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Co. Registration No. 200405572W
GST Registration No. 200405572W

MATERIAL SAFETY DATA SHEET

PLUNGE 85 WP INSECTICIDE

Version: Global
Date Approved: 08/13/1998
Revision No: 1

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: PLUNGE® 85 WP INSECTICIDE
ACTIVE INGREDIENT: Carbaryl
CHEMICAL FAMILY: Carbamate Pesticide
MOLECULAR FORMULA: C₁₂H₁₁NO₂
SYNONYMS:

MANUFACTURER

IVORYCHEM PTE LTD
15 Beach Road, #02-09
Beach Centre
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Tel: +65 63377765
Fax: +65 63377730

Emergency Telephone Numbers:

Emergency Phone contact@ivorychem.com (Please refer local label for Emergency Numbers in your region).

COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS #	Wt. %	PEL/TLV	EC No.	EC Class
Carbaryl	63-25-2	85	None	None	None
Other ingredients	-	15	None	None	None

HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Caution. Harmful if swallowed, inhaled or absorbed through the skin.

IMMEDIATE CONCERNS:

- Pale yellow to off-white liquid
- Phenolic odor

POTENTIAL HEALTH EFFECTS: Causes redness, irritation, tearing in eyes. Harmful if absorbed through skin. May produce symptoms similar to those from ingestion. Harmful if ingested. This product causes reversible cholinesterase inhibition. Repeated overexposure may cause more severe cholinesterase inhibition with more pronounced signs and symptoms. May lead to rapid onset of nausea, vomiting, diarrhea, abdominal pain, involuntary shaking, excess salivation,

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Incorporated in the Republic of Singapore Under the Companies Act (Cap 50)



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pinpoint pupils, blurred vision, profuse sweating, temporary paralysis, respiratory depression and convulsions. Harmful if inhaled. May produce symptoms similar to those from ingestion. This product does not contain any ingredients designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.

MEDICAL CONDITIONS AGGRAVATED: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

FIRST AID MEASURES

EYES: Flush eye immediately with large amounts of water or normal saline for 15 minutes, occasionally lifting eyelids, until no evidence of chemical remains. Seek medical attention if eye irritation persists.

SKIN: In case of contact, immediately wash with plenty of soap and water for at least 5 minutes. Seek medical attention if irritation develops or persists. Remove contaminated clothing. Clean contaminated clothing and shoes before re-use. Seek medical attention if required.

INGESTION: If victim is conscious and alert, give 2-3 glasses of water to drink and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

INHALATION: Remove victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardio-pulmonary resuscitation). If breathing difficulty or discomfort occurs and persists, contact a medical doctor. Seek medical attention.

NOTES TO MEDICAL DOCTOR: All treatment should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

This product contains a methyl carbamate insecticide, which is a cholinesterase inhibitor.

Overexposure to this substance may cause toxic signs and symptoms due to stimulation of the cholinergic nervous system. These effects of overexposure are spontaneously and rapidly reversible.

Specific treatment consists of parenteral atropine sulfate. Improve tissue oxygenation as much as possible before administering atropine to minimise the risk of ventricular fibrillation. Mild cases may be given 1 to 2 mg intramuscularly every 30 to 60 minutes as needed to maintain the effect for at least 12 hours. Dosages for children should be appropriately reduced. Complete recovery from overexposure is to be expected within 24 hours.

Persons regularly exposed in manufacturing and handling this product should have a preexposure and periodic red blood cell cholinesterase level checks. Narcotics and other sedative should not be used. Further, drugs like 2-PAM (pyridine-2-aldoxime methiodide) are not recommended.



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FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Not combustible. Use extinguishing method suitable for surrounding fire.

EXPLOSION HAZARDS: Not combustible

FIRE FIGHTING PROCEDURES: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and deny entry. Evacuate residents who are downwind of fire. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Persons who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition products include hydrogen cyanide, carbon monoxide, and nitrogen oxides.

ACCIDENTAL RELEASE MEASURES

EVACUATION PROCEDURES AND SAFETY: Wear appropriate gear for the situation. See Personal Protection information in Section 8.

CLEANUP AND DISPOSAL OF SPILL: Pump any free liquid into an appropriate closed container. Absorb with vermiculite or other inert absorbent. Shovel up into an appropriate closed container (see Section 7: Handling and Storage). Decontaminate tools and equipment following cleanup.

CONTAINMENT OF SPILL: Follow procedure under Cleanup and Disposal of Spill.

ENVIRONMENTAL AND REGULATORY REPORTING: Runoff from fire control or dilution water may cause pollution. Prevent material from entering public sewer system or any waterway. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies. If spilled on the ground, the affected area should be removed to a depth of one or two inches and placed in an appropriate container for disposal.

HANDLING AND STORAGE

HANDLING PROCEDURES: Do not ingest. Avoid direct or prolonged contact with skin and eyes. Do not breathe vapors.

STORING PROCEDURES: Store in original container. Keep in a dry, cool place. Store in an area that is away from foodstuffs or animal feed, out of reach of children and animals.

WORK/HYGIENIC PROCEDURES: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material. Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet. Wash exposed skin promptly to remove accidental splashes of contact with this material.

In addition, based upon the specific hazard of this product. Do not take clothing/objects contaminated by this material off the work site. Shower and change into street clothes before leaving the work site.

