10182-233

Product Safety Information

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PROLATE® TECHNICAL

Organophosphorus Insecticide

This Product Safety Information Sheet is principally directed to managers, safety, hygiene and medical personnel. The description of physical, chemical and toxicological properties and handling advice is based on experimental results and past experience. It is intended as a starting point for the development of safety and health procedures.

Prolate Technical is an organophosphorus insecticide for further manufacturing use only.

I. PHYSICAL AND CHEMICAL PROPERTIES

1. Active Ingredient
N-(mercaptomethyl) phthalimide-S-(0,0-dimethyl phosphorodithioate)

2. Application
Insecticide and miticide

3. Physical State
White to off-white crystalline solid

4. Water Solubility
25 ppm at 20°C

5. Vapor Pressure
6 x 10⁻² microns at 25°C

6. Melting Point
67°-70°C

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II. CHEMICAL REACTIVITY

Normally stable and is not reactive with water. No known violent chemical reactions have been reported.

III. STABILITY

Stable under normal storage conditions. Drums should be stored in a cool location out of the sun to prevent pressure build-up.

VI. FIRE HAZARD

Combustible but not considered a fire hazard.

V. FIREFIGHTING TECHNIQUE

Wear full face self-contained breathing apparatus and impervious clothing (gloves, hats, safety goggles, suits and boots) of rubber. Personnel exposure must be prevented and nonessential personnel evacuated from the immediate area. Prolate may decompose under fire conditions to give off toxic irritant.

If containers are not leaking, keep cooled with a water spray.

VI. TOXICOLOGY

1. Ingestion
LD50 in rats, 147-316 mg/kg. Single oral exposures of 100 to 464 mg/kg produced tremors, ataxia, salivation, cyanosis, diarrhea and excessive urination. Mortality was observed at 215 and 464 mg/kg.

LD50 in mice, 3-43 mg/kg. Single oral exposures of 21.5 to 21.. mg/.. produced tremors, ataxia, fasciculations, diarrhea and mortality.

Daily ingestion of 20, 40 and 400 ppm Prolate Technical by dogs for two years resulted in decreased red blood cell and plasma cholinesterase activity and lacrimation. Hyperactivity, salivation, hyperemia of mouth, mucoid feces and mortality were also seen in one of six dogs at 400 ppm.

Daily ingestion of 10, 30 and 60 mg/kg/day Prolate Technical by rabbits for three weeks prior to mating and 18 days following mating resulted in reduced plasma and red blood cell and plasma cholinesterase activities, normal survival, reduced weight gain at 60 mg/kg. No effects on reproductive parameters, or teratogenic effects were observed.

Daily ingestion of 20, 40, 400 ppm Prolate Technical by rats for two years resulted in no treatment related effects at 20 and 40 ppm, inhibition of plasma and red blood cell and brain cholinesterase at 400 ppm and reduction in weight gain and liver cell vacuolation at 400 ppm.

Daily ingestion of 40 ppm Prolate Technical by rats in a three generation reproduction study or 80 ppm in a two generation study did not result in effects on reproduction, body weight gain, general condition or survival.

Daily ingestion of 35 mg/kg/day Prolate Technical by pregnant rabbits during days 6-15 of gestation did not result in teratogenic effects.

Daily ingestion of 100, 316 and 1000 ppm Prolate Technical by chickens for 6 weeks did not result in symptoms of neurotoxicity. Two oral doses (796 mg/kg) of Prolate Technical 21 days apart failed to produce clinical symptoms of delayed neurotoxicity in chickens.

2. Dermal
LD50 in rabbits, greater than 4640 mg/kg. No apparent signs of toxicity were observed at 4640 mg/kg.

Mildly irritating to the rabbit skin.

Repeated dermal application of 10, 30 and 60 mg/kg five days a week for three weeks prior to mating and three weeks after mating in rabbits resulted in inhibition of plasma and red cell cholinesterase. Reproductive and teratogenic parameters were unaffected.

3. Ocular
Mildly irritating to the rabbit eye.

In case of suspected Prolate Technical poisoning, refer to procedure and emergency contacts in Section VII—FIRST AID.

In case of spillage, refer to procedure and emergency contacts in Section IX—SPILL HANDLING.

In case of animal poisoning, call a veterinarian or call collect day and night (203) 226-6602 (Stauffer Chemical Company) or (800) 424-9300 (Pesticide Team Safety Network/Chemtrec).

In case of contamination of other materials with Prolate Technical, call (800) 424-9300 (Pesticide Team Safety Network/Chemtrec).

Stauffer
STAUFFER CHEMICAL COMPANY
AGRICULTURAL CHEMICAL DIVISION
Westport, Connecticut 06880

4. Threshold Limit Value (TLV)

The American Conference of Government Industrial Hygienists has not established a TLV for Prolate.

