



Banol® Turf and Ornamental Systemic Fungicide

Version 1 / AUS
10200000806

1/10
Revision Date: 19.09.2016
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SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Trade name Banol® Turf and Ornamental Systemic Fungicide
Product code (UVP) 05933765

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use Fungicide

1.3 Details of the supplier of the safety data sheet

Supplier Bayer Cropscience Pty Ltd
ABN 87 000 226 022
Level 1, 8 Redfern Road
3123 Hawthorn East
Victoria
Australia

Telephone (03) 9248 6888

Telefax (03) 9248 6800

Responsible Department 1800 804 479 Technical Information Service

Website www.environmentalscience.bayer.com.au

1.4 Emergency telephone no.

Emergency telephone no. 1800 033 111 IXOM Operations Pty Ltd

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Australian GHS Regulation

Skin sensitisation: Category 1
H317 May cause an allergic skin reaction.

2.2 Label elements

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

Propamocarb hydrochloride

Signal word: Warning

Hazard statements

H317 May cause an allergic skin reaction.

Precautionary statements

P261 Avoid breathing mist and spray.
P280 Wear protective gloves.
P302 + P352 IF ON SKIN: Wash with plenty of water/ soap.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P501 Dispose of contents/container in accordance with local regulation.



Banol® Turf and Ornamental Systemic Fungicide

Version 1 / AUS
10200000806

2/10
Revision Date: 19.09.2016
Print Date: 19.09.2016

2.3 Other hazards

No other hazards known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

Propamocarb hydrochloride 722 g/l (600g/l propamocarb)
Chemical nature Soluble concentrate (SL)

Chemical Name	CAS-No.	Concentration [%]
Propamocarb hydrochloride	25606-41-1	66.50
Other ingredients (non-hazardous) to 100%		

SECTION 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 Safety Data Sheet to the doctor.

4.1 Description of first aid measures

- Inhalation** Keep patient warm and at rest. If symptoms persist, call a physician.
- Skin contact** Wash off with soap and water. If symptoms persist, call a physician.
- Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.
- Ingestion** Do NOT induce vomiting. Rinse mouth. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms The following symptoms may occur:, Lethargy, Ataxia, Spasm

4.3 Indication of any immediate medical attention and special treatment needed

- Risks** This product, although being a carbamate, is NOT a cholinesterase inhibitor.
- Treatment** Treat symptomatically. Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. Contraindication: atropine.



Banol® Turf and Ornamental Systemic Fungicide

Version 1 / AUS
10200000806

3/10
Revision Date: 19.09.2016
Print Date: 19.09.2016

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable High volume water jet

5.2 Special hazards arising from the substance or mixture In the event of fire the following may be released:, Carbon monoxide (CO), Hydrogen chloride (HCl), Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment for firefighters Wear self-contained breathing apparatus and protective suit.

Further information Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Avoid contact with spilled product or contaminated surfaces. Whenever possible, contain fire-fighting water by diking area with sand or earth. Do not allow run-off from fire fighting to enter drains or water courses.

Hazchem CodeNot applicable

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Precautions Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions Do not allow to get into surface water, drains and ground water. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

6.4 Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling Use only in area provided with appropriate exhaust ventilation.



Banol® Turf and Ornamental Systemic Fungicide

4/10

Version 1 / AUS
10200000806

Revision Date: 19.09.2016
Print Date: 19.09.2016

Advice on protection against fire and explosion No special precautions required.

Hygiene measures Keep away from food, drink and animal feedingstuffs. Remove soiled clothing immediately and clean thoroughly before using again. Avoid contact with skin, eyes and clothing. Wash hands immediately after work, if necessary take a shower.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Keep out of the reach of children. Store in original container. Keep away from direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from frost.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Propamocarb hydrochloride	25606-41-1	1.1 mg/m ³ (TWA)		OES BCS*

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

Additional advice

Not established.

8.2 Exposure controls

Respiratory protection Respiratory protection is not required under anticipated circumstances of exposure. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Eye protection Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and body protection Wear standard coveralls and Category 3 Type 4 suit. If there is a risk of significant exposure, consider a higher protective type suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.

General protective measures In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the above mentioned recommendations would apply.



Banol® Turf and Ornamental Systemic Fungicide

Version 1 / AUS
10200000806

5/10
Revision Date: 19.09.2016
Print Date: 19.09.2016

Engineering Controls

Advice on safe handling Use only in area provided with appropriate exhaust ventilation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	liquid, clear
Colour	colourless to light yellow
Odour	slightly perceptible
pH	2.0 - 4.0 at 100 % (23 °C)
Boiling point/boiling range	ca. 100 °C
Flash point	>100 °C No flash point - Determination conducted up to the boiling point.
Auto-ignition temperature	The product is not self-ignitable.
Density	ca. 1.09 g/cm ³ at 20 °C
Water solubility	completely miscible
Partition coefficient: n-octanol/water	Propamocarb hydrochloride: log Pow: -1.2
Viscosity, dynamic	34.23 mPaxs at 20 °C
9.2 Other information	Further safety related physical-chemical data are not known.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

Thermal decomposition Stable under normal conditions.

