

MATERIAL SAFETY DATA SHEET

Banol® Turf and Ornamental Systemic Fungicide

Date of Issue: April 28th 2009

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

Product name: Banol® Turf and Ornamental Systemic Fungicide
Other names: None
Product code: 4843141
Recommended use: Agricultural fungicide used as spray
Supplier: Bayer Environmental Science – A business Group of Bayer CropScience Pty Ltd
ABN 87 000 226 022
Address: 391 - 393 Tooronga Road, East Hawthorn
Victoria 3123, Australia
Telephone: (03) 9248 6888
Facsimile: (03) 9248 6800
Website: www.bayeres.com.au
Contact: Technical Manager (03) 9248 6888
Emergency Telephone Number: 1800 033 111 – Orica SH&E Shared Services

2. HAZARDS IDENTIFICATION

NON-HAZARDOUS SUBSTANCE - NON-DANGEROUS GOOD
May irritate eyes. Not flammable.

Hazard designation: Not classified as hazardous according to criteria of Worksafe Australia
Risk phrases: Not applicable
Safety phrases: Not applicable
ADG classification: Not "dangerous goods" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
SUSDP classification: Schedule 5 (Standard for the Uniform Scheduling of Drugs and Poisons)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients:	CAS Number:	Concentration (g/L):
Propamocarb monohydrochloride	[25606-41-1]	716 (≡ 600 g/L propamocarb)
Other ingredients	(non hazardous)	369

MATERIAL SAFETY DATA SHEET

Banol® Turf and Ornamental Systemic Fungicide

Date of Issue: April 28th 2009

4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Material Safety Data Sheet to a doctor.

- Inhalation:** If inhaled, remove to fresh air and keep at rest. Obtain medical advice if at all worried.
- Skin contact:** Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical aid if at all worried.
- Eye contact:** Rinse eyes immediately with clean water for at least 15 minutes and obtain medical aid.
- Ingestion:** Wash out mouth with water. Do not induce vomiting. Keep patient at rest and seek medical advice as above.
- First Aid Facilities:** Provide washing facilities in the workplace.
- Symptoms:** Human poisoning cases are not known. High doses in animals caused lethargy, ataxia, and convulsions.
- Medical attention:** There is no specific antidote for poisoning with propamocarb. Treatment should be symptomatic and supportive. Atropine is contraindicated.
NB Propamocarb is not a cholinesterase inhibitor.

5. FIRE FIGHTING MEASURES

- Extinguishing media:** Product itself is not combustible. Use extinguishing media suitable for the surrounding fire.
- Hazards from combustion products:** In the event of a fire, gaseous oxides of carbon and nitrogen may be released.
- Precautions for fire fighters:** Firefighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). If possible and without risk, remove intact containers from exposure to fire. Otherwise, spray unopened containers with water to keep cool. Contain fire-fighting water by bunding area with sand or earth to prevent it entering any bodies of water. Dispose of fire control water or other extinguishing agent and spillage safely.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with the spilled material or contaminated surfaces. When dealing with spills do not eat, drink or smoke and wear personal protective clothing and equipment as described in the PERSONAL PROTECTION section above. Prevent spilled material from entering drains or watercourses. Contain spill and absorb with earth, sand, clay, or other absorbent material. Collect and store in properly labelled, sealed drums for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local water authority.

MATERIAL SAFETY DATA SHEET

Banol® Turf and Ornamental Systemic Fungicide

Date of Issue: April 28th 2009

7. HANDLING AND STORAGE

- Handling:** Keep out of reach of children. Avoid contact with eyes and skin.
- Storage:** Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Store in a locked room or place away from children, animals, food, animal feed, seed and fertilisers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- Exposure standards:** No exposure standard has been assigned by the National Occupational Health and Safety Commission for the product or its ingredients. Bayer recommends an exposure limit of 1.1 mg/m³ for propamocarb.
- Engineering controls:** Not applicable
- Personal Protective Equipment:**
- Eyes: Avoid contact with eyes.
 - Clothing: Full length work clothes.
 - Gloves: Wear gloves.
 - Respiratory: Avoid inhalation.
 - Other: Wash hands after use.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance:** Clear, colourless to light yellow liquid
- Odour:** Typical odour
- Vapour pressure:** 38 mbar
- Vapour density:** Not available
- Boiling point:** ~ 100^o C
- Freezing/melting point:** Not available
- Solubility:** Miscible
- Density:** 1.085 g/mL at 20^o C
- pH:** 3.0
- Flash Point:** Not flammable
- Flammability (explosive) limits:** Not determined
- Auto-ignition temperature:** Not available
- Octanol/water partition coefficient:** P_{o/w} -2.6 (at pH 4.1)
- Formulation:** Soluble concentrate