For Stauffer Reference Only: T-556, T-1686, T-1758, T-2003, T-2036, T-2037, T-2078, T-2086, T-2127, T-2159, T-2164, T-4036, T-4052, T-5092, T-5647

VII. FIRST AID

CALL A PHYSICIAN IMMEDIATELY

If a known exposure occurs, or if poisoning is suspected, do not wait for symptoms to develop. Immediately initiate the recommended procedures below. Simultaneously contact a physician, the nearest hospital, or the nearest Poison Control Center. Inform the person contacted of the type and extent of exposure, describe the victim's symptoms and follow his advice. For additional information, call collect, day or night, Chemtrec (800) 424-9300 or Stauffer Chemical Company (203) 226-6802. Note: *Be sure to advise the physician that the compound is a cholinesterase inhibitor,* and follow his or her advice.

1. Ingestion

If swallowed—immediately dilute the swallowed material by rapidly giving large quantities of water or milk, if available, and induce vomiting by gagging the victim with a finger or blunt object placed on the back of the victim's tongue. Continue fluid administration until vomitus is clear. Never give anything by mouth to an unconscious person. Call a physician or the nearest Poison Control Center immediately.

2. Eye Contact

Immediately flush the eyes with large quantities of running water for a minimum of 15 minutes. Hold the eyelids apart during the irrigation to ensure flushing of the entire surface of the eye and lids with water. Do not attempt to neutralize with chemical agents. Obtain medical attention as soon as possible. Oils or ointments should not be used. Continue the irrigation for an additional 15 minutes if the physician is not immediately available.

3. Skin Contact

Immediately remove contaminated clothing under a safety shower. Flush all affected areas with large amounts of water for at least 15 minutes. Do not attempt to neutralize with chemical agents. Obtain medical advice immediately.

4. Inhalation

Remove from contaminated atmosphere. If breathing has ceased, clear the victim's airway and start mouth-to-mouth artificial respiration, which may be supplemented by the use of a bag-mask respirator, or a manually triggered oxygen supply capable of delivering 1 liter/second or more. If the victim is breathing, oxygen may be administered from a demand-type or continuous flow inhalator, and preferably with a physician's advice. Contact a physician immediately.

VIII. INDUSTRIAL HYGIENE

1. Ingestion

All food must be kept in a separate area away from the working location. Eating, drinking, smoking and carrying of tobacco products should be prohibited in areas where there is a potential for exposure. Before eating or consuming beverages, face and hands should be thoroughly washed.

2. Inhalation

This material should only be handled in well-ventilated areas. Where adequate ventilation is not available and there is a possibility of exposure to vapor or aerosol, inhalation exposure can be controlled through the use of a NIOSH-MESA approved pesticide respirator with an organic vapor filter in combination with a particulate pre-filter.

3. Skin Contact and Absorption

Dermal contact and exposure must be prevented through the use of protective clothing, gloves and footwear. Showers should be taken before lunch and clean clothes provided. Showers should be taken at the end of the work day and clean clothing should be provided at the start of each day. Soiled work clothes should not be taken home.

4. Eye Contact

Chemical safety goggles must be worn whenever a potential for eye contact exists.

IX. SPILL HANDLING

Make sure all personnel involved in spill are aware of the hazards associated with this material.

A small spill can be handled routinely considering the physical and hazardous properties of the product as well as the location of the spill. Use adequate ventilation and wear an air supplied respirator to prevent inhalation contact. Wear protective clothing to prevent skin and eye contact. Use the following procedures for Prolate:

1. Sweep up the crystals being careful not to create dust.
2. Place sweepings in an open drum.
3. Generously cover the contaminated area with a common household detergent (e.g. TIDE®). Using a stiff brush, work the detergent into the spill material using sufficient water to form a slurry. Brush the slurry into cracks and crevices; and allow to stand for 2 to 3 minutes. Be careful to completely avoid skin or eye contact; do not splatter on one's self or bystanders.
4. Spread a suitable absorbent such as clay on the slurried liquid, and shovel the absorbed material into an open drum.
5. Repeat if necessary.
6. Flush the area with water, while observing proper environmental considerations.
7. Seal drum and dispose of contaminated material in an approved pesticide dump.
8. This product is toxic to fish and wildlife. Do not contaminate water by cleaning of equipment or disposal of wastes. Keep out of lakes, streams, and ponds.

Larger Spills must be handled according to a predetermined plan. Part of this plan should include Section V: FIREFIGHTING TECHNIQUE. For assistance in developing a plan, contact Stauffer's Agricultural Chemical Division, Westport, Ct. 06880.

In case of emergency, call collect, day or night, (800) 424-9300 (Pesticide Team Safety Network/Chemtrec).

X. CORROSIVITY TO MATERIALS OF CONSTRUCTION

Not significantly corrosive to normal materials of construction.

XI. STORAGE REQUIREMENTS

Container should be stored in a cool, dry ventilated area away from flammable materials, sources of heat and flame, and foodstuffs.

XII. DISPOSAL OF UNUSED MATERIAL

Prolate Technical that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticides. For assistance in disposing of unused material, contact Stauffer's Agricultural Chemical Division, Westport, Ct. 06880.

XIII. DISPOSAL OF CONTAINER

Triple rinse (or equivalent) and offer for recycling, reconditioning, or disposal in approved landfill or bury in a safe place. If fiber drum, dispose of in an incinerator or landfill approved for pesticide containers, or bury in a safe place.

*Reg. T.M. Procter & Gamble Co.