

MATERIAL SAFETY DATA SHEET
MAKHRO PARAQUAT

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : Makhro Paraquat
 Chemical name of active ingredient(s) : Paraquat
 Chemical formula : C₁₂H₁₄Cl₂N₂
 Manufacturer : **Volcano Agrosience**
 P.O Box 1726
 Mount Edgecombe
 4300
 Telephone nr: 031-502-3209

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation : Preparation
Information on hazardous ingredients *

Hazardous ingr	CAS No	g / kg	Symbol	R-Phrases
Paraquat ion	4685-14-7	200	T	R24/25-R36/37/38
Pyridine Bases	68391-11-7	10	T	R24-R20/22-R34
Paraquat Emetic	27277-00-5	<10	T	R25
Alkylphenol Ethoxylate		<100	Xn	R22-R36/38-R53
UN No	3016			
Chemical name:	1,1-Dimethyl-4,4-bipyridylium dichloride			
Chemical family:	Bipyridylium			

3. HAZARDS IDENTIFICATION

Toxicity class : WHO (a.i) II; EPA (formulation) II
 Health hazards: : Corrosive (skin), irritant (eye, respiratory passages), inhalation (TLV), toxic (oral). Harmfull in contact with skin and if swallowed. Irritating to eyes and skin. May cause irritation to the respiratory system.

4. FIRST-AID MEASURES

Inhalation : Remove patient from exposure, keep warm and at rest. Obtain medical attention.
 Ingestion : Obtain immediate medical attention. Immediately transfer patient to nearest hospital or medical centre, warning by telephone of the estimated arrival time so that start of treatment is not delayed.
 Skin contact : Take off immediately all contaminated clothing. Wash skin immediately with water, followed by soap and water.
 Eye contact : Immediately wash eyes with clean water for at least 15 minutes. Obtain medical attention.

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4. FIRST-AID MEASURES (continued)

Ingestion	: Induce vomiting only if victim is conscious. Never give anything by mouth to an unconscious person. Wash out mouth with water
	: If breathing is difficult: give oxygen
	: If not breathing: apply artificial respiration
	: Immediately get medical attention
Skin contact	: Remove contaminated clothing. Wash off with plenty of water and soap
	: Get medical attention
Eye contact	: Wash off with plenty of water for at least 15 minutes. Get medical attention and consult an eye specialist

5. FIRE FIGHTING MEASURES**Fire and Explosion Hazards:**

Technical aqueous solution presents no ignition hazards. The pure material may support combustion. Keep fire exposed container cool by spraying with water.

Extinguishing media:

For small fires, use foam, carbon dioxide or dry powder extinguishant. For large fires, use foam or water-fog; avoid use of water jet. Contain run-off with, for example, temporary earth barriers.

Fire fighting Protective Equipment:

A self contained breathing apparatus and suitable protective clothing must be worn in fire conditions

6. ACCIDENTAL RELEASE MEASURES**Personal precautions:**

Ensure suitable personal protection during removal of spillage. This means wearing eye protection, chemically resistant gloves, boots and coveralls.

Clean up methods:

Adsorb spillage onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Wash the spillage area with water. Washings must be prevented from entering surface water drains.

7. HANDLING AND STORAGE

Handling	: Do not ingest
	: Avoid contact with eyes
	: Do not breathe spray
	: Avoid clothing and skin contamination
Storage	: Keep away from food, drink and animal feedstuffs. Keep in a cool, dry place. Keep away from sources of ignition – No smoking

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8. EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering measures	: Ventilation required. Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower
Hygiene measures	: Wash hands thoroughly after handling. Wash clothing separately before re-use.
Occupational exposure limits	: No occupational exposure limits have been established
<u>Personal protective equipment</u>	
Skin and body	: Wear suitable protective clothing
Hands	: Wear suitable gloves
Eyes	: Safety goggles or face shield

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	: Liquid
Colour	: Dark blue
Odour	: Distinctive; characteristic of pyridine bases
Boiling point	: approx 100°C aqueous solution
Melting point	: Not available
Flash point	: Does not flash
Autoignition temp	: Not available
Vapour pressure	: Not available
Density	: 1,08 g / ml
Solubility	: Soluble in / with water
pH-value	: 6,5 – 7,5
Partition Coefficient	: Not available
Oxidising Properties	: Not applicable

10. STABILITY AND REACTIVITY

Hazardous Reactions: (materials to avoid)

Paraquat is highly corrosive to most metals e.g, aluminium, zinc, iron

Hazardous decomposition product(s):

Combustion or thermal decomposition will evolve toxic and irritant vapours

11. TOXICOLOGICAL INFORMATION

Acute toxicity - Oral	: LD ₅₀ 707 mg formulation/kg
Acute toxicity – Dermal	: LD ₅₀ 590 mg formulation / kg
Acute toxicity – Inhalation	: LC ₅₀ = 4.2 ug / lt , 4 hours (rat)
Skin irritation	: Moderate/severe irritant to rabbit skin
Eye irritation	: Moderate irritant to rabbit eyes
Sensitisation	: Non sensitizer
Carcinogenicity	: Not carcinogenic
Mutagenicity	: Not mutagenic
Reproduction toxicity	: Not teratogenic in animal experiments. No adverse reproductive effects

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12. ECOLOGICAL INFORMATION

Environmental fate and distribution

Liquid with low volatility
 Information applies to: Paraquat ion
 The substance is soluble in water
 The substance does not leach
 The substance does not bioaccumulate
 Paraquat is rapidly absorbed and de-activated by soil

13. DISPOSAL CONSIDERATIONS

Do not contaminate rivers, dams or any other water source with chemical or used containers. Drain and triple rinse containers and then destroy by perforation and flattening. Bury in an approved dumping site. Do not re-use containers for any other purpose.

14 TRANSPORT INFORMATION

International transport regulations

Un number:	3016
Class-primary:	6.1 Toxic substance
P.S.N	3016 Bipyridylium pesticides, liquid, toxic, paraquat mixture

Maritime transport IMDG

Un number	3016
Class primary	6.1 Toxic substance
UN Pack Group	III
P.S.N	3016 Bipyridylium pesticides, liquid, toxic, paraquat mixture
Marine pollutant	No

Air transport:	ICAO / IATA
Un Number:	1760
Class primary	8 corrosive
UN Pack Group	III
P.S.N	Corrosive liquid N.O.S

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15. REGULATORY INFORMATION

Danger Group II (SABS 0028-1990)

Classification : Harmful

Hazards symbol (s) : Xn

Risk phrases : (R21/22) Harmful in contact with skin and if swallowed

: (R36/38) Irritating to eyes and skin

Safety phrases : (S2) Keep out of reach of children

: (S13) Keep away from food, drink and animal feeding stuff

16. OTHER INFORMATION

Recommended use : An agricultural / horticultural herbicide

Read label before you apply the product

The information contained in the Safety Data Sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage and transportation and is not intended as a warranty or as a specification. The information relates only to the product specified and may not be suitable for combinations with other materials or in processes other than those specifically described herein.