



MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT & COMPANY IDENTIFICATION

UPL South Africa (Pty) Ltd
Co. Reg. No.: 2009/019713/07
Units 54/55, 61 Marshall Drive
Mount Edgecombe, 4300

Tel: 031 514 5600
Fax: 031 514 5611
e-mail: msds@upl-ltd.com
Web address: www.upl-ltd.com/za

Substance: Propamocarb hydrochloride
Product Name: **PROPLANT**
Product Use: Fungicide
Creation Date: July 2020
Revision Date: July 2023

24 Hr Emergency Number:

In case of Poisoning:

Poisons Helpline 0861 555 777

In case of Spillage:

Spill Tech Oil & Chemical Pollution Control 086 100 0366 / 083 253 6618

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Common name: Propamocarb hydrochloride
Chemical Name: propyl 3-(dimethylamino) propylcarbamate hydrochloride (**IUPAC**)
CAS No.: 25606-41-1
Chemical Family: carbamate
Chemical Formula: C₉H₂₁ClN₂O₂
Molecular weight: 224.7
Use: Systemic fungicide with protective action. Absorbed by the roots and leaves, and transported acropetally.
Formulation: 722 g/l
Suspension Concentrate

Hazardous ingredients of toxicological concern:

<u>Inert:</u>	<u>concern:</u>	<u>present:</u>
Propamocarb hydrochloride	irritant	702 – 737 g/l

Symbol: Xi
Indication of danger: Irritant
Risk-Phrases: R43

SECTION 3 - HAZARD IDENTIFICATION

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.

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SECTION 4 - FIRST AID MEASURES AND PRECAUTIONS

Inhalation:

Immediately remove source of contamination or move victim to fresh air. If breathing has stopped, perform artificial respiration and administer oxygen. Avoid mouth to mouth resuscitation. Keep person warm and at rest. Seek medical advice immediately.

Skin contact:

Remove contaminated clothing, shoes and leather goods immediately. Gently wipe of excess chemical. Wash skin gently and thoroughly with non-abrasive soap or mild detergent and large amounts of warm water until no evidence of chemical remains (approximately 15 to 20 minutes). Seek medical advice if necessary.

Eye contact:

Flush eyes immediately with large amounts of gently flowing cold water or normal saline solution, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15 to 20 minutes). If pain, blinking, tears or redness persist, get medical attention.

Ingestion:

Do not induce vomiting. Have victim rinse mouth thoroughly with water, only if the person is conscious. Never give anything by mouth to an unconscious person. Seek medical advice immediately and make the label available, where possible.

Advice to physician:

No specific antidote. Keep patient under observation and treat symptomatically as indicated by his/her condition.

SECTION 5 - FIRE-FIGHTING MEASURES

Flash point: Not applicable. Not flammable. Not combustible.

Hazardous products of decomposition:

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

Extinguishing agents:

Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. 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.

SECTION 6 - ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Personal precautions:

Avoid contact with skin and eyes. Do not breathe in spray or fumes.

For personal protection see Section 8.

Environmental precautions:

Do not allow entering drains or watercourses. 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.

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Occupational spill:

Spill area may be slippery. 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. Keep spectators away and upwind.

To decontaminate spill area, tools and equipment, wash with a suitable solution (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Label drums with its content and dispose it in accordance with local regulations.

Open burning or dumping of this material is prohibited.

Do not get water inside containers.

SECTION 7 - HANDLING AND STORAGE REQUIREMENTS

Handling:

May cause sensitization by skin contact. Avoid contact with eyes and skin, and inhalation of spray and vapour. Use with adequate ventilation. 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.

Storage:

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.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

It is essential to 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.

PERSONAL PROTECTIVE EQUIPMENT:

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

Respirator:

Not required.

Clothing:

Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

Gloves:

Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

Eye protection:

The use of safety goggles is recommended.

Emergency eye wash: Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colourless liquid with fruity odour.
Flammability:	Not flammable
Flash point:	Not applicable.
Solubility:	Soluble in water.
Density:	1,083

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pH: 4 to 6
 Auto ignition temperature: > 400 °C
 Boiling point: 100 °C

SECTION 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 °C. Protect from sunlight, open flame and sources of heat.

