



## **MATERIAL SAFETY DATA SHEET**

### **Manufacturer/information service:**

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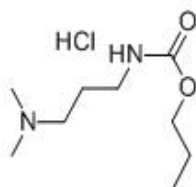
### **1. Chemical Product Identification**

Product Name: Propamocarb Hydrochloride 97%TC

Molecular Formula:  $C_9H_{21}ClN_2O_2$

Molecular Weight: 224.73g/mol

Structural Formula:



Chemical Name: Propyl 3-(dimethylamino)propylcarbamate hydrochloride

Form: solid

Colour: White

CAS No.: 25606-41-1

### **2. Composition / Information On Ingredients**

Composition	Chemical name	Content (% w/w)
Active ingredient	Propamocarb Hydrochloride	97%
Other ingredient	-----	3%

### **3. Hazards Identification**



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Risk phrases: May cause sensitization by skin contact.

Likely routes of exposure

Skin: Repeated exposure may cause sensitization due to allergic reaction of the skin.

Eye: Not expected to present a significant eye contact hazard under anticipated conditions of normal use.

Inhalation: Not expected to present a significant inhalation hazard under anticipated conditions of normal use.

Swallowed: Keep away from food, drink and animal feedingstuff.

#### **4. First Aid Measures**

##### **Inhalation:**

Move the victim to fresh air or remove source of contamination. Keep person warm and at rest. Assure fresh air breathing. If breathing is difficult, give artificial respiration. Seek medical advice.

##### **Skin contact:**

Move the victim to fresh air and remove all contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash affected skin areas gently and thoroughly with water and mild soap, followed by warm water rinse. Do not rub the skin. Seek medical attention if ill effect develops.

##### **Eye contact:**

Check for and remove any contact lenses. Immediately rinse the contaminated eyes with gently flowing clean water for 10 to 15 minutes, occasionally lifting the upper and lower lids. Obtain medical attention if pain, blinking, tears or redness persist.

##### **Ingestion:**

Seek medical advice immediately. Do not induce vomiting without medical advice. Rinse mouth with water, only if the person is conscious. Never give anything by mouth to an unconscious person. Seek medical advice and show the label where possible.

##### **Advice to physician:**

This product contains pyrimethanil. No antidote is available. Treat symptomatically and supportively.

#### **5. Fire-Fighting Measures**

##### **Hazardous Combustion Products:**



Fire may produce irritating or poisonous vapours, mists or other products of combustion. No hazardous decomposition products under normal conditions

**Extinguishing agents:**

Extinguish small fires with dry powder, Large fires with water fog, water spray or alcohol-resistant foam. Water spray can be used for cooling of exposed containers. Do not use direct jet of water. Avoid water coming in contact with the product. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

**Fire fighting:**

Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind. Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal. Dyke fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways. Do not use high volume water jet, due to contamination risk. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site

**Personal protective equipment:**

Fire may produce irritating or poisonous vapours, mists or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

## **6. Accidental Release Measures**

**Personal precautions:**

Do not breathe in mist or fumes. Avoid contact with skin and eyes. For personal protection see Section 8.

**Environmental precautions:**

Do not allow entering drains or watercourses. The product is highly toxic to fish and aquatic species. In case of accidental spill, prevent the material from getting into lakes, rivers and other bodies of water. Isolate discharged material and keep material out of water sources. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

**Occupational spill:**



Keep spectators away and upwind. Remove all sources of flames and sparks. Do not touch spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals.

**For spills:**

Soak up with absorptive material such as damp earth or sand or other suitable non-combustible absorbent material. Place the material into a clean, dry container and cover for subsequent disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Prevent material from spreading by damming in with absorptive material. Do not flush spilled material into drains. Label drums with its content and dispose it in accordance with local regulations. Open burning or dumping of this material is prohibited.

## **7. Handling And Storage**

**Handling procedures:** Wear appropriate protective equipment when handling the product. Do not handle material near food, feed or drinking water. Avoid contact with eyes, prolonged contact with skin, and inhalation of mist and vapour. Use with adequate ventilation. Ventilate confined spaces before entering. No naked lights. No smoking. Do not eat, drink or smoke while working. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the pesticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

**Storing Procedures:** Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original labelled container in isolated, dry, cool and well-ventilated area, above -10 °C. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

## **8. Exposure Controls/personal protection**

Provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.



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**PERSONAL PROTECTIVE EQUIPMENT:**

**Respirator:** Where exposure through inhalation may occur from use, an approved respiratory protection equipment is recommended. Respirator is not required in the case of normal application procedure of the product.

**Clothing:** Wear appropriate chemical-resistant protective clothing or other impervious clothing. Wear boots and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing. Wash clothing after use.

**Gloves:** Wear appropriate chemical-resistant protective gloves whenever the product is handled to prevent contact with this substance. Wash gloves after use.

**Eye protection:** Use safety or chemical goggles or a face shield with safety glasses.

**Emergency eye wash:** Where there is any possibility that an employee's eyes may be exposed to this substance, an eye wash fountain or appropriate alternative within the immediate work area for emergency use, must be provided. Local exhaust and general ventilation must be adequate to meet exposure standards

**9. Physical And Chemical Properties**

Appearance: White crystal

Melting point: 45~55°C

Flash point: >100°C

Bulk density: 1.16g/ml

Vapour pressure:  $8.70 \times 10^{-01}$  mPa at 20°C

Henry's law constant:  $8.5 \times 10^{-09}$  at 20°C

Solubility: in water 867 g/L at 20°C; in organic solvents: Toluene 40mg/L at 20 °C, acetone 560g/L at 20°C.

Partition coefficient in octanol/water at 20°C: Log Kow = 2.84

**10. Stability And Reactivity**

**Stability:** The product is stable for 2 years, when stored under normal storage conditions at normal temperatures.

**Conditions and Materials to Avoid:** Keep the product in a cool, dry place, at above -10 OC. Protect from sunlight, open flame and sources of heat.

**Hazardous polymerization:** Will not occur.



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## **11. Toxicological Information**

Acute oral LD50 for rats is >1330 mg/kg.

Acute dermal LD50 for rats is >2000 mg/kg.

Acute inhalation toxicity LC50 (4 h) for rats is >5.01 mg/L.

Skin irritation: Non-irritating to skin (rabbits).

Eye irritation: Slightly irritating to eyes (rabbits).

Skin sensitization for guinea pig: Not a sensitizer.

## **12. Ecological And Ecotoxicological Information**

Effect on birds: Acute oral LD50 for Mallard is >1842 mg/kg.

Effect on fish: Acute LC50 (96 h) for Rainbow trout is >99 mg/l.

Effects on aquatic invertebrates: Acute EC50 (48 h) for Daphnia magna is >100mg/l.

Effects on algae: Acute 72 hour EC50 for Pseudokirchneriella subcapitata is >85 mg/l.

Effects on bees: contact acute 48 hour LD50 is >100 µg/bee, oral acute 48 hour LD50 is >84 µg/bee.

Effects on earthworms: Acute 14 day LC50 is >660 mg/kg.

## **13. Disposal Considerations**

**Pesticide disposal:** Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or reprocessed. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. This product is considered a marine pollutant. Comply with local legislation applying to waste disposal.

**Container disposal:** Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed. TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsings to the contents of the spray tank before destroying the container in the prescribed manner. Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dump site. Do not burn the



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empty container. Prevent contamination of food, feedstuffs, drinking water and eating utensils. Comply with local legislation applying to waste disposal.

**14. Transport Information**

Not applicable

**15. Regulatory Information**

Not applicable

**16. Other Information**

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.