

MATERIAL SAFETY DATA SHEET

Introductory Details

Page 1 of total 6

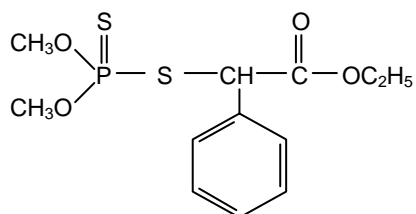
Date of preparation : 22 April 2004

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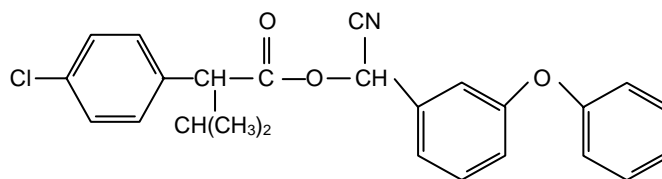
SECTION 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Details

Product Name	: Phenthoate 50% + Fenvalerate 3% EC
Trade Name	: DOLTOX 503
Chemical Name	: (1) o,o-Dimethyl S-[α -(ethoxycarbonyl)benzyl]phosphorodithioate (Phenthoate) (2) (RS)- α -cyano-3-phenoxybenzyl (RS)-2-(4-chlorophenyl)-3-methylbutyrate (Fenvalerate)
Chemical Formula	: (1) C ₁₂ H ₁₇ O ₄ PS ₂ (2) C ₂₅ H ₂₂ ClNO ₃
Molar Mass	: (1) 320.36 (2) 419.9
Chemical Family	: (1) Organophosphorous compound (2) Synthetic pyrethroid
Manufacturer's Code	: -
Use	: Insecticide
Structural Formula	:



Phenthoate



Fenvalerate

1.2 Company Identification

Manufacturer

Name and Address	: Agricultural Chemicals (M) Sdn. Bhd. 962, Lorong Perusahaan 8, Taman Perindustrian Perai, 13600 Perai, Pulau Pinang, Malaysia.
Telephone Number	: 604-390 7988
Emergency Telephone Number	: 604-390 7988

1.3 Contact Point

Designation	: Ms. Cheong Wai Ching, Product Support Manager / En. Ahmad Labib bin Yusof, Administrative Assistant
Tel. No.	: 604-390 7988

MATERIAL SAFETY DATA SHEET

Introductory Details

Page 2 of total 6
Date of preparation : 22 April 2004
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SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENT

Chemical Name	CAS No.	Proportion	Exposure Limit	Toxicity Data
o,o-Dimethyl S-[^o (ethoxycarbonyl) benzyl]phosphorodithioate	2597-03-7	50%	No data available	Refer to Section 11
(RS)- ^o -cyano-3-phenoxy benzyl (RS)-2-(4-chloro phenyl)-3-methylbutyrate	51630-58-1	3%		
Surfactant	-	< 15%		
Solvent	-	Balance		

SECTION 3 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Yellowish liquid
Odour	: Characteristic odour
Solubility	: Miscible with water
Boiling Point (technical)	: 186 - 187°C / 5 mmHg (Phenthoate) Decomposition starts about 249°C before boiled (Fenvalerate)
Melting Point (technical)	: 16 - 17°C (Phenthoate) 39.5 - 53.7°C (Fenvalerate)
Vapour Pressure (technical)	: 4×10^{-5} mmHg at 20°C (Phenthoate) 2.8×10^{-7} mmHg at 25°C (Fenvalerate)
Percentage Volatiles	: ~ 40% (solvent)
Evaporation Rate	: No data available
Vapour Density	: No data available
Specific Gravity	: 1.042 - 1.057
Flash Point	: 40°C
Autoignition Temperature (technical)	: 385°C (Fenvalerate)
Flammable Limit	: No data available

SECTION 4 : HAZARD IDENTIFICATION

Flammable
Harmful by inhalation and if swallowed
Irritating to skin

MATERIAL SAFETY DATA SHEET

Introductory Details

Page 3 of total 6

Date of preparation : 22 April 2004

Date revised : 11 June 2008

SECTION 5 : FIRST AID MEASURES

- Ingestion : Induce vomiting after drinking large quantity of water. Do not induce vomiting or give anything by mouth if the patient is unconscious or after the onset of poisoning symptoms. Get prompt medical attention.
- Eye Contact : Immediately flush with plenty of water. Get medical attention.
- Skin Contact : Remove contaminated clothing and wash skin thoroughly with soap and water. Get medical attention if irritation persists.
- Inhalation : Remove patient from exposure, keep warm and at rest. Obtain medical attention as a precaution.
- Notes to Physician :
- Poisoning Symptoms : Piloerection, fasciculation, ataxia, etc. (Based on the results from acute toxicity study in rats for Fenvalerate Technical). General weakness, headache, nausea, muscular cramp, giddiness, vomiting, blurred vision, contraction of pupils, salivation and diarrhoea.
- Medical Treatment : If swallowed, perform gastric lavage with care. If symptoms of cholinesterase depression occurs, inject atropine sulphate (2 - 4 mg) subcutaneously or intravenously. Repeat every 30 minutes until patient is fully atropinised.

