



**BANOL® FUNGICIDE**

Version 4 / USA  
10200000806

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Revision Date: 01/16/2014  
Print Date: 02/13/2016

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**Product identifier**

Trade name BANOL® FUNGICIDE  
Product code (UVP) 05933765  
SDS Number 10200000806  
EPA Registration No. 432-942

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

Use Fungicide  
Restrictions on use See product label for restrictions.

**Information on manufacturer**

Bayer Environmental Science  
2 T.W. Alexander Drive  
Research Triangle PK, NC 27709  
United States

**Emergency telephone no.**

All Emergencies, 24hr/ 7 days 1-800-334-7577

**Product Information  
Telephone No.**

**SDS Information or Request** SDSINFO.BCS-NA@bayer.com

**SECTION 2: HAZARDS IDENTIFICATION**

**Classification in accordance with regulation HCS 29CFR §1910.1200**

Skin sensitisation : Category 1B  
Acute toxicity (Oral): Category 4



**Signal word:** Warning

**Hazard statements**

May cause an allergic skin reaction.  
Harmful if swallowed.

**Precautionary statements**

Avoid breathing mist and spray.  
Contaminated work clothing should not be allowed out of the workplace.  
Wear protective gloves.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
IF ON SKIN: Wash with plenty of soap and water.



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If skin irritation or rash occurs: Get medical advice/attention.  
Specific treatment (see supplemental first aid instructions on this label).  
Wash contaminated clothing before reuse.  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
Rinse mouth.  
Dispose of contents/container in accordance with local regulation.

**Other hazards**

No other hazards known.

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**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

| Hazardous Component Name  | CAS-No.    | Average % by Weight |
|---------------------------|------------|---------------------|
| Propamocarb hydrochloride | 25606-41-1 | 66.50               |

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**SECTION 4: FIRST AID MEASURES**

**Description of first aid measures**

**General advice**

When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

**Inhalation**

Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

**Skin contact**

Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

**Eye contact**

Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

**Ingestion**

Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**

The following symptoms may occur: Lethargy, Ataxia, Spasm

**Indication of any immediate medical attention and special treatment needed**

**Risks**

This product, although being a carbamate, is NOT a cholinesterase inhibitor.



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| <b>Treatment</b> | There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. |
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**SECTION 5: FIREFIGHTING MEASURES**

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|--|--|
| <b>Extinguishing media</b>                                   |  |
| <b>Suitable</b>  | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.   |
| <b>Unsuitable</b>  | High volume water jet  |
| <b>Special hazards arising from the substance or mixture</b> | In the event of fire the following may be released:, Carbon monoxide (CO), Hydrogen chloride (HCl), Nitrogen oxides (NOx)  |
| <b>Advice for firefighters</b>                               |  |
| <b>Special protective equipment for fire-fighters</b>        | Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.   |
| <b>Further information</b>                                   | Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. |
| <b>Flash point</b>   | > 100 °C<br>No flash point - Determination conducted up to the boiling point.  |
| <b>Autoignition temperature</b>                              | The product is not self-ignitable.   |
| <b>Lower explosion limit</b>                                 | no data available  |
| <b>Upper explosion limit</b>                                 | no data available  |
| <b>Explosivity</b>   | not applicable   |

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### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

**Precautions** Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

#### 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. Contaminated soil may have to be removed and disposed.

**Additional advice** Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

**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

#### Precautions for safe handling

**Advice on safe handling** Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.

**Hygiene measures** Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.  
Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

#### Conditions for safe storage, including any incompatibilities

**Requirements for storage areas and containers** Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

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

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

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



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|                           |            |                      |         |        |
|---------------------------|------------|----------------------|---------|--------|
| Propamocarb hydrochloride | 25606-41-1 | 5 ug/m3<br>(AN ESL)  | 07 2011 | TX ESL |
| Propamocarb hydrochloride | 25606-41-1 | 50 ug/m3<br>(ST ESL) | 07 2011 | TX ESL |

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

**Exposure controls**

**Personal protective equipment**

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

- Respiratory protection** When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.
- Hand protection** Chemical resistant gloves made of waterproof material such as polyethylene or polyvinyl chloride
- Eye protection** Tightly fitting safety goggles
- Skin and body protection** Wear long-sleeved shirt and long pants and shoes plus socks.
- General protective measures** Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.  
Keep and wash PPE separately from other laundry.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance** colourless to light yellow
- Physical State** liquid, clear
- Odor** slightly perceptible
- Odour Threshold** no data available
- pH** 2.0 - 4.0 (100 %) at 23 °C
- Vapor Pressure** no data available
- Vapor Density (Air = 1)** no data available
- Density** ca. 1.09 g/cm<sup>3</sup> at 20 °C
- Evaporation rate** no data available



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|   |   |
|---|---|
| <b>Boiling Point</b>                          | ca. 100 °C / 212 °F   |
| <b>Melting / Freezing Point</b>               | no data available   |
| <b>Water solubility</b>                       | completely miscible   |
| <b>Minimum Ignition Energy</b>                | not applicable  |
| <b>Decomposition temperature</b>              | not applicable  |
| <b>Partition coefficient: n-octanol/water</b> | no data available   |
| <b>Viscosity</b>                              | 34.23 mPa.s at 20 °C  |
| <b>Flash point</b>                            | > 100 °C<br>No flash point - Determination conducted up to the boiling point. |
| <b>Autoignition temperature</b>               | The product is not self-ignitable.  |
| <b>Lower explosion limit</b>                  | no data available   |
| <b>Upper explosion limit</b>                  | no data available   |
| <b>Explosivity</b>                            | not applicable  |
| <b>Other information</b>                      | Further safety related physical-chemical data are not known.                  |

