

## Material Safety Data Sheet

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Version 1.3

According to 91/155/EEC

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1 - Product and Company Information

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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

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2 - Composition/Information on Ingredients

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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 \* Chlorpyrifos \*  
Chlorpyrifos-ethyl \* Detmol U.A. \*  
O,O-Diaethyl-O-3,5,6-trichloro-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

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3 - Hazards Identification

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## 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.

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4 - First Aid Measures

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## 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.

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### 5 - Fire Fighting Measures

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#### 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.

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### 6 - Accidental Release Measures

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#### 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.

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### 7 - Handling and Storage

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#### 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

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### 8 - Exposure Controls / Personal Protection

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#### 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.

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9 - Physical and Chemical Properties

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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	

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10 - Stability and Reactivity

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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

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### 11 - Toxicological Information

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RTECS NUMBER: TF6300000

#### ACUTE TOXICITY

LD50  
Oral  
Rat  
82 mg/kg

LC50  
Inhalation  
Rat  
> 200 mg/m<sup>3</sup>  
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.

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#### 12 - Ecological Information

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No data available.

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#### 13 - Disposal Considerations

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## 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.

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## 14 - Transport Information

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### 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

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## 15 - Regulatory Information

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### 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

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## 16 - Other Information

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### 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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