

Safety Data Sheet



Banol® Turf and Ornamental Systemic Fungicide

Version 2 / AUS
102000000806

Revision Date: 13.11.2019
Print Date: 13.11.2019

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.es.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/ spray.
P280 Wear protective gloves.
P302 + P352 IF ON SKIN: Wash with plenty of water/ soap.

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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.

2.3 Other hazards

No other hazards known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

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

Chemical name	CAS-No.	Concentration [%]
Propamocarb hydrochloride	25606-41-1	66.20
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

General advice	Move out of dangerous area. Remove contaminated clothing immediately and dispose of safely.
Inhalation	Move to fresh air. 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 Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.
Contraindication: atropine.



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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 Dangerous gases are evolved in the event of a fire., 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 Code Not 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. Use personal protective equipment.

6.2 Environmental precautions Do not allow to get into surface water, drains and ground water.

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



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

Advice on protection against fire and explosion Keep away from heat and sources of ignition.

Hygiene measures Avoid contact with skin, eyes and clothing. Keep working clothes separately. Remove soiled clothing immediately and clean thoroughly before using again. Wash hands before breaks and immediately after handling the product.

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 AG, Crop Science Division "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 Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Wash gloves when contaminated. 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.

Material	Nitrile rubber
Rate of permeability	> 480 min
Glove thickness	> 0.4 mm
Protective index	Class 6
Directive	Protective gloves complying with EN 374.

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



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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.
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
Colour	colourless to light yellow
Odour	slightly perceptible
Odour Threshold	No data available
pH	2.0 - 4.0 (100 %) (23 °C)
Melting point/range	No data available
Boiling point/boiling range	ca. 100 °C
Flash point	> 100 °C No flash point - Determination conducted up to the boiling point.
Flammability	No data available
Auto-ignition temperature	No data available
Ignition temperature	The product is not self-ignitable.
Self-accelarating decomposition temperature (SADT)	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Vapour pressure	No data available
Evaporation rate	No data available
Relative vapour density	No data available
Density	ca. 1.09 g/cm ³ (20 °C)
Water solubility	completely miscible
Partition coefficient: n-octanol/water	Propamocarb hydrochloride: log Pow: -1.2

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Viscosity, dynamic	34.23 mPa.s (20 °C)
Viscosity, kinematic	No data available
Oxidizing properties	No data available
Explosivity	No data available
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 when stored and handled according to prescribed instructions.

10.4 Conditions to avoid Extremes of temperature and direct sunlight.

10.5 Incompatible materials Store only in the original container.

10.6 Hazardous decomposition products No decomposition products expected under normal conditions of use.
Thermal decomposition can lead to release of:
Carbon oxides
Nitrogen oxides (NO_x)

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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 corrosion/irritation No skin irritation (Rabbit)

Serious eye damage/eye irritation No eye irritation (Rabbit)

Respiratory or skin sensitisation Skin: Sensitising (Mouse)
OECD Test Guideline 429, local lymph node assay (LLNA)

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

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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 – single exposure

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

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., Skin sensitiser
May cause eye irritation.
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

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 (Lepomis macrochirus (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

Oncorhynchus mykiss (rainbow trout)
NOEC: > 100 mg/l

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	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.
12.4 Mobility in soil	
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

Triple-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 deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. Do not burn empty containers or product. Do not reuse container for any other purpose.

SECTION 14. TRANSPORT INFORMATION

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



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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.

Abbreviations and acronyms

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 AG, Crop Science Division "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 sensitizer
SKIN_DES	SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure.

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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

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.

Reason for Revision: Section 4: First Aid Measures. Section 7: Handling and Storage.

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