



Material Safety Data Sheet

BANOL® FUNGICIDE

MSDS Number: 102000000806

MSDS Version 3.0

Revision Date: 04/17/2009

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name BANOL® FUNGICIDE
MSDS Number 102000000806
EPA Registration No. 432-942

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

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
 For Product Information call: 1-800-331-2867

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

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

SECTION 3. HAZARDS IDENTIFICATION

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

Emergency Overview Caution! 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.

Physical State liquid, clear

Odor slightly perceptible

Appearance almost colourless

Routes of Exposure Eye contact, Ingestion, Skin Absorption, Inhalation

Immediate Effects

Eye Moderate eye irritation. Avoid contact with eyes.

Skin Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Harmful if absorbed through skin. Avoid contact with skin and clothing.

Ingestion Harmful if swallowed. Do not take internally.

Inhalation May be harmful if inhaled. Avoid breathing spray mist.



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Chronic or Delayed Long-Term This product or its components may have target organ effects.

SECTION 4. FIRST AID MEASURES

General	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Eye	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.
Skin	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.
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.
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.
Notes to Physician Signs and Symptoms	The following symptoms may occur: lethargy ataxia spasm
Hazards	This product, although being a carbamate, is NOT a cholinesterase inhibitor.
Treatment	There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5. FIRE FIGHTING MEASURES

Flash point	> 100 °C / 212 °F No flash point - Determination conducted up to the boiling point.
Fire and Explosion Hazards	In the event of fire the following may be released: Carbon monoxide (CO) Hydrogen chloride (HCl) Nitrogen oxides (NOx)



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Suitable Extinguishing Media Water spray, Sand, Dry powder, Carbon dioxide (CO2), Foam

Fire Fighting Instructions Keep out of smoke. Fight fire from upwind position. Cool closed containers/ tanks exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). 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.

SECTION 7. HANDLING AND STORAGE

Handling Procedures Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.

Storing Procedures Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Keep away from food, drink and animal feedingstuffs.

Work/Hygienic Procedures 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.



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SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection 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.

Follow all label instructions. Train employees in safe use of the product.

Eye/Face Protection Tightly fitting safety goggles

Hand protection Chemical resistant gloves made of waterproof material such as polyethylene or polyvinyl chloride

Body Protection Wear long-sleeved shirt and long pants and shoes plus socks.

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.

Exposure Limits

Propamocarb hydrochloride	25606-41-1	OES BCS*	1.1 mg/m3
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*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	almost colourless
Physical State	liquid, clear
Odor	slightly perceptible
pH	2 - 4 (100 %) at 20 °C
Density	approx. 1.09 g/cm ³ at 20 °C
Boiling Point	approx. 100 °C / 212 °F
Melting / Freezing Point	no data available
Water solubility	completely miscible
Viscosity	34.23 mPa.s at 20 °C



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SECTION 10. STABILITY AND REACTIVITY

Conditions to Avoid	Extremes of temperature and direct sunlight.
Hazardous Decomposition Products	Thermal decomposition can lead to release of: Carbon monoxide Nitrogen oxides (NOx) Hydrogen chloride (HCl)
Hazardous Reactions	No hazardous reactions when stored and handled according to prescribed instructions. Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on this product as formulated. The non-acute information pertains to the technical-grade active ingredient.

Acute Oral Toxicity	male rat: LD50: 2,900 mg/kg female rat: LD50: 2,000 mg/kg
Acute Dermal Toxicity	male/female combined rat: LD50: > 3,000 mg/kg
Acute Inhalation Toxicity	male/female combined rat: LC50: > 7.9 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. male/female combined rat: LC50: > 31.6 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50.
Skin Irritation	rabbit: Slight irritation.
Eye Irritation	rabbit: Mild eye irritation.
Sensitization	sensitizing (local lymph node assay)
Chronic Toxicity	Propamocarb hydrochloride caused clinical signs of toxicity and/or pathological changes in the stomach or central nervous system at high doses in chronic studies in rats and dogs.

Assessment Carcinogenicity

Propamocarb hydrochloride is not carcinogenic in rats and mice. EPA has classified propamocarb hydrochloride as "not likely to be carcinogenic in humans."

ACGIH



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None.
NTP
None.
IARC
None.
OSHA
None.

Reproductive & Developmental Toxicity REPRODUCTION: Propamocarb hydrochloride was not a reproductive toxicant in multi-generation studies in rats.

DEVELOPMENTAL TOXICITY: Propamocarb hydrochloride was not a primary developmental toxicant in rats or rabbits.

Neurotoxicity Propamocarb hydrochloride was not a neurotoxicant in acute and subchronic neurotoxicity screening studies in rats.

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

SECTION 12. ECOLOGICAL INFORMATION

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

General Disposal Guidance 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.

Container Disposal Do not re-use empty containers. Triple rinse containers. Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke. Follow advice on product label and/or leaflet.



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SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:
Not Regulated for Domestic Surface Transportation

FREIGHT CLASSIFICATION:
Insecticides or Fungicides, N.O.I.; other than poison.

SECTION 15. REGULATORY INFORMATION

EPA Registration No. 432-942

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.



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SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Reactivity - 0 Others - none

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

Reason to Revise: Updated for general editorial purposes.

Revision Date: 04/17/2009

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