



## MATERIAL SAFETY DATA SHEET

PRODUCT : Chlorpyrifos Technical

PRODUCT DESIGNATION : Pesticide

### **Section 1. Product & Company Identification**

Common Name : Chlorpyrifos Technical

Grade : Technical

Active Ingredient : Chlorpyrifos

Chemical Name of Active : O,O-diethyl-O-3,5,6-trichloro-2-pyridyl  
Ingredient (IUPAC) phosphorothioate

Chemical Family of A. I. : Organophosphorus

Molecular Formula of A. I. :  $C_9H_{11}Cl_3NO_3PS$

Molecular Mass of A. I. : 350.5

Manufacturer & Supplier : **M/s PERFECT SOLUTIONS**  
**Office Add:** B-371, Paschim Vihar, New Delhi -  
110063 (India)  
**Factory Add:** 15/1, 15/2, 15/3 Industrial Estate,  
Vidisha - 464001 (M.P)

Telephone Number : +91 8375844625

### **Section 2. Composition / Information on Ingredients**

Identity	CAS RN	% W/W content
Chlorpyrifos, a.i.	2921-88-2	98.00
Other additives	00000-00-0	Q. S to make to 100.00%



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## Section 3. Hazards Identification

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### Emergency Overview

**Appearance and odour:** Pale yellow to off - white crystal, mild mercaptan type odour

**Warning Statements:** Keep out of reach of children

**Potential Health Effects Likely Routs of Exposure:** Skin contact, Inhalation and Ingestion.

**Eye Contact:** May cause slight irritation and redness to eye

**Skin contact:** Not irritating to skin but irritation may occur on prolonged contact

**Ingestion:** If swallowed, this substance is considered to be toxic and likely to cause damages to internal organs.

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## Section 4. First Aid Measures

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### Emergency and First Aid Procedure –

**If in Eyes:** Immediately flush with plenty of clean water for 15-20 minutes. Remove contact lenses if present after 5 minutes of washing. Get medical attention.

**If on Skin:** Take off contaminated clothing, rinse skin immediately with plenty of water for 15-20 minutes. Get medical attention.

**If Inhaled:** Remove person to fresh air, if required give artificial respiration. Get medical attention.

**If Swallowed:** Induce vomiting (ONLY for CONSCIOUS PERSON); Unconscious person must be transferred to Physician/hospital for immediate medical attention.

**Note to Physician:** Diagnosis can be confirmed estimating cholinesterase activity of blood plasma.

**Antidote:** Administer Atropine Sulfate intravenously in dose of 2-4 mg for an Adult. Administer 2 PAM 1000-2000 mg IM or IV for adult or 15 mg/Kg body weight for children.

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## Section 5. Fire Fighting Measures

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**Hazardous product of Combustion:** On decomposition it may give Hydrochloric acid, Ethyl sulphide, Diethyl sulphide and Nitrogen oxides.

**Extinguishing Media:** Foam, Dry chemical powder, CO<sub>2</sub> type fire extinguisher or Flood with water.



**Unusual Fire and Explosion Hazards:** Exothermic decomposition above 160°C. Violent rupture of containers due to over pressurisation may occur.

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## Section 6. Accidental Release Measures

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**Personal Protection:** Observe all protection and safety precautions. Depending on the magnitude of the spill, use of eye protection, gloves and boots when cleaning up spills are recommended. For PPE see Section 8

**Steps to be taken in case of a spill:** It is recommended to have a predetermined plan / SOP for the handling of spills.

Stop the source of the spill immediately, if safe to do so. Contain the spill to prevent any further contamination of soil or water.

Keep all bystanders away. Wear full-length clothing and appropriate gloves. Shovel and collect the spilled material / contaminated absorbent and place in suitable containers. Thoroughly scrub the floor or other impervious surfaces with a strong industrial detergent and rinse with water.

Spills in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be collected and removed for treatment or disposal through incineration.

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## Section 7. Handling & Storage

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**Precautions in Handling:** In an industrial environment, such as while making formulation, filling or packing, it is recommended to avoid physical contact with the product and to have adequate ventilation.

Avoid spillage into the eyes, or contact with bare skin or clothing. Avoid inhaling vapours, mist. Wash hands, feet, face thoroughly after handling. Remove contaminated clothing immediately

**Precautions in Storage:** The product is stable under normal conditions of warehouse storage. Keep container lids tightly closed. Store below 45°C.

Store in a cool, dry, well-ventilated place away from foodstuffs, animal feed under lock & key.