10.2 Chemical stability Stable under normal conditions.

10.3 Possibility of hazardous reactions No hazardous reactions known.

10.4 Conditions to avoid Extremes of temperature and direct sunlight.

10.5 Incompatible materials Metals

10.6 Hazardous decomposition products Thermal decomposition can lead to release of:
Carbon oxides
Nitrogen oxides (NO_x)

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects



Banol® Turf and Ornamental Systemic Fungicide

Version 1 / AUS
10200000806

6/10
Revision Date: 19.09.2016
Print Date: 19.09.2016

Acute oral toxicity	LD50 (Rat) > 5,000 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 4.95 mg/l Exposure time: 4 h
Acute dermal toxicity	LD50 (Rat) > 5,000 mg/kg
Skin irritation	No skin irritation (Rabbit)
Eye irritation	No eye irritation (Rabbit)
Sensitisation	Non-sensitizing. (Guinea pig) OECD Test Guideline 406, Buehler test Sensitising (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA) May cause sensitisation by skin contact.

Assessment mutagenicity

Propamocarb hydrochloride was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Propamocarb hydrochloride was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction

Propamocarb hydrochloride did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Propamocarb hydrochloride caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Propamocarb hydrochloride are related to maternal toxicity.

Assessment STOT Specific target organ toxicity – repeated exposure

Propamocarb hydrochloride did not cause specific target organ toxicity in experimental animal studies.

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

May be harmful if inhaled.
May cause skin irritation., May cause sensitisation by skin contact.
May cause eye irritation.
May be harmful if swallowed.

Early onset symptoms related to exposure

Refer to Section 4

Delayed health effects from exposure

Refer to Section 11

Exposure levels and health effects

Refer to Section 4

Interactive effects

Not known

When specific chemical data is not available

Not applicable



Banol® Turf and Ornamental Systemic Fungicide

Version 1 / AUS
10200000806

7/10
Revision Date: 19.09.2016
Print Date: 19.09.2016

Mixture of chemicals

Refer to Section 2.1

Further information

No further toxicological information is available.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	LC50 (<i>Lepomis macrochirus</i> (Bluegill sunfish)) > 92 mg/l static test; Exposure time: 96 h The value mentioned relates to the active ingredient propamocarb-hydrochloride.
Chronic toxicity to fish	<i>Oncorhynchus mykiss</i> (rainbow trout) NOEC: > 100 mg/l Exposure time: 21 d
Toxicity to aquatic invertebrates	EC50 (<i>Daphnia magna</i> (Water flea)) > 106 mg/l static test; Exposure time: 48 h The value mentioned relates to the active ingredient propamocarb-hydrochloride.
Toxicity to aquatic plants	IC50 (<i>Raphidocelis subcapitata</i> (freshwater green alga)) > 85 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient propamocarb-hydrochloride.
Toxicity to other organisms	LD50 (<i>Anas platyrhynchos</i> (Mallard duck)) > 1,842 mg/kg The value mentioned relates to the active ingredient propamocarb-hydrochloride. LD50 (<i>Colinus virginianus</i> (Bobwhite quail)) > 1,842 mg/kg The value mentioned relates to the active ingredient propamocarb-hydrochloride.

12.2 Persistence and degradability

Biodegradability	Propamocarb hydrochloride: rapidly biodegradable
Koc	Propamocarb hydrochloride: Koc: 719

12.3 Bioaccumulative potential

Bioaccumulation	Propamocarb hydrochloride: Does not bioaccumulate.
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12.4 Mobility in soil

Mobility in soil	In upper soil layer (4 - 20 cm) : DT50 < 30 d. Not leached. The value mentioned relates to the active ingredient propamocarb-hydrochloride. In upper soil layer (4 - 20 cm) : DT90 < 70 d. Not leached.
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Banol® Turf and Ornamental Systemic Fungicide

Version 1 / AUS
10200000806

8/10
Revision Date: 19.09.2016
Print Date: 19.09.2016

The value mentioned relates to the active ingredient propamocarb-hydrochloride.

Mobility in soil

Propamocarb hydrochloride: Slightly mobile in soils

12.5 Other adverse effects

Additional ecological information

No other effects to be mentioned.

SECTION 13. DISPOSAL CONSIDERATIONS

Metal drums and plastic containers:

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.

Do not reuse container for any other purpose.

SECTION 14. TRANSPORT INFORMATION

According to national and international transport regulations not classified as dangerous goods.

SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 62826

SUSMP classification (Poison Schedule)

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

SECTION 16. OTHER INFORMATION

Trademark information

Banol® is a registered trademark of the Bayer Group.

This SDS 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 SDS 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.

Abbreviations and acronyms



Banol® Turf and Ornamental Systemic Fungicide

9/10

Version 1 / AUS
10200000806

Revision Date: 19.09.2016
Print Date: 19.09.2016

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute toxicity estimate
AU OEL	Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)
CAS-Nr.	Chemical Abstracts Service number
CEILING	Ceiling Limit Value
Conc.	Concentration
EC-No.	European community number
ECx	Effective concentration to x %
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
LOEC/LOEL	Lowest observed effect concentration/level
MARPOL	MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
OES BCS	OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"
PEAK	PEAK: Exposure Standard - Peak means a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SK-SEN	Skin sensitiser
SKIN_DES	SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure.
STEL	STEL: Exposure standard - short term exposure limit (STEL): A 15 minute TWA exposure which should not be exceeded at any time during a working day even if the eight-hour TWA average is within the TWA exposure standard. Exposures at the STEL should not be longer than 15 minutes and should not be repeated more than four times per day. There should be at least 60 minutes between successive exposures at the STEL.
TWA	TWA: Exposure standard - time-weighted average (TWA): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Safety Data Sheet



Banol® Turf and Ornamental Systemic Fungicide

Version 1 / AUS
10200000806

10/10
Revision Date: 19.09.2016
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END OF SDS