>3</sup> at 20 °C  
**pH (undiluted):** 10  
**Flash Point:** Not determined  
**Flammability (explosive) limits:** Not determined  
**Auto-ignition temperature:** Not available  
**Octanol/water partition coefficient:** Not available  
**Formulation:** Suspension concentrate

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### 10. STABILITY AND REACTIVITY

<b>Chemical stability:</b>	Stable under normal conditions of use.
<b>Hazardous polymerisation:</b>	None known
<b>Conditions to avoid:</b>	Avoid extreme heat and direct sunlight
<b>Incompatible materials:</b>	Not available
<b>Hazardous decomposition products:</b>	No hazards are expected if the material is handled, stored and used according to instructions and government regulations.

### 11. TOXICOLOGICAL INFORMATION

#### POTENTIAL HEALTH EFFECTS

<b>Inhalation:</b>	Harmful if inhaled. Avoid breathing concentrated vapour or spray mist.
<b>Skin contact:</b>	Will irritate the skin.
<b>Eye contact:</b>	Risk of serious damage to eyes.
<b>Ingestion:</b>	Harmful if swallowed.
<b>Other:</b>	None

ANIMAL TOXICITY DATA – PRODUCT: No data available for the product.

ANIMAL TOXICITY DATA – ACTIVE INGREDIENTS:

#### Acute:

<b>Oral toxicity:</b>	LD <sub>50</sub> rat: 2675 – 3738 mg/kg (Clopyralid) LD <sub>50</sub> rat: 900 – 1160 mg/kg (MCPA) LD <sub>50</sub> rat: > 2000 mg/kg (Diflufenican)
<b>Dermal toxicity:</b>	LD <sub>50</sub> rabbit: >2000 mg/kg (Clopyralid) LD <sub>50</sub> rat: >4000 mg/kg (MCPA) LD <sub>50</sub> rat: > 2000 mg/kg (Diflufenican)
<b>Inhalation toxicity:</b>	LC <sub>50</sub> (4 h) rat: >0.38 mg/L (Clopyralid) LC <sub>50</sub> (4 h) rat: >6.36 mg/L (MCPA) LC <sub>50</sub> (4 h) rat: > 2.34 mg/L (Diflufenican)
<b>Skin irritation:</b>	Mild skin irritant
<b>Eye irritation:</b>	Severe eye irritant
<b>Sensitisation:</b>	No data available for product.

#### Chronic:

In 24 month feeding trials (technical MCPA), the no effect level for rats was 1.3 mg/kg bw/d and for mice was 18 mg/kg bw/d. Non-mutagenic. Non-teratogenic.

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### 11. ECOLOGICAL INFORMATION

Dangerous to fish. DO NOT contaminate streams, rivers or waterways with the chemical or used containers. DO NOT apply under meteorological conditions or from spraying equipment that could be expected to cause spray to drift onto nearby plants, adjacent crops, croplands or pastures.

**Fish toxicity:** Technical MCPA: LC<sub>50</sub>: 232 mg/L (96 h) rainbow trout  
Technical Clopyralid: LC<sub>50</sub>: 103.5 mg/L (96 h) rainbow trout  
Technical Diflufenican: LC<sub>50</sub>: 56-100 mg/L (96 h) rainbow trout

**Daphnia toxicity:** Technical Clopyralid: EC<sub>50</sub> (48hr) 225 mg/L  
Technical Diflufenican: LC<sub>50</sub> (48hr) no effect at 10 mg/L  
Technical MCPA: LC<sub>50</sub> >100 mg/L

**Toxicity to algae:** Technical Clopyralid: EC<sub>50</sub> (96hr) *Selenastrum capricornutum* cell count 6.9 mg/L  
Technical Diflufenican: No growth inhibition of algae at 10 mg/L  
Technical MCPA: No information available

**Bird toxicity:** Technical MCPA: Acute oral LD<sub>50</sub>: 377 mg/kg bobwhite quail  
Technical Clopyralid: Acute oral LD<sub>50</sub>: >2000 mg/kg bobwhite quail  
Technical Diflufenican: Acute oral LD<sub>50</sub>: >2150 mg/kg bobwhite quail

**Bee toxicity:** Technical clopyralid: Non-toxic to bees.  
Technical Diflufenican: Non-toxic by ingestion or contact  
Technical MCPA: LD<sub>50</sub> 0.104 mg/bee

**Other:** None

**Environmental fate, persistence and degradation:** Diflufenican half life varies from 15 to 30 weeks depending on soil type and water content.  
MCPA – duration of residual activity in soil is c. 3 to 4 months following an application of 3 kg/ha.

### 12. DISPOSAL CONSIDERATIONS

Store in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight. Triple or preferably pressure rinse containers before disposal. Add rinsings to the 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 empty containers below 500mm 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.

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### 13. TRANSPORT INFORMATION

UN number:	Not applicable
Proper shipping name:	Not applicable
Class and Subsidiary Risk:	Not "dangerous goods" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
Packing Group:	Not applicable
EPG:	Not applicable
Hazchem code:	Not applicable

### 14. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988

Australian Pesticides and Veterinary Medicines Authority Approval Number: 53833

### 15. OTHER INFORMATION

**Trademark information:** Spearhead® is a Registered Trademark of Bayer.

**Preparation information:** Replaces August 13<sup>th</sup> 2007 edition.  
Reason for update: Website and contact detail changes. Change in product name.

**Data sources:** Bayer CropScience Pty Ltd product safety data and published data

This MSDS 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 MSDS 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 sent to our customers and is also available on request.

END OF MSDS