

# Material Safety Data Sheet

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## Section 1. Chemical Product & Company Information

**Product name** Makhro Benomyl 50 WP  
**Effective date** 1 January 2011

**Manufacturers information** Makhro Agro SA (Pty) Ltd.  
21 Viben Street  
Brackenfell, 7561  
Phone +27(0)21 982 1460  
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## Section 2. Composition/Information on Ingredients

<u>Common Name</u>	<u>Cas No.</u>	<u>EC No</u>	<u>%</u>	<u>Symbol/R-Phrases</u>
Benomyl	17804-35-2	241-775-7	50	Xn R40

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## Section 3. Hazards Identification

Most important hazards : Toxicity, flammability  
Main danger for man : Harmful. Possible risks of mutagenic effects: insufficient results. Cat 3  
Secondary risks for man : May be irritant for eyes, nose, throat and skin. May cause temporary allergic effects on the skin to very sensitive people.  
Risks for the environment : Harmful to aquatic organism

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## Section 4. First Aid Measures

**Eye Contact** - Mild irritant. Wash out with plenty of water with the eyelid held wide open for at least 15 minutes. Get medical attention.

**Skin Contact** - Remove person from source of contamination and remove contaminated clothing. Wash immediately with soap and water and seek medical attention if there is any irritation

**Inhalation** - Move to fresh air and rinse nose with soap and water. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Seek medical attention if any irritation persists

**Ingestion** - Remove victim to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

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## Section 5. Fire Fighting Measures

**Explosion and fire hazards** - May be ignited by heat or open flame. Flammable solid. Like most organic powder or crystals, under severe dusting conditions, this material may form explosive mixtures in air.

**Hazardous thermal decomposition** - n-butylisocyanate

**Extinguishing media** - Water in spray, dry chemical.

**Firefighting instructions** - Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Use water spray. Cool tank/container with water spray.

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## Section 6. Accidental Release Measures

**Personal precautions** - Review fire fighting measures and handling (personnel) sections before proceeding with clean-up. Use appropriate personal protective equipment during clean-up.

**Environmental precautions** - Do not let product enter drains. Prevent material from entering sewers, waterways or low areas.

- Methods for cleaning-up** - Collect spilled material with an inert absorbent such as sand or vermiculite. Shovel into properly labelled container, and properly close container. Dispose of material according to federal, state, and local regulations
- Spills and Leaks** - Contain the spill or leak to prevent entry into surface streams or storm sewers. Avoid subsoil penetration. Remove containers from spill area. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

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## Section 7. Handling and Storage

- Handling** - Wear appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should remove contaminated clothing and wash hands and face once finished with the handling of the product. Avoid spilling, skin and eye contact. Avoid breathing fumes and vapours. Ventilate to remove and prevent build up of any vapour or mist. Do not reuse empty containers.
- Storage** - Store in a dry place in tightly closed and original containers. Protect from freezing and direct sunlight. Keep children and pets away from product

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## Section 8. Exposure Controls/Personal Protection

- Exposure limits** - BENOMYL: TLV/TWA: 0,84 ppm =10 mg/m<sup>3</sup> (8hr)
- Personal Protection Equipment** - Eye: safe glasses  
Hands: Waterproof mask  
Respiratory: dusk mask  
Skin: clothing with long-sleeved and long pants

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## Section 9. Physical and Chemical Properties

- Form** - Solid
- Colour** - Off-White
- Odour** - None
- Boiling point / range** - None
- Melting point / range** - Decompose without melting
- Molecular Weight** - 390,3
- pH** - 7,0 @100 g/l H<sub>2</sub> (20°C)
- Flash point** - NA
- Relative density (H<sub>2</sub>O = 1)** - 25 degrees Celsius: 1.05

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## Section 10. Stability and Reactivity

- Chemical stability** - This product is chemically stable under normal storage and handling conditions
- Hazardous decomposition**
- normal* - None under normal use. Thermal decomposition can lead to release of irritating gases and vapours.
  - fire* - All of the water in this aqueous solution must be driven off before combustion can occur. In that dried state, and depending on the chemical composition and combustion conditions, burning may produce noxious fumes which may include carbon monoxide, carbon dioxide, nitrous oxides, acetic acid, and/or other toxic compounds
- Hazardous polymerization** - Not known to occur
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**(Materials to Avoid)**

highly corrosive acids and bases. Also avoid long term storage in direct contact with reactive metals such as aluminium, zinc, copper, nickel, magnesium, etc

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## Section 11. Toxicological Information

Type of toxicity	- Harmful
Routes of exposure and effects	
Eye contact	- Mildly irritant. Temporary mild conjunctival irritation.
Dermal contact	- LD50 >10000 mg/kg (rabbit). Very low to moderately toxic.
Inhalation	- LC50 >4.01 mg/l (rat) Hrs. Low to moderately toxic
Ingestion	- LD50 >10000 mg/kg (rats). Very low toxicity

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## Section 12. Ecological Information

<b>Effect on the environment</b>	- In soil and water undergoes to methyl, 2-bencymidazolcarbamate and n-butylisocyanate.
<b>Persistence and bioaccumulation</b>	- Half-life time in soil: 6 to 12 months
<b>Aquatic toxicity</b>	- LC50 (96) for rainbow trout = 0,41 ppm

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## Section 13. Disposal Considerations

Treatment, storage, transportation and disposal must be in accordance with applicable national and local laws and regulations. Remove nonusable solid material and/ or contaminated soil, for disposal in an approved and permitted landfill. Do not flush to surface water or sanitary sewer system. Do not reuse containers, dispose of according to approved national or local procedures

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General	- Not classified as dangerous in the means of sea, railway, road, air transport
D.O.T. Classification	- Not regulated
IMO / IMDG classification	- Not regulated
IATA classification	- Free
UN / ICAO classification	- Not regulated

There are no specific transportation precaution required.

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## Section. 15. Regulatory Information

<b>UN number</b>	: <b>UN 1325</b>
<b>Proper shipping name</b>	: <b>FLAMMABLE SOLID, ORGANIC, N.O.S (BENOMYL)</b>
<b>IMO/IMDG – Class: 4.1</b>	: <b>IMDG code page: 4146</b>
<b>IMO labels and marks</b>	: <b>Class 4.1 label and marine pollutant</b>
<b>Packaging Group</b>	: <b>III</b>

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## Section 16. Other Information

Recommended uses : Agricultural Fungicide. See package label

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The information contained in this MSDS is correct to the best of our knowledge at the date of issue. It is intended as a guide for safe use, handling, disposal 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 combination with other materials or in processes other than those specifically described herein.

