

**BANOL® FUNGICIDE**

MSDS Version 1.4

**SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION**

<b>Product Name</b>	BANOL® FUNGICIDE
<b>Chemical Name</b>	Propyl-3 {3-dimethylamino}propyl}-carbamate monohydrochloride
<b>Synonym</b>	
<b>MSDS Number</b>	16
<b>Chemical Family</b>	
<b>Chemical Formulation</b>	Mixture (active ingredient: C <sub>9</sub> H <sub>21</sub> N <sub>2</sub> O <sub>2</sub> Cl)
<b>EPA Registration No.</b>	432-942
<b>Canadian Registrat. No.</b>	

Bayer Environmental Science  
 95 Chestnut Ridge Road  
 Montvale, NJ 07645  
 USA

For Product Use Information: (800)331-2867 Monday through Friday  
 8:00AM-4:30PM

For Medical Emergency contact DART: (800) 334-7577 24 Hours/Day

For Transportation Emergency CHEMTREC: (800) 424-9300 24 Hours/Day

**Product Use Description** A fungicide for use on turf and ornamentals.

**SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Component Name</u>	<u>CAS No.</u>	<u>Concentration % by Weight</u>	
		<u>Minimum</u>	<u>Maximum</u>
Propamocarb hydrochloride	25606-41-1	66.5000	
Inert ingredients		33.5000	

INERT INGREDIENTS (33.5%): None of the inert ingredients are regulated hazardous chemicals (OSHA, ACGIH, or EPA) and therefore are not listed above.

# Material Safety Data Sheet

## BANOL® FUNGICIDE

MSDS Number: 00000000016

MSDS Version 1.4

### SECTION 3. HAZARDS IDENTIFICATION

*NOTE: Please refer to Section 11 for detailed toxicological information.*

#### **Emergency Overview**

Caution. May be harmful if swallowed, inhaled or absorbed through the skin. A moderate skin irritant. A slight eye irritant.

#### **Physical State**

liquid

#### **Odor**

Faint; aromatic.

#### **Appearance**

Straw-colored

#### **Routes of Exposure**

Mist inhalation, skin contact.

#### **Immediate Effects**

##### **Eye**

May cause slight irritation.

##### **Skin**

May be harmful if absorbed through skin. A slight to moderate skin irritant. Not likely to cause skin sensitization.

##### **Ingestion**

May be harmful if swallowed. Effects are probably slight and non-specific if minute amount was accidentally ingested.

##### **Inhalation**

May be harmful if inhaled. Effects are probably slight and non-specific if incidental to routine handling and use.

#### **Chronic or Delayed Long-Term**

This product does not contain any ingredients designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.

#### **Medical Conditions Aggravated by Exposure**

None specific

#### **Signs and Symptoms**

Ingestion of high doses of propamocarb hydrochloride may cause lethargy, convulsions and collapse.

### SECTION 4. FIRST AID MEASURES

#### **Eye**

Immediately flush eye(s) with plenty of water. Get medical attention if irritation persists.

#### **Skin**

Wash with soap and water.

#### **Ingestion**

Seek immediate medical attention.

#### **Inhalation**

Remove person to fresh air. Support respiration if necessary. Seek medical advice.

#### **Note to Physician**

Do not administer atropine unless cholinesterase inhibition is measured or

# Material Safety Data Sheet

## BANOL<sup>®</sup> FUNGICIDE

MSDS Number: 00000000016

MSDS Version 1.4

patient shows distinct symptoms thereof. Oxime therapy is contraindicated. Otherwise, administration of gastric lavage or induction of vomiting followed by application of activated charcoal is the recommended treatment.

### SECTION 5. FIRE FIGHTING MEASURES

<b>Flash Point</b>	Does not flash
<b>Fire and Explosion Hazards</b>	When exposed to extremely high temperatures, such as in a warehouse fire, propamocarb hydrochloride may decompose and give off toxic fumes which include nitrogen oxides.
<b>Suitable Extinguishing Media</b>	foam, carbon dioxide (CO <sub>2</sub> ), dry powder, sand, earth, water spray
<b>Fire Fighting Instructions</b>	Fire fighters should wear positive pressure self-contained breathing apparatus.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

<b>General and Disposal</b>	Use proper protective equipment to minimize personal exposure (see Section 8). Take all necessary action to prevent and to remedy the effects of the spill. Ensure that the disposal is in compliance with Federal or local disposal regulations.
<b>Land Spill or Leaks</b>	Sweep up carefully while avoiding the formation of a dust cloud. Place in suitable container and seal. Area can be washed with water to remove last trace of the material but keep out of watercourse or sewers. Inform appropriate authorities immediately if contamination occurs.