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**SECTION 10: STABILITY AND REACTIVITY**

|   |  |
|---|--|
| <b>Reactivity</b>                         |  |
| <b>Thermal decomposition</b>              | not applicable   |
| <b>Chemical stability</b>                 | Stable under recommended storage conditions.   |
| <b>Possibility of hazardous reactions</b> | No hazardous reactions when stored and handled according to prescribed instructions. |
| <b>Conditions to avoid</b>                | Extremes of temperature and direct sunlight.   |
| <b>Incompatible materials</b>             | no data available  |



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**Hazardous decomposition products** No decomposition products expected under normal conditions of use.

**SECTION 11: TOXICOLOGICAL INFORMATION**

**Exposure routes** Eye contact, Ingestion, Skin Absorption, Inhalation

**Immediate Effects**

**Eye** Moderate eye irritation.

**Skin** Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Harmful if absorbed through skin.

**Ingestion** Harmful if swallowed.

**Information on toxicological effects**

**Acute oral toxicity** LD50 (male rat) 2,900 mg/kg  
LD50 (female rat) 2,000 mg/kg

**Acute inhalation toxicity** LC50 (male/female combined rat) > 7.9 mg/l  
Exposure time: 4 h  
Determined in the form of liquid aerosol.  
LC50 (male/female combined rat) > 31.6 mg/l  
Exposure time: 1 h  
Determined in the form of liquid aerosol.  
Extrapolated from the 4 hr LC50.

**Acute dermal toxicity** LD50 (male/female combined rat) > 3,000 mg/kg

**Skin irritation** Slight irritation (rabbit)

**Eye irritation** Mild eye irritation. (rabbit)

**Sensitisation** Sensitising  
OECD Test Guideline 429, local lymph node assay (LLNA)

**Assessment repeated dose toxicity**  
Propamocarb hydrochloride did not cause specific target organ toxicity in experimental animal studies.

**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.

**ACGIH**



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None.

**NTP**

None.

**IARC**

None.

**OSHA**

None.

**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.

**Further information**

Only acute toxicity studies have been performed on the formulated product. The non-acute information pertains to the active ingredient(s).

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**SECTION 12: ECOLOGICAL INFORMATION**

**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.

**Toxicity to aquatic invertebrates**

EC50 (Water flea (Daphnia magna)) > 106 mg/l  
static test; Exposure time: 48 h  
The value mentioned relates to the active ingredient propamocarb-hydrochloride.

**Toxicity to aquatic plants**

IC50 (Pseudokirchneriella subcapitata) > 85 mg/l  
Exposure time: 72 h  
The value mentioned relates to the active ingredient propamocarb-hydrochloride.

**Biodegradability**

Propamocarb hydrochloride: rapidly biodegradable

**Koc**

Propamocarb hydrochloride: Koc:719

**Bioaccumulation**

Propamocarb hydrochloride:  
Does not bioaccumulate.

**Mobility in soil**

Propamocarb hydrochloride: Slightly mobile in soils





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|  |   |
|--|---|
| <b>Additional ecological information</b> | No other effects to be mentioned.   |
| <b>Environmental precautions</b>         | Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.<br>Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.<br>Do not apply when weather conditions favor runoff or drift.<br>Apply this product as specified on the label. |

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**SECTION 13: DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

|                               |  |
|-------------------------------|--|
| <b>Product</b>                | Do not contaminate water, food, or feed by disposal.<br>Dispose in accordance with all local, state/provincial and federal regulations.<br>Follow container label instructions for disposal of wastes generated during use in compliance with the product label.   |
| <b>Contaminated packaging</b> | Do not re-use empty containers.<br>Triple rinse containers.<br>Puncture container to avoid re-use.<br>Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning.<br>If burned, stay out of smoke.<br>Follow advice on product label and/or leaflet. |
| <b>RCRA Information</b>       | Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.  |

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**SECTION 14: TRANSPORT INFORMATION**

According to national and international transport regulations this material is not classified as dangerous goods / hazardous material.

Freight Classification: INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON

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**SECTION 15: REGULATORY INFORMATION**

EPA Registration No. 432-942



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**US Federal Regulations**

**TSCA list**

None.

**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**

None.

**SARA Title III - Section 302 - Notification and Information**

None.

**SARA Title III - Section 313 - Toxic Chemical Release Reporting**

None.

**US States Regulatory Reporting**

**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 Domestic Substance List**

None.

**Environmental**

**CERCLA**

None.

**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.

**International Regulations**

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

Propamocarb hydrochloride 25606-41-1

**EPA/FIFRA Information:**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

**Signal word:** Caution!

**Hazard statements:** Harmful if swallowed or absorbed through skin.  
Moderate eye irritation.  
Avoid contact with skin, eyes and clothing.  
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

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**SECTION 16: OTHER INFORMATION**

# Bayer Environmental Science

## SAFETY DATA SHEET



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NFPA 704 (National Fire Protection Association):

Health - 1      Flammability - 1      Instability - 0      Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1      Flammability - 1      Physical Hazard - 0      PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)

Revision Date: 01/16/2014

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