

Material Safety Data Sheet

Date Printed: 16/DEC/2004

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Version 1.3

According to 91/155/EEC

1 - Product and Company Information

Product Name	CHLORPYRIPHOS PESTANAL, 250 MG
Product Number	45395
Company	Sigma-Aldrich Pte Ltd #08-01 Citilink Warehouse Singapore 118529 Singapore
Technical Phone #	65 271 1089
Fax	65 271 1571

2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
CHLORPYRIPHOS	2921-88-2	220-864-4	015-084-00-4

Formula	C9H11Cl3NO3PS
Molecular Weight	350.59 AMU
Synonyms	Brodan * Chlorpyrifos (ACGIH) * Chlorpyrifos-ethyl * Chlorpyriphos * Chlorpyriphos-ethyl * Detmol U.A. * O,O-Diaethyl-O-3,5,6-trichlor-2-pyridylmonothioph ospat (German) * O,O-Diethyl O-3,5,6-trichloro-2-pyridyl phosphorothioate * Dowco 179 * Dursban * Dursban F * ENT 27311 * Ethion, dry * Lorsban * Lorsban 50SL * OMS-0971 * Piridane * 2-Pyridinol, 3,5,6-trichloro-, O-ester with O,O-diethyl phosphorothioate * Pyrinex * Stipend * Zidil

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Toxic in contact with skin and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of

water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.
Store at 2-8°C

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	0.2 MG/M3
Poland		NDSch	0.6 MG/M3
Poland		NDSP	-

EXPOSURE LIMITS - DENMARK

Source	Type	Value
OEL	TWA	0.2 mg/m3

Remarks: H

EXPOSURE LIMITS - GERMANY

Source	Type	Value
TRGS 900	OEL	0.2 mg/m3

Remarks: H,NL

EXPOSURE LIMITS - NORWAY

Source	Type	Value
	OEL	0.2 mg/m3

Remarks: H

EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
OEL	OEL	0.2 mg/m3

Remarks: E H

EXPOSURE LIMITS - UNITED KINGDOM

Source	Type	Value
OEL	OEL	0.2 mg/m3
OEL	STEL	0.6 mg/m3

Remarks: Skin

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	41 - 42 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	N/A	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Strong acids, Copper, Brass.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides, Phosphorous oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: TF6300000

ACUTE TOXICITY

LD50
Oral
Rat
82 mg/kg

LC50
Inhalation
Rat
> 200 mg/m3
4H

LD50
Skin
Rat
202 mg/kg

LD50
Oral
Mouse
60 mg/kg

LD50
Skin
Mouse
120 mg/kg

LD50
Intraperitoneal
Mouse
192 MG/KG

LD50
Oral
Rabbit
1000 mg/kg

LD50
Skin
Rabbit
2000 mg/kg

LD50
Oral
Guinea pig
504 mg/kg

LD50
Oral
Pigeon
10 mg/kg

LD50
Oral
Chicken
25.4 mg/kg
Remarks: Peripheral Nerve and Sensation: Flaccid paralysis
without anesthesia (usually neuromuscular blockage).
Behavioral: Somnolence (general depressed activity).
Behavioral: Convulsions or effect on seizure threshold.

LD50
Oral
Quail
13.3 mg/kg

LD50
Oral
Duck
76 mg/kg

LD50
Oral
Bird (wild)
5 mg/kg

SIGNS AND SYMPTOMS OF EXPOSURE

Exposure can cause: Headache. Dizziness. Weakness. Fatigue.
Tremors.

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.
Skin Absorption: Toxic if absorbed through skin.
Eye Contact: May cause eye irritation.
Inhalation: May be harmful if inhaled. Material may be
irritating to mucous membranes and upper respiratory tract.
Ingestion: Toxic if swallowed.

CHRONIC EXPOSURE - MUTAGEN

Human
2 MG/L
Cell Type: lymphocyte
Sister chromatid exchange

Mouse
500 UG/L
Cell Type: Other cell types
Cytogenetic analysis

Mouse
1 MG/L
Cell Type: Other cell types
Sister chromatid exchange

CHRONIC EXPOSURE - TERATOGEN

Species: Rat

Dose: 210 UG/KG
Route of Application: Intraperitoneal
Exposure Time: (1-7D PREG)
Result: Specific Developmental Abnormalities: Central nervous system.

Species: Rat
Dose: 4500 UG/KG
Route of Application: Intraperitoneal
Exposure Time: (7-21D PREG)
Result: Specific Developmental Abnormalities: Central nervous system.

Species: Mouse
Dose: 250 MG/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat
Dose: 25 MG/KG
Route of Application: Oral
Exposure Time: (14-18D PREG)
Result: Maternal Effects: Other effects.

Species: Rat
Dose: 135 MG/KG
Route of Application: Oral
Exposure Time: (6-22D PREG/10D POST)
Result: Maternal Effects: Other effects. Effects on Newborn: Biochemical and metabolic.

Species: Rat
Dose: 200 ML/KG
Route of Application: Subcutaneous
Exposure Time: (12D PREG)
Result: Maternal Effects: Other effects. Specific Developmental Abnormalities: Central nervous system.

Species: Rat
Dose: 50 MG/KG
Route of Application: Subcutaneous
Exposure Time: (12-19D PREG)
Result: Maternal Effects: Other effects. Effects on Embryo or Fetus: Other effects to embryo.

Species: Rat
Dose: 200 MG/KG
Route of Application: Subcutaneous
Exposure Time: (12-19D PREG)
Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain). Effects on Newborn: Behavioral.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 2811
Class: 6.1
PG: III
Proper Shipping Name: Toxic solid, organic, n.o.s.

IMDG

UN#: 2811
Class: 6.1
PG: III
Proper Shipping Name: Toxic solid, organic, n.o.s.
Marine Pollutant: Yes
Severe Marine Pollutant: No
Technical Name: Required

IATA

UN#: 2811
Class: 6.1
PG: III
Proper Shipping Name: Toxic solid, organic, n.o.s.
Inhalation Packing Group I: No
Technical Name: Required

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 015-084-00-4

INDICATION OF DANGER: T N

Toxic. Dangerous for the environment.

R-PHRASES: 24/25 50/53

Toxic in contact with skin and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-PHRASES: 28 36/37 45 60 61

After contact with skin, wash immediately with plenty of soap-suds. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 3

SWITZERLAND

SWISS POISON CLASS: 3

16 - Other Information

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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