### SECTION 7. HANDLING AND STORAGE

<b>Handling Procedures</b>	Caution. May be harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing spray mist. Avoid contact with skin, eyes and clothing.
<b>Storing Procedures</b>	Store in original container. Keep tightly closed. Keep in a dry, cool place. Do not contaminate water, food, or feed by storage or handling.
<b>Work/Hygienic Procedures</b>	Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.  Keep and wash PPE separately from other laundry. Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment (PPE).  Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. Do not apply this product through any type of irrigation system.

# Material Safety Data Sheet

## BANOL® FUNGICIDE

MSDS Number: 000000000016

MSDS Version 1.4

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Engineering Controls</b>	Maintain good ventilation in handling area to minimize exposure. Local exhaust ventilation may be necessary if used in a confined area.
<b>Eye/Face Protection</b>	safety glasses chemical goggles
<b>Body Protection</b>	Rubber (synthetic or natural) gloves
<b>Respiratory Protection</b>	Ensure good ventilation. If not adequate, use a suitable respirator for added protection.

#### NOTE TO APPLICATORS AND HANDLERS OF AGRICULTURAL PRODUCTS:

For agricultural products which are within the scope of the EPA Worker Protection Standards (WPS) (40 CFR Part 170) all users must refer to the statement below or the Product Label for WPS-specified Personal Protective Equipment (PPE), Restricted Entry Interval (REI), and other Precautionary Statements.

#### PERSONAL PROTECTIVE EQUIPMENT FOR APPLICATORS AND HANDLERS:

Applicators and other handlers must wear:

- Long-sleeved shirts and long pants
- Waterproof gloves
- Shoes plus socks

#### PERSONAL PROTECTIVE EQUIPMENT REQUIRED FOR EARLY ENTRY INTO TREATED AREAS:

For entry into treated area during the restricted entry interval (REI) of 12 hours that involves contact with anything that has been treated such as plants, soil, or water, the PPE required is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

Do not enter areas until spray deposit has completely dried.

#### Exposure Limits

None Established

# Material Safety Data Sheet

## BANOL<sup>®</sup> FUNGICIDE

MSDS Number: 00000000016

MSDS Version 1.4

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Straw-colored
<b>Physical State</b>	liquid
<b>Odor</b>	Faint; aromatic.
<b>pH</b>	Not available
<b>Vapor Pressure</b>	Propamocarb HCl Technical: 6 X 10 <sup>(-6)</sup> Torr at 25 °C
<b>Specific Gravity</b>	1.08 (water=1)
<b>Density</b>	1.085 g/ml
<b>Boiling Point</b>	100 °C
<b>Solubility (in water)</b>	(50.0%) 500 g/l
<b>Octanol/Water Partition Coefficient</b>	Not available

### SECTION 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable
<b>Hazardous Products of Decomposition</b>	Decomposition Type: thermal carbon oxides oxides of nitrogen

# Material Safety Data Sheet

MSDS Number: 00000000016

## BANOL® FUNGICIDE

MSDS Version 1.4

**Hazardous Polymerization (Conditions to avoid)** Will not occur

### SECTION 11. TOXICOLOGICAL INFORMATION

**Acute Oral Toxicity** Rat: 2,000 - 8,550 mg/kg  
Low toxicity.

**Acute Dermal Toxicity** Rat: > 3,920 mg/kg  
Low toxicity.

Rabbit: > 3,920 mg/kg  
Low toxicity.

**Acute Inhalation Toxicity** Rat: LC50: > 6.2 mg/l 4 h  
Low toxicity.  
The highest attainable aerosol concentration in the air.  
No toxicity or mortality was observed in rats exposed to this maximum dose.