Hazardous decomposition products:

None under normal conditions.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute oral LD₅₀ rats: > 2000 mg/kg

Acute dermal LD₅₀ rabbits: > 2000 mg/kg

Inhalation rats: LC₅₀ (4hours): > 5 mg/ℓ

Acute skin irritation: not irritant

Acute eye irritation: not irritant

Dermal sensitization: may cause sensitization by skin contact

Reproductive Effects:

A three-generation reproduction study was conducted using rats fed a diet containing propamocarb at dietary concentrations of 0, 40, 200, and 1,000 ppm for 100 days and then continuously through 3 successive generations. No treatment-related effects were noted on either the parents or offspring.

Teratogenic Effects:

Oral dosing of pregnant rats with 680 and 2040 mg/kg body weight of propamocarb hydrochloride was toxic to the dams and the conceptus. The NOEL was 204 mg propamocarb hydrochloride/kg body weight.

Mutagenic Effects:

No evidence of genotoxicity was observed in a battery of studies including *Salmonella* and *E. coli* gene mutation assays, 2 mouse micronucleus assays, an in vitro mammalian cytogenetic assay using cultured human lymphocytes, a yeast mitotic gene conversion assay and a yeast mitotic recombination assay.

Carcinogenic Effects:

In dietary rodent studies, propamocarb hydrochloride showed no evidence of carcinogenicity.

Organ Toxicity:

The potential for propamocarb to produce any significant endocrine effects is considered to be minimal.

SECTION 12 - ECOLOGICAL INFORMATION

Mobility, Degradability & Accumulation:

Propamocarb hydrochloride does not persist in the soil. Following an adaption phase, it is rapidly decomposed by micro-organisms. The average half-life is less than 30 days; 90% of the original material is decomposed within less than 70 days.

The material does not leach and with the mineralization being so rapid, the compound does not contaminate the groundwater, even under favorable conditions.

Propamocarb hydrochloride is very stable to hydrolysis and photolysis in sterile aqueous media. However, aquatic micro-organisms rapidly decompose propamocarb hydrochloride (up to 97% within 35 days). The material is also bound to the sediment, desorption is relatively weak.

Plants: Metabolism studies in potatoes, cucumbers and spinach demonstrated that propamocarb is degraded into carbon dioxide which is reincorporated into natural plant constituents. The primary residue found in all crops is the parent compound propamocarb hydrochloride.

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ECOTOXICOLOGY:

Birds: Non-toxic to birds.

Oral LD₅₀: Bobwhite quail & Mallard ducks: > 1812 mg/kg

LC₅₀ (dietary): Bobwhite quail & Mallard ducks: > 4789 mg/kg

Fish: Of low toxicity to fish and aquatic organisms.

LC₅₀ (96 hours): Bluegill sunfish: > 92 mg/l

Rainbow trout: > 99 mg/l

Daphnia:

LC₅₀ (48 hours): *Daphnia magna*: 106 mg/l

Bees: Not toxic to bees.

LD₅₀: oral: > 84 µg/bee

contact: > 100 µg/bee

Algae:

EC₅₀ (72 hours): *Selenastrum capricornutum*: > 85 mg/l

Earthworm: LC₅₀ (14 days): > 660 mg/kg soil

SECTION 13 - DISPOSAL CONSIDERATION

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.

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.

Prevent contamination of food, feedstuffs, drinking water and eating utensils.

Comply with local legislation applying to waste disposal.

SECTION 14 - TRANSPORT INFORMATION

UN NUMBER: NOT CLASSIFIED

Road Transport ADR/RID: NOT CLASSIFIED

Maritime Transport IMDG/IMO: NOT CLASSIFIED

SECTION 15 - REGULATORY INFORMATION

Symbol: Xi

Indication of danger: Irritant

Risk phrase(s):

R 43 May cause sensitization by skin contact.

Safety phrases:

S 2 Keep out of reach of children.

S 13 Keep away from food, drink and animal feedingstuffs.

S 20/21 When using do not eat, drink or smoke.

S 24 Avoid contact with skin.

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Wear suitable gloves.

SECTION 16 - OTHER INFORMATION**Packaging:**

Packed in 1, 5, 10, 20 and 25 l fluorinated plastic containers and labelled according to South African regulations and guidelines.

Disclaimer:

The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed.

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

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