

## MATERIAL SAFETY DATA SHEET

### BIOTIS PARAQUAT 250 HERBICIDE

#### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product Name</b>	BIOTIS PARAQUAT 250 HERBICIDE
<b>Product Type</b>	Group L Herbicide
<b>Company Name</b>	<b>BIOTIS LIFE SCIENCE PTY LTD</b>
<b>Address</b>	11 Norfolk Way, North Ryde, NSW 2113, Australia.
<b>Telephone Number</b>	02 9889 1995
<b>Fax Number</b>	02-9889 1998
<b>Recommended Use</b>	For the control of a wide range of grasses and broadleaf weeds.

#### 2. HAZARD IDENTIFICATION

<b>Hazard Classification</b>	Classified as hazardous according to the criteria of NOHSC Australia Classified as dangerous goods according to the ADG code
<b>Risk Phrase(s)</b>	R24/25 Toxic in contact with skin and if swallowed R26 Very toxic by inhalation R37/38 Irritating to respiratory system and skin R41 Risk of serious damage to eyes R48/25 Toxic: danger of serious damage to health by prolonged exposure if swallowed
<b>Safety Phrase(s)</b>	S1/2 Keep locked up and out of reach of children S23 Do not breath gas/fumes/vapour/spray S28 After contact with skin, wash immediately with plenty of water S36/37/39 Wear suitable protective clothing, gloves and eye/face protection S38 If insufficient ventilation, wear suitable respiratory equipment

#### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS Number</u>	<u>Proportion (%)</u>
Paraquat (present as Paraquat Dichloride)	1910-42-5	25% *
Emulsifier	-	10-30%
Pyridine	68391-11-7	Low
Emetic agent	-	Low
Other non hazardous ingredients	-	Balance

\* This concentration is for the active ingredient paraquat

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#### 4. FIRST AID MEASURES

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##### **First Aid Measures**

OBTAIN MEDICAL ATTENTION IMMEDIATELY, SPEED IS ESSENTIAL

##### **Inhalation**

Remove patient from exposure, keep warm and at rest.

Obtain medical attention urgently.

##### **Skin Contact**

Contact of the concentrate with abraded skin or skin with cuts must be avoided.

Wash affected areas thoroughly with soap and water.

Remove contaminated clothing before re-use.

Seek medical advice, but only after the exposed skin has been thoroughly washed.

##### **Eye Contact**

If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.

Seek medical advice immediately.

##### **Ingestion**

If swallowed, do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre (Phone number: 13 112). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.

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#### 5. FIRE FIGHTING MEASURES

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##### **Suitable Extinguishing Media**

If involved in a fire, the product will not burn. Choose extinguishing media to suit the burning material.

##### **Hazardous from Combustion Products**

If involved in a fire, the dehydrated components may emit oxides of carbon, oxides of nitrogen and hydrogen chloride.

##### **Special Protective Equipment for Fire Fighters**

Breathable air apparatus must be worn when fighting a fire in which this product is involved.

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#### 6. ACCIDENTAL RELEASE MEASURES

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##### **Spills and Disposal**

Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite).

Collect spilled material and waste in sealable open-top type containers for disposal.

On site disposal of concentrate is not acceptable.

##### **Personal Protection**

Wear specified PPE to decontaminate personnel and equipment, or to handle broken packages or containers. Wear eye protection, chemically resistance gloves, boots and overalls. Decontaminate emergency personnel with soap and water before leaving the emergency area.

##### **Clean-up Methods-Large Spillages**

If large liquid spills occur, attempt to recover as much spilt material from sumps and bunded areas before absorbing remaining material into vermiculite or other absorbent.

##### **Environmental Precautions**

Use earthen bunds or absorbent bunding to prevent spreading of spillage

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## 7. HANDLING AND STORAGE

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### **Handling**

For use by licensed pest control operators or primary producers only.

Do not work in spray mist.

Do not continue to use if skin irritation or nose bleed occurs. This may be caused by exposure to spray mist as the result of incorrect use of equipment or adverse climatic conditions. Stop and review handling and spraying techniques before further spraying. If symptoms persist seek medical advice.

