



BANOL® FUNGICIDE

Version 4 / USA
10200000806

1/11
Revision Date: 01/16/2014
Print Date: 04/21/2017

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.



BANOL® FUNGICIDE

Version 4 / USA
10200000806

2/11
Revision Date: 01/16/2014
Print Date: 04/21/2017

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.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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

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.



BANOL® FUNGICIDE

Version 4 / USA
102000000806

3/11
Revision Date: 01/16/2014
Print Date: 04/21/2017

Treatment	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.
------------------	--

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media	
Suitable	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable	High volume water jet
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)
Advice for firefighters	
Special protective equipment for fire-fighters	Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
Further information	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.
Flash point	> 100 °C No flash point - Determination conducted up to the boiling point.
Autoignition temperature	The product is not self-ignitable.
Lower explosion limit	no data available
Upper explosion limit	no data available
Explosivity	not applicable



BANOL® FUNGICIDE

Version 4 / USA
10200000806

4/11
Revision Date: 01/16/2014
Print Date: 04/21/2017

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 ³ (TWA)		OES BCS*



BANOL® FUNGICIDE

Version 4 / USA
10200000806

5/11
Revision Date: 01/16/2014
Print Date: 04/21/2017

Propamocarb hydrochloride	25606-41-1	5 ug/m3 (AN ESL)	07 2011	TX ESL
Propamocarb hydrochloride	25606-41-1	50 ug/m3 (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.

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/cm³ at 20 °C
- Evaporation rate** no data available



BANOL® FUNGICIDE

Version 4 / USA
102000000806

6/11
Revision Date: 01/16/2014
Print Date: 04/21/2017

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

SECTION 10: STABILITY AND REACTIVITY

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



BANOL® FUNGICIDE

Version 4 / USA
10200000806

7/11
Revision Date: 01/16/2014
Print Date: 04/21/2017

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



BANOL® FUNGICIDE

Version 4 / USA
102000000806

8/11
Revision Date: 01/16/2014
Print Date: 04/21/2017

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).

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



BANOL® FUNGICIDE

Version 4 / USA
102000000806

9/11
Revision Date: 01/16/2014
Print Date: 04/21/2017

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

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Do not contaminate water, food, or feed by disposal. Dispose in accordance with all local, state/provincial and federal regulations. Follow container label instructions for disposal of wastes generated during use in compliance with the product label.
Contaminated packaging	Do not re-use empty containers. Triple rinse containers. Puncture container to avoid re-use. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke. Follow advice on product label and/or leaflet.
RCRA Information	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.

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

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 432-942



BANOL® FUNGICIDE

Version 4 / USA
102000000806

10/11
Revision Date: 01/16/2014
Print Date: 04/21/2017

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.

SECTION 16: OTHER INFORMATION

Bayer Environmental Science
SAFETY DATA SHEET



BANOL® FUNGICIDE

Version 4 / USA
102000000806

11/11
Revision Date: 01/16/2014
Print Date: 04/21/2017

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

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