

MATERIAL SAFETY DATA SHEET

MAKHRO 2.4-DB

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

Product name : Makhro 2.4-DB

Use : Herbicide

Company identification : Makhteshim-Agan SA (Pty) Ltd
21 Viben Street
Brackenfell
7560

Emergency telephone Number : + 27 82 807 7102
: + 27 21 982 1460

2) COMPOSTION/INFORMATION ON INGREDIENTS

Substance name	value(s)	CAS No:	EC No	Index No	Classification
2.4-DB	12-14 %	99129-21-2	----	-----	-----

3) HAZARDS IDENTIFICATION

Human Health Hazards : Harmful by inhalation. May cause lung damage if swallowed.

Environmental hazards : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4) FIRST-AID MEASURES

Effects and symptoms

First-aid measures

Inhalation : Remove victim to fresh air. If breathing is difficult: artificial respiration, get medical attention.

Ingestion : Wash out mouth with plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

Skin contact : Remove contaminated clothing and shoe. Wash away remainder with plenty of water.

Eye contact : wash out with plenty of water with the eyelid held wide open for at least 15 minutes. Get medical attention.

Note to physician : NO specific antidote known. Treat symptomatically and give supportive therapy.

Protection of first-aiders : Use appropriate protection (see section 8)

5) FIRE-FIGHTING MEASURES

Extinguishing media : For small fire: dry chemical powder, water spray carbon dioxide.
For large fire: foam, water fog, water spray.

Hazardous decomposition products : sulphur oxide, nitrogen oxides (NO, NO2...), carbon oxides (CO, CO2)

Protection of fire-fighters : Self-contained breathing apparatus and total protection required in enclosed areas

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6) ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Wear suitable protective clothing, gloves and eye/ face protection.
- Environmental precautions** : Do not empty into drains. Do not discharge into the environment.
- After spillage** : Absorb in sand or other inert material. Collect spills and put it into appropriated container. Disposed of this material and its container at hazardous or special waste collection point.

7) HANDLING AND STORAGE

- Handling** : Ventilation required
- Storage** : Keep in original containers. Store in dry, well-ventilated area.
- Precautions in handling and storage** : Handle in accordance with good industrial hygiene and safety procedures.

8) EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering measures** : Ventilation required
- Industrial hygiene** : Wash hands thoroughly after handling. When using, do not eat, drink or smoke. Wash clothing before re-using.
- Personal protection**
- **Respiratory protection** : No special respiratory protection equipment is recommended under Normal conditions of use with adequate ventilation.
 - **Skin protection** : Wear suitable protective clothing, wear safety boots.
 - **Hand protection** : Wear suitable gloves
 - **Eye protection** : Chemical goggles or safety glasses
- Occupational Exposure Limits** : No data available.

9) PHYSICAL AND CHEMICAL PROPERTIES

- Physical state** : Liquid
- Colour** : Dark brown
- Odour** : Phenolic
- pH** : 9.0-11.0
- Solubility in water** : Soluble
- Flash point [°C]** : >100
- Explosion properties** : Not explosive
- Oxidation properties** : Not oxidizing.
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10) STABILITY AND REACTIVITY

Stability	: Stable under normal conditions
Hazardous decomposition Products	: Sulfur oxides, nitrogen oxides (NO, NO ₂ ...) carbon oxides (CO, CO ₂)
Materials to avoid	: Oxidizing agents, acids, alkali

11) TOXICOLOGICAL INFORMATION

Toxicity information	
Rat oral LD50 [mg/kg]	: > 500 mg/kg
Rat dermal LD50 [mg/kg]	: > 2000 mg/kg
Rat inhalation LC50 [mg/kg]	: > 4.01.
Dermal irritation (rabbit)	: Mildly irritant
Eyes Irritation (rabbits)	: Mildly irritant
Sensitization	: Non sensitizer.
Carcinogenicity	: Clethodim: Not classified.
Mutagenicity	: Clethodim: not mutagenic
Reproductive toxicity	: clethodim: Not considered to be toxic for the reproductive system.

12) ECOLOGICAL INFORMATION

96 H-LC50 – Rainbow trout [mg/l]	: 67
48 H-EC50 – Daphnia magna [mg/l]	: 101.64
72 H-EC50 Algae [mg/l]	: 23.2
Rainbow trout	: 1.8mg/l
Persistence and degradability	: : Readily biodegradable

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13) DISPOSAL CONSIDERATIONS

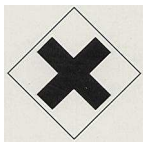
Disposal : Dispose of in a pesticide approval landfill, or in a chemical incinerator equipped with scrubbers. Dispose in a safe manner in accordance with local/national regulations.

14) TRANSPORT INFORMATION

General information : Not classified for transport

15) REGULATORY INFORMATION

EU Classification : According to Commission Directive 67/548/ EEC, 1999/45/EC and its amendments



R Phrase(s) : R20 – Harmful by inhalation.
R52/53 – Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 – Harmful: may cause lung damage if swallowed.

S Phrase(s) : S02 – Keep out of the reach of children.
S13 – Keep away from food, drink and animal feeding stuffs.
: S26 - In case of contact with eyes, rinse immediately with water
: S39 – Wear eye / face protection
S36/37/39 – wear suitable protective clothing, gloves and eye/face protection.
S46 – If swallowed seek medical advice immediately and show this container or label.
S57 – Use appropriate containment to avoid environmental contamination.
S61 – Avoid release to the environment. Refer to special instructions/ Safety data sheets.

16) OTHER INFORMATION

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