SAFETY DATA SHEET

BANOL®
Version 5.0 / CDN
102000000806

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

Product identifier
Trade name BANOL®
Product code (UVP) 05933765
SDS Number 102000000806
PCP Registration No. 29156

Relevant identified uses of the substance or mixture and uses advised against
Use Fungicide
Restrictions on use See product label for restrictions.

Information on supplier
Supplier Bayer CropScience Inc
#200, 160 Quarry Park Blvd, SE
Calgary, Alberta T2C 3G3
Canada
Responsible Department Email: SDSINFO.BCS-NA@bayer.com

SECTION 2: HAZARDS IDENTIFICATION

Classified in accordance with Part 2 of the Hazardous Products Regulations
Skin sensitisation: Category 1
Acute toxicity(Oral): Category 4

Labelling in accordance with Part 3 of the Hazardous Products Regulations

Signal word: Warning
Hazard statements
May cause an allergic skin reaction.
Harmful if swallowed.
Precautionary statements
Avoid breathing mist/ 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 water/ soap.
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/doctor/physician if you feel unwell.
Rinse mouth.
Dispose of contents/container in accordance with local regulation.

Hazards Not Otherwise Classified (HNOC)
No physical hazards not otherwise classified.
No health hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Concentration % by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propamocarb hydrochloride</td>
<td>25606-41-1</td>
<td>66.5</td>
</tr>
</tbody>
</table>

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.

**Treatment**
Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote. Contraindication: atropine.

**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**
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)

**Advice for firefighters**
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.

**Auto-ignition temperature**
No data available

**Lower explosion limit**
No data available

**Upper explosion limit**
No data available

**Explosivity**
Not applicable
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. If the product is accidentally spilled, 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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
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</thead>
<tbody>
<tr>
<td>Propamocarb hydrochloride</td>
<td>25606-41-1</td>
<td>1.1 mg/m3</td>
<td></td>
<td>OES BCS*</td>
</tr>
</tbody>
</table>
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 (barrier laminate, butyl rubber, nitrile rubber or Viton)

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
Odor
slightly perceptible
Odour Threshold
No data available
pH
2.0 - 4.0 (100 %) (23 °C)
Viscosity, kinematic
No data available
Vapor Pressure
No data available
Vapor Density (Air = 1)
No data available
Density
c. 1.09 g/cm³ (20 °C)
Evaporation rate
No data available
Boiling Point
c. 100 °C / 212 °F
Melting / Freezing Point
No data available
Water solubility
completely miscible
Minimum Ignition Energy
Not applicable
Decomposition temperature
Not applicable
Self-accelerating
No data available
decomposition temperature (SADT)
Partition coefficient: n-octanol/water No data available
Viscosity 34.23 mPa.s (20 °C)
Flammability No data available
Flash point > 100 °C
No flash point - Determination conducted up to the boiling point.
Auto-ignition temperature No data available
Lower explosion limit No data available
Upper explosion limit No data available
Explosivity Not applicable
Particle size No data available
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
Hazardous decomposition products No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes Eye contact, Skin Absorption, Ingestion, Inhalation
Immediate Effects Eye May cause eye irritation.
Skin Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
Ingestion May be 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.

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

Skin corrosion/irritation
- Slight irritation (Rabbit)

Serious eye damage/eye irritation
- Mild eye irritation (Rabbit)

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

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.

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
- 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.

Aspiration hazard
- Based on available data, the classification criteria are not met.

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.

Chronic toxicity to fish
- Oncorhynchus mykiss (rainbow trout)
- NOEC: > 100 mg/l
- Exposure time: 21 d

Toxicity to aquatic invertebrates
- **EC50** (Daphnia magna (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** (Raphidocelis subcapitata (freshwater green alga)) > 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

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
- 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.

### SECTION 14: TRANSPORT INFORMATION

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

### SECTION 15: REGULATORY INFORMATION

**PCP Registration No.** 29156

**PMRA Information:**
Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

This chemical is a pest control product regulated by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. The following is the hazard information required on the pest control product label:

**Signal word:** Danger!

**Hazard statements:**
- Keep out of the reach of children.
- Hazard to humans and domestic animals.
- Corrosive
- Causes eye damage.
- May cause sensitization by skin contact.
- Harmful if swallowed or absorbed through skin.
- Do not get in eyes or on clothing.
- Avoid contact with skin.
- Avoid breathing spray mist.
- Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.
There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms
49CFR Code of Federal Regulations, Title 49
ACGIH US. ACGIH Threshold Limit Values
ATE Acute toxicity estimate
CAS-Nr. Chemical Abstracts Service number
CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
EINECS European inventory of existing commercial substances
ELINCS European list of notified chemical substances
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IMDG International Maritime Dangerous Goods
N.O.S. Not otherwise specified
NTP US. National Toxicology Program (NTP) Report on Carcinogens
OECD Organization for Economic Co-operation and Development
TDG Transportation of Dangerous Goods
UN United Nations
WHO World health organisation

NFPA 704 (National Fire Protection Association):

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>none</td>
</tr>
</tbody>
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<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>PPE</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

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

Reason for Revision: The following sections have been revised: Section 15: Regulatory information. Reviewed and updated for general editorial purposes.

Prepared by the HSE Department of Bayer CropScience Inc. (306)-721-0310.

Revision Date: 01/10/2020

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