MATERIAL SAFETY DATA SHEET

Banol® Turf and Ornamental Systemic Fungicide

Date of Issue: April 28th 2009

10. STABILITY AND REACTIVITY

Chemical stability:	Stable under normal conditions of use.
Hazardous polymerisation:	Not available
Conditions to avoid:	Extreme heat
Incompatible materials:	Banol is corrosive to metals.
Hazardous decomposition products:	At extremely high temperatures, such as in a fire, carbon and nitrogen oxides may be given off.

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

Inhalation:	Low toxicity by inhalation.
Skin contact:	May irritate the skin.
Eye contact:	May irritate eyes.
Ingestion:	Product toxicity is low but may be harmful if a large amount is swallowed.
Other:	None

ANIMAL TOXICITY DATA – PRODUCT: No data available for the product.

ANIMAL TOXICITY DATA – INDIVIDUAL INGREDIENTS:

Acute:

Oral toxicity:	LD ₅₀ rat: 2000 – 2900 mg/kg (propamocarb hydrochloride)
Dermal toxicity:	LD ₅₀ rat: > 3000 mg/kg (propamocarb hydrochloride)
Inhalation toxicity:	LC ₅₀ (4 h) rat: > 8 mg/L (propamocarb hydrochloride)
Skin irritation:	Not irritating – rabbit (propamocarb hydrochloride)
Eye irritation:	Moderately and reversibly irritating – rabbit (propamocarb hydrochloride)
Sensitisation:	Not sensitising - guinea pig (propamocarb hydrochloride)

Chronic:

Propamocarb hydrochloride is not mutagenic, carcinogenic or teratogenic, and did not cause adverse effects on reproduction in animal studies. At doses of up to 3000 mg/kg propamocarb hydrochloride per day in rats, no cholinesterase inhibition was found.

MATERIAL SAFETY DATA SHEET

Banol® Turf and Ornamental Systemic Fungicide

Date of Issue: April 28th 2009

12. ECOLOGICAL INFORMATION

DO NOT contaminate streams, rivers or waterways with the chemical or used containers.

Fish toxicity: Propamocarb hydrochloride:
LC₅₀: 275 mg/L (96 h) rainbow trout
LC₅₀ (96 h) bluegill sunfish 275 mg/L

Daphnia toxicity: Propamocarb hydrochloride:
EC₅₀: 280 mg/L (48 h)

Toxicity to algae: Propamocarb hydrochloride:
E_rC₅₀ (96h): 560 mg/L

Bird toxicity: Propamocarb hydrochloride:
LD₅₀: 3050 mg/kg pheasant.
LD₅₀: > 6289 mg/kg mallard duck.

Bee toxicity: LD₅₀ > 0.1 mg/bee

Other: None

**Environmental fate,
persistence and
degradation:** Not available

13. DISPOSAL CONSIDERATIONS

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 bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt. Dispose of waste product through a reputable waste contractor.

14. TRANSPORT INFORMATION

UN number: Not applicable

**Proper shipping
name:** Not applicable

**Class and
Subsidiary Risk:** Not "dangerous goods" for transport by road or rail according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Packing Group: Not applicable

EPG: Not applicable

Hazchem code: Not applicable

Marine pollutant: No

MATERIAL SAFETY DATA SHEET

Banol® Turf and Ornamental Systemic Fungicide

Date of Issue: April 28th 2009

15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Act 1988

Australian Pesticides and Veterinary Authority Approval Number: 62826

16. OTHER INFORMATION

Trademark information: Banol® is a Registered Trademark of Bayer.

Preparation information: First edition.

Data sources: Bayer CropScience Pty Ltd product safety data and published data

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 should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

END OF MSDS