### **Storage and Transport**

This product is a S7 Poison. Observe all relevant regulations regarding sale, transport and storage of this class of poison. Store in the closed original container in a cool, well-ventilated area out of direct sunlight. Store in a locked enclosure. For use by licensed pest control operators or primary produces only.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### **National Exposure Standards**

No exposure standard for this product has been set, however, an exposure standard has been set for paraquat (respirable sizes) at 0.1 mg/m<sup>3</sup>.

### **Engineering Controls**

No special requirements.

Ensure workplace is well ventilated.

Some people who are extremely sensitive to the product may develop nose bleeds when handling the concentrate. If possible, these people should not handle the material; if they must, provide effective local ventilation.

### **Respiratory Protection**

Do not inhale spray mist.

If exposure to vapor, spray or dusts from dried product is expected, wear a high efficiency particulate respirator covering nose and mouth.

### **Personal Protective Equipment**

When opening the container, preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist and washable hat, elbow-length PVC gloves and goggles.

When there is a risk of exposure to spray mist wear waterproof footwear and waterproof protective clothing, impervious gauntlet length gloves (rubber or PVC), goggles and face mask and respirator covering nose and mouth and capable of filtering spray droplets. A high efficiency type particulate respirator is recommended, but in any event uses a respirator which complies with the requirements of AS1716 (Standard Association of Australia). Avoid contacting with vegetation wet with spray, but if necessary to do so, wear waterproof footwear and waterproof protective clothing and gloves.

### **Hygiene Measures**

After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

After each day's use, wash contaminated clothing and safety equipment.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Form</b>	Liquid
<b>Appearance</b>	Dark blue
<b>Odor</b>	Strongly pungent
<b>Boiling Point</b>	Approx 100°C
<b>Specific Gravity</b>	1.1±0.05
<b>pH Value (undiluted)</b>	6-7

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## 10. STABILITY AND REACTIVITY

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<b>Stability</b>	Stable at room temperature
<b>Chemical Stability</b>	Paraquat is inactivated by adsorption onto clay
<b>Incompatible Material</b>	Paraquat is highly corrosive to most metals, e.g. aluminum, zinc and iron
<b>Stability</b>	Stable at room temperature

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## 11. TOXICOLOGY INFORMATION

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### Inhalation

Highly toxic if inhaled. However, unlikely to be hazardous by inhalation because of low vapor pressure of the material at ambient temperature. Nose bleeding and soreness of the throat may result from spray mist or dust trapped on the nasal mucosa. Irritating to the respiratory system. Pulmonary oedema may occur up to 48 hours after exposure and could prove fatal.

If the concentrate is allowed to dry out, solid paraquat dust can be created. Paraquat dust is highly toxic (TLV 0.1 mg/m<sup>3</sup>) and should not be handled without full respiratory protection.

This product contains a stenching agent to give an offensive smell. This has been done to reduce the likelihood of accidental ingestion. This stenching agent may cause headaches and nausea in some people when inhaled. The presence of this offensive smell in the air does not necessarily indicate the presence of paraquat.

### Ingestion

TREATMENT OF PARAQUAT POISONING MUST COMMENCE AS RAPIDLY AS POSSIBLE. Rapid treatment is essential. The immediate effects of poisoning depend on the dose of paraquat absorbed into the blood. Mild poisoning occurs at <20 mg paraquat ion/kg body weight and the effects are vomiting and diarrhoea. Moderate to severe poisoning occurs at 20-30 mg paraquat ion/ kg body weight and the effects are vomiting, abdominal discomfort, soreness and inflammation of the mouth, throat and oesophagus, difficulty in swallowing and, later, diarrhoea. Kidney and liver damage may appear 1-3 days after exposure. Can cause death by a delayed proliferating fibrosis of the lung within 1-3 weeks. Lethal poisoning occurs at >30 mg paraquat ion/kg body weight and the effects are nausea and vomiting, and can cause death by multi-organ failure and circulatory collapse within 48 hours.

