

## 1. IDENTIFICATION

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### Product Identifier

KELPIE® DFF + BROM MX HERBICIDE

### Recommended Use of the Chemical and Restrictions on Use

Selective herbicide.

### Details of Manufacturer or Importer

SINOCHEM INTERNATIONAL AUSTRALIA PTY LTD

ABN: 74 160 164 616

Level 8 / 606 St Kilda Road

Melbourne, Victoria, 3004

Australia

Tel: +61 3 9520 8888

### Emergency Telephone:

Australia: 1800 033 111

## 2. HAZARDS IDENTIFICATION

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Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or 3082 are not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in packagings, IBC's, or any other receptacle not exceeding 500 kg(L).

This material is hazardous according to Safe Work Australia; HAZARDOUS SUBSTANCE.

### Classification of the substance or mixture:

Flammable liquids - Category 4

Acute Oral Toxicity - Category 4

Aspiration hazard - Category 1

Skin Irritation - Category 2

Skin Sensitisation - Category 1

Eye Irritation - Category 2A

Acute Inhalation Toxicity - Category 3

Specific target organ toxicity (single exposure) - Category 3

Toxic to Reproduction - Category 1B

The following health/environmental hazard categories fall outside the scope of the Workplace Health and Safety Regulations:

Acute Aquatic Toxicity - Category 1

Chronic Aquatic Toxicity - Category 1



**SIGNAL WORD:** DANGER



**Hazard Statement(s):**

H227 Combustible liquid.  
H302 Harmful if swallowed.  
H304 May be fatal if swallowed and enters airways.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H331 Toxic if inhaled.  
H335 May cause respiratory irritation.  
H360 May damage fertility or the unborn child.

**Precautionary Statement(s):**

**Prevention:**

P102 Keep out of reach of children.  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat / sparks / open flames / hot surfaces. No smoking.  
P261 Avoid breathing mist / vapours / spray.  
P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves / protective clothing / eye protection / face protection.  
P281 Use personal protective equipment as required.

**Response:**

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P330 Rinse mouth.  
P331 Do NOT induce vomiting.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
P363 Wash contaminated clothing before re-use.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P311 Call a POISON CENTER or doctor/physician.  
P321 Specific treatment (see First Aid Measures on Safety Data Sheet).  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P370+P378 In case of fire: Use extinguishing media as outlined in Section 5 of this Safety Data Sheet to extinguish.

**Storage:**

P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

**Disposal:**

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Poisons Schedule (SUSMP):** S6 Poison.

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Bromoxynil octanoate	1689-99-2	379 g/L	H302 H317 H331 H361d H410
Diflufenican	83164-33-4	25 g/L	H412
Solvent naphtha (petroleum)heavy arom.	64742-94-5	30-60%	H304
N-methyl-2-pyrrolidone	872-50-4	10-<30%	H315 H319 H335 H360D
Other non-hazardous components	-	10-<30%	-

### 4. FIRST-AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

**Inhalation:**

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

**Skin Contact:**

If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water and soap. If swelling, redness, blistering or irritation occurs seek medical assistance.

**Eye Contact:**

If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.

**Ingestion:**

Rinse mouth with water. If swallowed, do NOT induce vomiting. Never give anything by the mouth to an unconscious patient. Seek immediate medical assistance.

**Indication of immediate medical attention and special treatment needed:**

Treat symptomatically. Delayed pulmonary oedema may result.

## 5. FIRE-FIGHTING MEASURES

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**Suitable Extinguishing Media:**

Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal protein foam can be used.

**Unsuitable Extinguishing Media:**

Water jet.

**Hazchem or Emergency Action Code:** · 3Z

**Specific hazards arising from the substance or mixture:**

Combustible liquid. May form flammable vapour mixtures with air.

**Special protective equipment and precautions for fire-fighters:**

On burning will emit toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion. If safe to do so, remove containers from path of fire. Keep containers cool with water spray.

## 6. ACCIDENTAL RELEASE MEASURES

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**Emergency procedures/Environmental precautions:**

Isolate spill or leak area immediately. Clear area of all unprotected personnel. Shut off all possible sources of ignition. If contamination of sewers or waterways has occurred advise local emergency services.

**Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:**

Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. Wash area down with excess water. Recover the cleaning water for subsequent disposal.

## 7. HANDLING AND STORAGE

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Classified as a C1 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the requirements of AS 1940. Refer to State Regulations for storage and transport requirements.

This material is a Scheduled Poison S6 and must be stored, maintained and used in accordance with the relevant regulations.

**Precautions for safe handling:**

Avoid skin and eye contact and breathing in vapour, mists and aerosols. Thoroughly clean equipment after use. Keep out of reach of children. When using do not eat, drink or smoke. Take precautionary measures against static discharges.

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

Store in the closed, original container in a well-ventilated area, as cool as possible and away from children, animals, food, feedstuffs, seed and fertilisers. Do not store for prolonged periods in direct sunlight. Store away from sources of heat or ignition. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for leaks.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Control Parameters:** No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

1-Methyl-2-pyrrolidone: 8hr TWA = 103 mg/m<sup>3</sup> (25 ppm), 15 min STEL = 309 mg/m<sup>3</sup> (75 ppm), Sk

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

'Sk' (skin) Notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

### Appropriate engineering controls:

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

### Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, RESPIRATOR.



