
MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL NATURE

PRODUCT: CHLORPYRIFOS 20 EC – (**STARBAN**) Agricultural/ Public Health Insecticide

CHEMICAL NAME: O, O-Diethyl-O-3, 5, 6-trichloro-2-pyridyl phosphorothioate

CHEMICAL FAMILY: Organophosphate

CHEMICAL FORMULA: C₉H₁₁C₁₃NO₃PS

MOLECULAR WEIGHT: 350.6

SECTION 2 – COMPOSITION, INFORMATION OF INGREDIENTS COMPONENT

	Percent Purity	CAS NO.
Chorpyrifos	20% a.i.	2921-88-2
Other ingredients	80%	

SECTION 3 – HAZARDS IDENTIFICATION SUMMARY

As defined by OSHA Hazard communication Standard, 29 CFR 1910.1200

Emergency Overview

Reddish brown color liquid with mild mercaptan odor.

Cholinesterase inhibitor,

Harmful if swallowed.

Can cause slight skin irritation.

Avoid breathing dust or spray mist.

Keep out of reach of children.

Potential Health Hazards:

EYE : Contact may cause moderate eye irritation

SKIN : Prolonged or repeated skin contact may cause irritation.

INHALATION: Mist or dust concentration may be harmful or irritating if inhaled.

INGESTION: This material may be harmful if swallowed. Signs and symptoms include may cause lung damage or even death due to chemical pneumonia.

SECTION 4 – FIRST AID MEASURES

IF INHALED : Remove person from exposure area to fresh air, If not breathing, give artificial respiration, preferably mouth to mouth, get medical attention.

IF ON SKIN : Remove contaminated clothing and wash skin with plenty of soap and water.

IF SWALLOWED : Do not induce vomiting.. Immediately contact physician, Poison Control or an emergency center before inducing vomiting. Do not induce vomiting or give anything by mouth to an unconscious person.

IF IN EYES :Wash eyes with fresh water for 15 minutes. If irritation continues, see a doctor.

ANTIDOTE : If signs of cholinesterase inhibition appear, atropine is antidotal. 2 – PAM may also be used in conjunction with atropine but should not be used alone.

NOTE TO PHYSICIAN : Chlorpyrifos is a cholinesterase inhibitor.

SECTION 5 – FIRE FIGHTING MEASURES

FLASH POINT - Not applicable

FLAMMABLE LIMIT: Not applicable

FIRE AND EXPLOSION HAZARD: Material will support combustion with the evolution of toxic fumes ,including Hydrogen chloride, ethyl sulphide ,Nitrogen oxides can be formed.

EXTINGUISHING INSTRUCTION: Use foam, Carbon dioxide or do not use direct water jet.

FIRE FIGHTING EQUIPMENT: Wear self-contained breathing apparatus pressure –demand, MSHA/NIOSH and full protective gear.

HAZARDOUS COMBUSTION PRODUCTS: Hydrogen chloride, ethyl sulphide ,Nitrogen oxides.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Clean up spills immediately ,observing precautions . Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Vacuum or sweep up material and place in properly labeled disposal container. Large spills may be neutralized with dilute solutions of soda ash or lime. After removal , flush contaminated area thoroughly with water . Do not allow any material to run off in soil, drainage systems or bodies of water. Notify and consult with proper regulatory authorities.

SECTION 7 – HANDLING AND STORAGE

KEEP OUT OF REACH OF CHILDREN

Handling : Use only in well ventilated area. Follow all MSDS/label precautions even after container is emptied because they may retain product residues.

Storage : Store in a cool dry place in original container and protect from sunlight. Keep away from food, animal feed and drinking water.

SECTION 8 – EXPOSURE CONTROLS,PERSONAL PROTECTION

ENGINEERING CONTROL: Local exhaust ventilation may be necessary to control any air contaminants to within their TLV's during the use of this product. Facilities storing or utilizing this material should be equipped with eyewash facility and safety shower.

PERSONAL PROTECTIVE EQUIPMENT:

EYE PROTECTION - Safety glasses

CLOTHING – Long sleeved shirt and long pants, shoes plus socks, chemical resistant headgear for overhead exposures.

GLOVES – Waterproof gloves.

USER SAFETY RECOMMENDATIONS – Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside . Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible , wash thoroughly and change in to clean clothing.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES(Technical)

PHYSICAL DESCRIPTION: Colorless crystal .

ODOR: Mild mercaptan Odor.

CHEMICAL FORMULA: C₉H₁₁C₁₃NO₃PS

MOLECULAR WEIGHT: 350.6

MELTING POINT: 42-43.5 °C

DENSITY: 1.44

VAPOR PRESSURE: N/A

WATER SOLUBILITY: 1.4mg/l (25⁰ C)

SECTION 10 – STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable unopened conditions

CONDITIONS TO AVOID: High temperatures and ignition sources

INCOMPATIBILITY WITH OTHER CHEMICALS: Oxidisers & Strong alkaline materials

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen chloride, ethyl sulphide ,Nitrogen oxides can be formed..

HAZARDOUS POLYMERISATION: Product will not undergo polymerization.

SECTION 11 – TOXICOLOGICAL INFORMATION (Technical)

ACUTE TOXICITY:	Oral LD ₅₀ (rat,)	- 135-163 mg/kg body weight
	Dermal LD ₅₀ (rat)	- >2000 mg/kg body weight
	Inhalation LC ₅₀ (rat)	- >0.2 mg/l of air
	Eye Irritation (rabbit)	- Mild-irritant
	Skin Irritation (rabbit)	- Non irritant

SECTION 12 – ECOLOGICAL INFORMATION

Environmental Summary – LD 50 to Mallard duck 490,Chickens 32-102 mg/kg body weight

LC50 – (96h) – bluegill sunfish – 0.002-0.010, rainbow trout – 0.007-0.051 mg/lt

This pesticide is highly toxic to bees.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste – Dispose of in accordance with applicable Federal, State, local laws and regulations.

Container – Empty the container with equipment. Do not re-use the container. Dispose of empty containers in a sanitary landfill or incineration so as to avoid environmental or water pollution.

SECTION 14 – TRANSPORT INFORMATION

UN No. - 3018

IMDG – 6219

Packaging Class and Group – 6.1 and III

Label – Toxic M.P.

EMS No. 6.1-02

SECTION 15 - MANUFACTURE'S / SUPPLIER'S DATA

Name of Firm: SWAL CORPORATION LIMITED

Mailing: UNIPHOS HOUSE, MADHU PARK ,
KHAR (WEST), MUMBAI-400 52.,
MAHARASHTRA (INDIA)

Tel. 0091-22 - 2640 1111

Fax 0091-22- 2640 1010

Local Bodies Involved

Collector of Ankaleswar
Gujarat, India

Manufacturing Site
UNITED PHOSPHORUS
LIMITED,
117, GIDC,
Ankaleswhar Gujrat,- 393002
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SECTION 16 - DISCLAIMER

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