
MATERIAL SAFETY DATA SHEET

Gharda Chemicals Limited
660 Newtown Yardley Road
Newtown, PA 18940

Emergency Response Telephone Numbers
For Spills Call: 1-(800)-424-9300
For Medical Emergencies Call: 1-(866) 359-5660

I. MATERIAL IDENTIFICATION

Product Name: **Pilot 15G**

EPA Registration No: 33658-10

INGREDIENTS:

(% w/w)

Chlorpyrifos (CAS Reg. No. 2921-88-2)
O,O-Diethyl O-(3,5,6-trichloro-2-pyridinyl) phosphorothioate

15.0%

Inert Ingredients

85.0%

Chemical Class: Organophosphate Insecticide

EPA Signal Word: Caution

II. HAZARDOUS INGREDIENTS

<u>MATERIAL</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Active Ingredient: Chlorpyrifos	0.2 mg/m ³ (skin)	0.2 mg/m ³ (skin)
Inert Ingredients: Trade Secret	N/A	N/A

III. HEALTH HAZARD INFORMATION

EYE: May cause moderate eye irritation, which may be slow to heal. Corneal injury is unlikely.

SKIN CONTACT: Prolonged exposure is not likely to cause significant skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The LD₅₀ for skin absorption in rabbits is greater than 5000 mg/kg. This material is not considered to have significant skin sensitization potential in humans.

INGESTION: Single dose oral toxicity is low. The oral LD₅₀ for male rats is 2250 mg/kg and for female rats is 1288 mg/kg. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing larger amounts may cause injury.

INHALATION: Single exposure to dust is not likely to be hazardous.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure to chlorpyrifos may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, and convulsions. Chlorpyrifos produced mild adrenal effects when fed to rats, but only at doses that greatly exceeded any exposure that would be received during use of this product. A minor component present in this material in high amounts, when tested separately, caused kidney and liver effects in rats.

CANCER INFORMATION: Chlorpyrifos did not cause cancer in animal studies.

TERATOLOGY (BIRTH DEFECTS): Chlorpyrifos did not cause birth defects in laboratory animals.

REPRODUCTIVE EFFECTS: Chlorpyrifos did not interfere with fertility in reproduction studies in laboratory animals. Some evidence of toxicity to the offspring occurred, but only at a dose high enough to produce significant toxicity to the parent animals.

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL): Based on a majority of negative data and equivocal or marginally positive results, chlorpyrifos is considered to have minimal mutagenic potential.

IV. FIRST AID PROCEDURES

EYES: Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

SKIN: Wash thoroughly with soap and water. Get medical attention if irritation persists.

INGESTION: Call a physician or poison control center immediately. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. In case of severe acute poisoning, use antidote immediately after establishing an open airway and respiration. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient

V. PHYSICAL HAZARD INFORMATION

CHEMICAL & PHYSICAL PROPERTIES:

Color	Brown/Tan
Physical State:	Solid
Odor:	Musty odor
Melting Point:	Not applicable
Density:	46.5 lbs/ft ³ (0.6968 gm/cm ³)
Solubility:	Insoluble in water
Vapor Pressure:	Low
Vapor Density:	Not applicable
pH:	4.9 in 5.2% w/w aqueous dispersion
Stability:	Stable in commercial packaging (polyethylene or Mylar lined paper) and under normal storage conditions.
Thermal Decomposition:	Not applicable

FIRE AND EXPLOSION HAZARDS:

Flash Point:	None
Method Used:	TCC
Flammability Limits:	LFL: Not determined UFL: Not determined
Extinguishing Media:	Foam, CO ₂ , Water Fog
Fire & Explosion Precautions:	Foam fire-extinguishing system is preferred because uncontrolled water can spread possible contamination. Water, if used, must not enter sewers. Toxic irritating gases may be formed above 320°F (160°C).
Fire-Fighting Equipment:	Wear positive pressure, self-contained breathing apparatus and use full protective equipment if product is involved in fire.

REACTIVITY:

Stability:	(CONDITIONS TO AVOID) Avoid high temperatures. Store below 100°F (38°C). Chlorpyrifos undergoes exothermic decomposition at approximately 266°F (130°C) that can lead to higher temperatures and violent decomposition if generated heat is not removed.
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Incompatibility: (SPECIFIC MATERIALS TO AVOID) Alkaline materials.
Consult manufacturer for specific cases.

Hazardous Decomposition: If product is involved in fire, hydrogen chloride, ethyl sulfide, diethyl sulfide and nitrogen oxides can be formed.

Hazardous Polymerization: Will not occur.

VI. ENVIRONMENTAL PROTECTION

IN CASE OF SPILL OR LEAK: Sweep up and place into suitable containers for disposal.

WASTE DISPOSAL METHOD: Do not contaminate food, feed, or water by storage or disposal. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

ENVIRONMENTAL PRECAUTIONS: This pesticide is toxic to birds and wildlife, and extremely toxic to fish and aquatic organisms. Do not apply directly to water. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent aquatic sites.

VII. PERSONAL PROTECTION AND PRECAUTIONS

EXPOSURE GUIDELINE(S): ACGIH TLV and OSHA PEL are 0.2 mg/m³ for chlorpyrifos, skin. ACGIH classification is A4. PEL is in accord with those recommended by OSHA, as in the 1989 revision of PELs. A 'skin' notation following the exposure guideline refers to the potential for dermal absorption of the material. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

VENTILATION: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guideline.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. In dusty atmospheres, use a NIOSH approved dust respirator.

SKIN PROTECTION: No precautions other than clean body-covering clothing should be needed.

EYE/FACE PROTECTION: Use safety glasses.

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Harmful if swallowed. Causes eye irritation. Avoid contact with eyes. Keep out of reach of children. Keep away from food, feedstuffs, and domestic water supplies. For handling relative to end-use of this product, read the product label for further information concerning the use of personal protective equipment (PPE) under the Worker Protection Standard of 1993. Store in original package or containers suitable for disposal.

VIII. DOT HAZARDOUS MATERIALS INFORMATION

PROPER SHIPPING NAME: Environmentally Hazardous Substance, Solid, N.O.S. (Chlorpyrifos)

HAZARD CLASS OR DIVISION: 9

IDENTIFICATION NUMBER: UN 3077

PACKING GROUP: III

ADDITIONAL INFORMATION: As per DOT Regulations, Chlorpyrifos is designated as a Marine Pollutant and has a Reportable Quantity (RQ) of one pound (0.454 kg).

IX. REGULATORY INFORMATION

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard

A delayed health hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in section II of the MSDS.

Chemical Name	CAS Number	List
Chlorpyrifos	2921-88-2	NJ3, PA1, PA3

NJ3 = New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).

PA1 = Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).

PA3 = Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%).

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OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Category	Rating
Health	1
Flammability	0
Reactivity	1

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): This product contains the following substance(s) listed as "Hazardous Substances" under CERCLA, which may require reporting of releases:

Category:

Chemical Name	CAS Number	RQ	% in Product
Chlorpyrifos	2921-88-2	1	15.0%

Issue Date: December 26, 1998 Revised: April 15, 2003

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not "Hazardous" per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state, or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.