Wear overalls, chemical goggles and impervious gloves. Use with adequate ventilation. If determined by a risk assessment an inhalation risk exists, wear an organic vapour/particulate respirator or an air supplied mask meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Physical state:	Clear Liquid
Colour:	Amber
Odour:	Solvent
Solubility:	Emulsifies in water.
Specific Gravity:	1.1
Relative Vapour Density (air=1):	Not available
Vapour Pressure (20 °C):	Not available
Flash Point (°C):	66
Flammability Limits (%):	Not available
Autoignition Temperature (°C):	Not available
Boiling Point/Range (°C):	Not available
pH:	Not available

## 10. STABILITY AND REACTIVITY

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<b>Reactivity:</b>	No information available.
<b>Chemical stability:</b>	Stable under normal conditions of use.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerisation will not occur.
<b>Conditions to avoid:</b>	Avoid exposure to heat, sources of ignition, and open flame. Avoid exposure to direct sunlight.
<b>Incompatible materials:</b>	Incompatible with strong acids , strong bases , oxidising agents .
<b>Hazardous decomposition products:</b>	Oxides of carbon. Oxides of nitrogen. Hydrogen bromide. Hydrogen cyanide. Hydrogen fluoride.

## 11. TOXICOLOGICAL INFORMATION

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No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

<b>Ingestion:</b>	Swallowing can result in nausea, vomiting and central nervous system depression. If the victim is showing signs of central system depression (like those of drunkenness) there is greater likelihood of the patient breathing in vomit and causing damage to the lungs. Aspiration hazard - this material can enter lungs during swallowing or vomiting and cause lung inflammation and damage.
<b>Eye contact:</b>	An eye irritant.
<b>Skin contact:</b>	Contact with skin will result in irritation. A skin sensitizer. Repeated or prolonged skin contact may lead to allergic contact dermatitis.
<b>Inhalation:</b>	Breathing in vapour will produce respiratory irritation.
<b>Acute toxicity:</b>	No LD50 data available for the product. For a compositionally similar material:
Oral LD50 (rat):	1100 mg/kg
Dermal LD50 (rat):	>2000 mg/kg
Inhalation LC50 (rat):	>2 mg/L/4hr
<b>Chronic effects:</b>	May damage fertility or the unborn child. Not listed as carcinogenic according to IARC. No evidence of mutagenic effects for in-vitro and in-vivo experiments.
	For N-Methyl-2-pyrrolidone: In a two-year rat feeding study, males showed signs of chronic progressive nephropathy; no treatment related tumors were seen. At very high repeated inhalation doses (1.0 mg/L), NMP caused focal pneumonia, bone marrow hypoplasia and atrophy of lymphoid tissue, 0.5 mg/L was the no effect level.

## 12. ECOLOGICAL INFORMATION

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<b>Ecotoxicity</b>	Avoid contaminating waterways.
<b>Aquatic toxicity:</b>	Very toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment.
48hr LC50 (Daphnia magna):	0.046 mg/L (for Bromoxynil octanoate)
96hr LC50 (rainbow trout):	0.041 mg/L (for Bromoxynil octanoate)
<b>Terrestrial toxicity:</b>	Non-toxic to bees.

## 13. DISPOSAL CONSIDERATIONS

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### **Disposal methods:**

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 deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots in compliance with relevant local, state or territory government regulations. Do not burn empty containers or product.

For refillable container, empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.



## 14. TRANSPORT INFORMATION

### Road and Rail Transport

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

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<b>UN No:</b>	3082
<b>Transport Hazard Class:</b>	9 Miscellaneous Dangerous Goods
<b>Packing Group:</b>	III
<b>Proper Shipping Name or Technical Name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS BROMOXYNIL OCTANOATE)
<b>Hazchem or Emergency Action Code:</b>	· 3Z

### Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

<b>UN No:</b>	3082
<b>Transport Hazard Class:</b>	9 Miscellaneous Dangerous Goods
<b>Packing Group:</b>	III
<b>Proper Shipping Name or Technical Name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS BROMOXYNIL OCTANOATE)
<b>IMDG EMS Fire:</b>	F-A
<b>IMDG EMS Spill:</b>	S-F

### Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

<b>UN No:</b>	3082
<b>Transport Hazard Class:</b>	9 Miscellaneous Dangerous Goods
<b>Packing Group:</b>	III
<b>Proper Shipping Name or Technical Name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS BROMOXYNIL OCTANOATE)

## 15. REGULATORY INFORMATION

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**Classification:**

This material is hazardous according to Safe Work Australia; HAZARDOUS SUBSTANCE.

**Classification of the substance or mixture:**

Flammable liquids - Category 4  
Acute Oral Toxicity - Category 4  
Aspiration hazard - Category 1  
Skin Irritation - Category 2  
Skin Sensitisation - Category 1  
Eye Irritation - Category 2A  
Acute Inhalation Toxicity - Category 3  
Specific target organ toxicity (single exposure) - Category 3  
Toxic to Reproduction - Category 1B

The following health/environmental hazard categories fall outside the scope of the Workplace Health and Safety Regulations:

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Chronic Aquatic Toxicity - Category 1

**Hazard Statement(s):**

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H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H331 Toxic if inhaled.  
H335 May cause respiratory irritation.  
H360 May damage fertility or the unborn child.

**Poisons Schedule (SUSMP):** S6 Poison.

This product is registered in Australia by the Australian Pesticides & Veterinary Medicines Authority (APVMA).  
APVMA Approval Number 82057

## 16. OTHER INFORMATION

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® KELPIE is a registered trademark of Sinochem International Crop Care (Overseas) Pty Ltd.

This safety data sheet has been prepared by Ixom Operations Pty Ltd Toxicology & SDS Services.

**Reason(s) for Issue:**

First Issue Primary SDS

Disclaimer of Liability

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