MIN/MAX STORAGE TEMPERATURES: 38 deg C

EXPOSURE CONTROLS / PERSONAL PROTECTION



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ENGINEERING CONTROLS: Where engineering controls are indicated by use conditions of a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimise employee exposures: general area dilution/exhaust ventilation.

EYE/FACE PROTECTION: Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material. Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area. May irritate the eyes. Avoid contact with eyes and skin. Do NOT inhale spray mist. If product in eyes, wash out immediately with water. Wear a face shield while handling the concentrate.

SKIN PROTECTION: Skin contact should be prevented through use of suitable protective clothing, gloved and footwear, selected with regard of use conditions and exposure potential. Consideration must be given both to durability as well as permeation resistance. May irritate the skin. When preparing dip or spray, using prepared dip or spray, wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves, and face shield. If product on skin, immediately wash area with soap and water. Wash hands before breaks and at end of work.

RESPIRATOR: When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Under normal conditions, in the absence of other airborne contaminants, the following should provide protection from this material up to the conditions specified by the appropriate OSHA< WHMIS or ANSI standard(s); Air-purifying (half-mask.full-face) respirator with cartridge/canister approved for use against pesticides.

Under conditions immediately dangerous to life or health, or emergency conditions with unknown concentrations, use a full-face positive pressure air-supplied respirator equipped with an emergency escape air supply unit or use a self-contained breathing apparatus unit.

PROTECTIVE MATERIAL TYPES: PVC, rubber

COMMENTS: After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield and contaminated clothing. Product is poisonous if swallowed.

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Solid that varies from colorless to white or gray, depending on the purity of the compound. The crystals are odorless. It is noncorrosive to metals, packaging materials, and application equipment.

CHEMICAL NAME: N,N'-[(methylimino) dimethylidyne]di-2,4-xylylidine

MOLECULAR WEIGHT: 221.04

DECOMPOSITION TEMPERATURE: 104 deg C

WATER SOLUBILITY: miscible

SOLUBILITY IN OTHER SOLVENTS: Soluble in common organic solvents including acetone, toluene, and xylene (211)

BOILING POINT: 103 deg C at 750 mmHg

SOLIDIFYING POINT: Not available

VAPOR PRESSURE: 0.051 mPa at 20 degrees C (1)

VISCOSITY: Not available

pH: Not available



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FLASH POINT: >95 deg C

PARTITION COEFFICIENT: (octanol/water) $K_{ow} = 316,000$ (1)

ADSORPTION COEFFICIENT: Not available

STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Excessive heat and fire.

STABILITY: This material is stable under normal handling and storage conditions described in Section 7.

INCOMPATIBLE MATERIALS: Strong acids and bases.

HAZARDOUS DECOMPOSITION: Thermal decomposition products include oxides of nitrogen, carbon oxides, methyl isocyanate (trace; no adverse effects expected)

HAZARDOUS REACTIONS: Not applicable

TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: Oral LD50 (rat) 649 mg/kg
Dermal LD50 (rabbit) >2000 mg/kg
Inhalation LC50 (rat) > 1.8 mg/L (4h)

LOCAL EFFECTS: Eye: may irritate the eye
Skin: may irritate the skin

CHRONIC TOXICITY: Carbaryl has been shown to cause tumors in laboratory animals in lifetime feeding studies. Carbaryl, when administered by various routes, at doses toxic to the maternal animals, has been shown to produce developmental toxicity in a number of species. Carbaryl produces no teratogenic effect in the absence of maternal toxicity.

ECOLOGICAL INFORMATION

Unless otherwise indicated, the data presented below are for the technical grade of active ingredient.

ACUTE AND PROLONGED TOXICITY TO FISH: Rainbow trout
LC50: 1950 ug/l
Exposure time: 96 h

Bluefill sunfish
LC50: 6760 ug/l
Exposure time: 96 h

TOXICITY OTHER NON MAMMAL TERR. SPECIES: Mallard duck
LC50: >5000 mg/kg
Exposure time: 8 d
Dietary concentrations

Bobwhite quail
LC50: >5000 mg/kg
Exposure time: 8 d
Dietary concentrations



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DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material. Disposal of unwanted spraywash should be into a pit of adequate size on level ground and away from watercourses, drains, dams, and tree roots. Triple or (preferably) pressure rinse empty containers, adding rinsate to spray wash. Do not dispose of undiluted chemicals on site. If not available bury containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Empty containers and product should not be burnt.

EMPTY CONTAINER: Non-returnable containers which held this material should be cleaned, prior to disposal, by triple-rinsing. Containers which held this material may be cleaned by being triple-rinsed, and recycled.

TRANSPORT INFORMATION

DOT CLASSIFICATION: Not regulated

INTERNATIONAL MARITIME ORGANIZATION

Carbamate Pesticide, Solid, Toxic, (carbaryl), 6.1, UN 2757, PG III, Marine Pollutant, EmS 6.1-04, MFAG 505, NAERG# 151

INTERNATIONAL CIVIL AVIATION ORGANIZATION

Carbamate Pesticide, Solid, Toxic, (carbaryl), 6.1, UN 2757, PG III, Marine Pollutant, NAERG# 151

REGULATORY INFORMATION

POISONS SCHEDULE: Schedule 6

LABELLING: All necessary directions, precautions and warnings for normal use of the product are included on the product label.

OTHER INFORMATION

Section(s) Revised : New Format