**Skin Irritation** A slight to moderate skin irritant.

**Eye Irritation** May cause slight irritation.

#### ANTICHOLINESTERASE ACTIVITY:

Propamocarb hydrochloride was not an inhibitor of blood or brain cholinesterase on repeated oral administration to rats or dogs. With rat or dog plasma in vitro, it was weakly inhibitory at levels equivalent to 2,200 mg/kg.

**Sub-Chronic Toxicity** Results from 90-day animal studies suggest no target organ effects under the conditions of normal handling and use.

**Chronic Toxicity** In two-year feeding studies with propamocarb hydrochloride, no adverse effects were seen in mice, rats and dogs receiving, respectively, up to 500 ppm, 1000 ppm and 3000 ppm of propamocarb in their diet. At 10,000 ppm a species-specific oculotoxic effects was seen in dogs.

#### Assessment Carcinogenicity

**ACGIH**

None

**NTP**

None

**IARC**

None

**OSHA**

None

**Reproductive &** Propamocarb hydrochloride showed no adverse effects on reproductive function

# Material Safety Data Sheet

## BANOL<sup>®</sup> FUNGICIDE

MSDS Number: 00000000016  
MSDS Version 1.4

<b>Developmental Toxicity</b>	or capacity in a three-generation rat reproductions study at a dietary level of 1000 ppm.
<b>Teratogenicity</b>	Propamocarb hydrochloride was not teratogenic in rats or rabbits at maternally toxic dose levels. The no-effect level (NOEL) in rats and rabbits was 235 mg/kg/day and 164 mg/kg/day, respectively.
<b>Mutagenicity</b>	Propamocarb hydrochloride was not mutagenic or genotoxic when tested in the Ames gene mutation assay and in six other mutagenesis systems.

### SECTION 12. ECOLOGICAL INFORMATION

<b>Environmental Precautions</b>	Propamocarb hydrochloride, the active ingredient of this product, is of low toxicity to birds, fish and bees. For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.  DO NOT graze or feed clippings from treated areas to livestock.
----------------------------------	--

### SECTION 13. DISPOSAL CONSIDERATIONS

<b>General Disposal Guidance</b>	Handling and disposal of pesticide wastes, including spills or rinsates, must be in accordance with federal requirements under the Resource Conservation and Recovery Act (RCRA). Also must ensure that the waste disposal is in compliance with state and local regulations which may be more restrictive or otherwise different from the RCRA requirements. Do not contaminate water, food or feed by storage or disposal.  Pesticide Disposal: Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.
<b>Container Disposal</b>	Triple rinse (or equivalent). If burned, stay out of smoke. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by State and Local authorities, by burning.
<b>RCRA Classification</b>	Not Regulated under this Statute

### SECTION 14. TRANSPORT INFORMATION

Not Regulated for Domestic Transportation

# Material Safety Data Sheet

**BANOL® FUNGICIDE**

MSDS Number: 000000000016

MSDS Version 1.4

## SECTION 15. REGULATORY INFORMATION

### US Federal

**EPA Registration No.** 432-942

**TSCA list**

None

**TSCA 12b export notification**

None

**SARA Title III - section 302 - notification and information**

None

**SARA Title III - section 313 - toxic chemical release reporting**

None

### US States Regulatory

**CA Prop65**

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

### US State right-to-know ingredients

None

### Canadian Regulations

**Canadian Registrat. No.**

**Canadian Domestic Substance List**

None

### Environmental

**CERCLA**

None

**Clean Water Section 307 Priority Pollutants**

None

**Safe Drinking Water Act Maximum Contaminant Levels**

None

### International Regulations

**EU Classification**

None

**European Inventory of Existing Commercial Substances (EINECS)**

Propamocarb hydrochloride 25606-41-1



# Material Safety Data Sheet

## BANOL<sup>®</sup> FUNGICIDE

MSDS Number: 00000000016

MSDS Version 1.4

### SECTION 16. OTHER INFORMATION

	Health	Flammability	Reactivity	Others
HMIS	1	1	0	E
NFPA	1	1	0	none

#### REVISED SECTIONS:

MSDS REVISION INDICATOR: Company name change.

Print Date: 12/03/2002

Supersedes MSDS, which is older than: 12/03/2002

This information is provided in good faith but without express or implied warranty. Buyer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer AG. Bayer Environmental Science