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### **Skin**

Contact with concentrate on skin will result in moderate irritation. Can cause inflammation and in severe cases blistering of the skin. Contamination of the nails may cause white spots or in severe cases cracking and loss of the nail. Intact skin is a very effective barrier to paraquat. Damaged skin removes the barrier and paraquat may be absorbed with effects as outlined above under ingestion.

### **Eye**

Eye irritation may be delayed. May lead to ulceration of corneal and conjunctival epithelium giving rise to secondary infection. Although healing may be slow, the injury is superficial and with proper medical care will be complete, even in severe cases.

### **Chronic Effects**

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

### **Reproductive Toxicity**

Data indicates no reproductive effects.

### **Carcinogenicity**

Data indicates no carcinogenicity effects.

### **Acute Toxicity-Oral**

LD<sub>50</sub> (rat): 157 mg/kg for paraquat dichloride

### **Acute Toxicity-Dermal**

LD<sub>50</sub> (rat): 911 mg/kg for paraquat dichloride

May cause temporary damage to nails and a delay in the healing of cuts and wounds

### **Acute Toxicity-Inhalation**

No vapour toxicity. If inhaled, may cause nose bleeding

### **Eye Irritation**

The product is an eye irritant

### **Skin Irritation**

The product is a skin irritant

### **Skin Sensitisation**

Product is not a skin sensitizer

### **Other Information**

The Australian Acceptable Daily Intake (ADI) for paraquat (as cation) for a human is 0.004 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.45 mg/kg/day, the level determined to show no effects during long-term exposure for the most sensitive indicators and the most sensitive species.

(Ref: Comm. Dept. of Health and Ageing, ADI List, TGA, September 2005)

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## **12. ECOLOGY INFORMATION**

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### **Persistence/Biodegradability**

Paraquat is rapidly absorbed and inactivated by contact with soil. There is evidence of photodegradation in air.

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<b>Acute Toxicity-Fish</b>	LC <sub>50</sub> (96 h) Brown trout: 2.5-13 mg/L LC <sub>50</sub> (96 h) Rainbow trout: 32 mg/L LC <sub>50</sub> (96 h) Mirror carp: 135 mg/L
<b>Acute Toxicity-Daphnia</b>	EC <sub>50</sub> (48 h) Daphnia : 6.1 mg/L
<b>Acute Toxicity-Bird</b>	LD <sub>50</sub> Mallard duck: 4048 mg/kg (5 day) LC <sub>50</sub> Bobwhite quail: 981 mg/kg (5 day)
<b>Acute Toxicity-Bees</b>	Not toxic to bees. LD <sub>50</sub> Bees: 36 µg/bee

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### 13. DISPOSAL CONSIDERATIONS

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#### Product Disposal

On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals.

#### Container Disposal

Do not use this container for any other purpose. Triple rinse containers; add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations.

Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for the refill or storage. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree root.

Empty containers and product should not be burnt.

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### 14. TRANSPORT INFORMATION

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<b>U.N. Number</b>	3016
<b>Proper Shipping Name</b>	BIPYRIDYLIUM PESTICIDE, LIQUID, TOXIC (Contains paraquat)
<b>DG Class</b>	6.1
<b>Hazchem Code</b>	2X
<b>Packing Group</b>	III
<b>Storage and Transport</b>	Considered dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.
<b>IMO Class/Packing Group</b>	Class 6.1; Packing Group III
<b>IMO Proper Shipping Name</b>	BIPYRIDYLIUM PESTICIDE, LIQUID, TOXIC (Contains paraquat)

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## 15. REGULATORY INFORMATION

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<b>Poison Schedule</b>	S7
<b>Packaging and Labeling</b>	DANGEROUS POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTION BEFORE OPENING OR USING CAN KILL IF SWALLOWED DO NOT PUT IN DRINK BOTTLES KEEP LOCKED UP
<b>Hazard Category</b>	Very toxic, Irritant
<b>AICS (Australia)</b>	All of the components in this product are listed on the Australian Inventory of Chemical Substances

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## 16. OTHER INFORMATION

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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 must review this information in the specific context of the intended application. BIOTIS LIFE SCIENCE PTY LTD. will not be responsible for damages of any nature resulting from use of or reliance upon this information.

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