**Specific Use:** The product is meant / approved to be used as insecticide.



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## Section 8. Exposure Control, Personal Protection

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Exposure Limit Values : TLV (ACGIH) : 0.2 mg/m<sup>3</sup> (skin

STEL : 0.6 mg/m<sup>3</sup>

**Personal Protection:** When used in a closed / automated system, personal protection equipment may not be required. When closed system is not possible in case of maintenance, repair, sampling etc, systems must be made nonhazardous before opening.

**Respiratory Protection:** The product is likely to pose inhalation exposure concern during normal handling. In the event of an accidental discharge of the material during manufacture or handling which produces a vapours or mist, workers should put on respiratory protection equipment with a universal filter.

**Protective Gloves:** Wear heavy duty appropriate gloves

**Eye Protection:** Wear goggles, face shield or safety glasses. It is recommended to have an eye wash fountain available in the work area.

**Skin Protection:** Wear appropriate protective clothing to prevent direct skin contact

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## Section 9. Physical and Chemical Properties

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Appearance / state	: Solid
Colour	: Pale yellow to off white crystal
Odour	: Mild mercaptan like odour
Melting point	: 40.5 ± 0.07°C
Boiling point	: 160°C (Decomposition)
Specific gravity	: 1.4007 +/- 0.067 at 20°C
Vapour pressure	: 3 mPa at 25°C
pH	: 4.88 +/-0.11
Corrosivity	: Non-corrosive
Vapour Density	: None
Viscosity	: Not Applicable
Flash Point	: 190°C
Auto Ignition Temp	: Not known
Flammable Limits	: Not applicable

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## Section 10. Stability & Reactivity

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**Chemical Stability:** Product is stable under ambient conditions of storage

**Materials to Avoid:** Avoid contact with alkaline materials.

Hazardous Decomposition Product: Refer to section no. 5

Hazardous Polymerisation: Not known.

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## Section 11. Toxicological Information

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**Health Hazards:** Refer to section no. 3

**Acute Toxicity:** The product is toxic. It should be treated with the usual care of handling hazardous chemicals.

### Route(s) of Entry

Ingestion: LD<sub>50</sub>, oral, rat: > 200 mg/kg body weight

Skin: LD<sub>50</sub>, dermal, rat: > 2000 mg/kg body weight

Inhalation: 4 hour LC<sub>50</sub>, rat: is 1.43 mg/L air

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## Section 12. Ecological Information

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Acute Oral Toxicity in Birds: In Mallard ducks >490 mg/kg of body weight

Acute Toxicity in Fish (96 hrs LC<sub>50</sub>) : Rainbow trout : 0.007 – 0.053 mg/L

Acute Toxicity Honey bees: Oral LC<sub>50</sub> 48 Hrs. > 360 ng/bee

Contact LC<sub>50</sub> hrs > 70 ng/bee

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## Section 13. Disposal Consideration

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**Waste Treatment Methods:** Keep out of drains, sewers, ditches and waterways.

Left-over material that should not be used or chemically reprocessed and should be disposed of in a landfill approved for pesticide disposal. Other possible methods of disposal are controlled incineration with flue gas scrubbing

**Containers:** Emptied containers may retain vapour and product residue. Observe all labeled safeguards until container is cleaned or destroyed.

Triple or pressure rinse empty containers. Pour rinse water into formulation tank. Store for collection by approved waste disposal service.

Dispose of as non hazardous industrial waste. Do not re-use containers.

Disposal of waste and packaging materials must always be in accordance with all applicable local laws / regulations.

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## Section 14. Transport Information

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The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

Toxic substances under the applicable, ICAO/IATA, IMO, ADG.

### IMDG Classification

Shipping name	:	Organo phosphorous pesticide, Solid, toxic, (Chlorpyrifos)
Class	:	6.1
Label	:	6
Packing group	:	III
UN number	:	2783
Marine Pollutant	:	Yes

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## Section 15. Regulatory Information

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Contains : Chlorpyrifos ( CAS No. 2921-88-2)

Regulatory Status: The product is meant for the production of insecticide formulations which may only be used for the applications they are registered for, in accordance with an officially approved label

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## Section 16. Other Information

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All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are resented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces formulations containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS. Accordingly, no guarantee or warrantee expressed or implied is made by PERFECT SOLUTIONS, as to the results to be obtained based upon the user's use of the information, nor does PERFECT SOLUTIONS, assume any liability arising out of user's use of the information.

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