

MATERIAL SAFETY DATA SHEET

PRODUCT : Chlorpyrifos 20% EC

PRODUCT DESIGNATION : Insecticide

Section 1. Product & Company Identification

Common Name : Chlorpyrifos 20% EC
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 g/mol
Manufacturer & Supplier : **M/s United Chemicals**
Head Office: B-371, 1st Floor, Meera Bagh, New
Delhi, India
Factory: 15/1, 15/2, 15/3, industrial Area, Vidisha,
M.P.
Telephone Number : +91-11-25258770

Section 2. Composition / Information on Ingredients

Identity		% W/W content
Chlorpyrifos, a.i.	2921-88-2	20.00
Other additives	00000-00-0	Q. S to make to 100.00%

Section 3. Hazards Identification

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.

Section 4. First Aid Measures

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.

Section 5. Fire Fighting Measures

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

Extinguishing Media: Foam, Dry chemical powder, CO₂ 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.

Section 6. Accidental Release Measures

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.

Section 7. Handling & Storage

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.

Section 8. Exposure Control, Personal Protection

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

Section 9. Physical and Chemical Properties

Appearance / state	: Liquid
Color	: Pale yellow to off white liquid
Odor	: Aromatic
Melting point	: Not Applicable
Specific gravity	: 0.94 at 20°C
pH	: 6-8
Corrosivity	: Non-corrosive
Viscosity	: The product free flowing liquid
Flash Point	: >24.5°C

Section 10. Stability & Reactivity

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.

Section 11. Toxicological Information

Ingestion: LD₅₀, oral, rat: > 200 mg/kg body weight

Skin: LD₅₀, dermal, rat: > 2000 mg/kg body weight

Inhalation: 4 hour LC₅₀, rat: is 1.43 mg/L air

Section 12. Ecological Information

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

Acute Toxicity in Fish (96 hrs LC₅₀) : Rainbow trout : 0.007 – 0.053 mg/L

Acute Toxicity Honey bees: Oral LC₅₀ 48 Hrs. 0.36 mg/bee

Section 13. Disposal Consideration

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.

Section 14. Transport Information

IMDG Classification

Shipping name : Organophosphorous pesticide, liquid, toxic, (Chlorpyrifos)

Class : 6.1

Packing group : III

UN number : 3017

Marine pollutant : Yes

Section 15. Regulatory Information

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.

Section 16. Other Information

The information presented in this MSDS is based on available data from various reliable sources and is believed to be faithful and correct to our knowledge. However, UNITED CHEMICALS makes no guarantee or warranty, regarding the accuracy and completeness of data or the results obtained from the use or reliance upon the information.

Safety Division : UNITED CHEMICALS, SAFETY DIVISION

UNITED