SECTION 6 : FIRE FIGHTING MEASURES

- Extinguishing Media : CO₂, foam, dry chemical.
- Fire Fighting Instruction : Fire fighters should wear full-faced self contained breathing apparatus and protective clothing.
- Special Hazards : Evolve SO_x, upon combustion.

SECTION 7 : ACCIDENTAL RELEASE MEASURE

Leak and/or Spill :

Wear protective clothing. Eliminate ignition source. Ventilate area. Absorb spills with inert material such as clay, sand, earth, sawdust etc. and collect in a drum. Cover up the contaminated area with household detergent and small amount of water. Brush the slurry and spread inert absorbents on the slurry liquid and collect the absorbed material in a drum. Seal drum and dispose of. Do not contaminate water resources.

MATERIAL SAFETY DATA SHEET

Introductory Details

Page 4 of total 6

Date of preparation : 22 April 2004

Date revised : 11 June 2008

SECTION 8 : HANDLING AND STORAGE

Handling : Read the label before use. Wear pesticide respiratory masks, goggles, protective gloves and clothing while handling.

Storage : Keep in original container, tightly closed, in a cool dry and well-ventilated place, out of reach of children. Keep away from foodstuffs and animal feeds.

SECTION 9 : EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Limit : No data available
Engineering Measures : Local exhaust ventilation
Personal Protection :
Respiratory Protection : Pesticide respiratory masks
Eye Protection : Goggles
Skin Protection : Protective gloves and clothing.

SECTION 10 : STABILITY AND REACTIVITY

Conditions to Avoid : Direct sunlight, heat and extreme temperature
Incompatible : Alcohols, oxidizers and alkaline compounds such as Bordeaux mixture and lime sulphur.
Decomposition Products : Release SO_x upon combustion
Hazardous Polymerization : No data available.
Stability : Stable under normal conditions.

SECTION 11 : TOXICOLOGICAL INFORMATION

Toxicity Data :
Acute Oral LD₅₀ : (Rat) male 435 mg/kg
female 446 mg/kg
Acute Dermal LD₅₀ : (Rat) male & female > 2000 mg/kg

Phenthoate Technical

Acute Inhalation LC₅₀ (4 hrs) : (Rat) 3.17 mg/L

Fenvalerate Technical

Acute Inhalation LC₅₀ (3 hrs) : (Rat) > 0.101mg/L
(maximum attainable concentrate)

MATERIAL SAFETY DATA SHEET

Introductory Details

Page 5 of total 6

Date of preparation : 22 April 2004

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Carcinogenicity :
Phenthoate Technical : Not carcinogenic (118 week study on rat)
Reproductive Effect : No data available
Effects of Overexposure :
Skin Irritation : Irritant
Chronic Effects :
Phenthoate Technical
NOEL : (Dog) male 0.29 mg/kg/day (104 week study)
female 0.33 mg/kg/day (104 week study)
Target Organs : No data available
Medical Conditions Generally Aggravated by Exposure : No data available

SECTION 12 : ECOLOGICAL INFORMATION (TECHNICAL)

Mobility & Bioaccumulation : No data available
Biodegradability :
Phenthoate Technical
Half Life time : (Soil) < 1 day
(River water) < 7 days
Aquatic Toxicity :
Phenthoate Technical
TLm (48 hrs) : (Carp) 2.5 ppm
TLm (3 hrs) : (Daphnia) 0.008 ppm
Acute Oral LD₅₀ : (Quail) ~ 300 mg/kg
Acute Oral LD₅₀ : (Pheasant) 218 mg/kg

Fenvalerate Technical
Very toxic to aquatic organism
Acute Fish Toxic LC₅₀ (96 hrs) : (*Onchorhynchus mykiss*) 0.22 µg/L

SECTION 13 : DISPOSAL INFORMATION

Dispose of according to local regulation.

SECTION 14 : TRANSPORT INFORMATION

Follow the precaution indicated in the storage and handling section. Follow all regulations in your country.

MATERIAL SAFETY DATA SHEET

Introductory Details

Page 6 of total 6

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SECTION 15 : REGULATORY INFORMATION

Pesticides Act :
Class : II (Poisonous)

CPL Regulation :
Class : Flammable, Harmful
Risk Phrases : R10 Flammable
R38 Irritating to skin
R20/22 Harmful by inhalation and if swallowed

Safety Phrases : S2 Keep out of reach of children
S13 Keep away from food, drink and animal feeding stuff
S37/39 Wear suitable gloves and eyes/face protection
S51 Use only in well ventilated areas

SECTION 16 : OTHER INFORMATION

Reference :

- a. MSDS - Elsan Technical, date : 9 March 2002
Nissan Chemical Co., Ltd.
- b. MSDS - Sumicidin Technical, date : 30 April 2008
Sumitomo Chemical Co., Ltd
- c. Guidelines for The Classification of Hazardous Chemicals, DOSH 1997
- d. Guidelines for The Formulation of A Chemical Safety Data Sheet, DOSH 1997
- e. Guidelines for Labelling of Hazardous Chemicals, DOSH 1997

To the best of our knowledge, the information contained herein is accurate. However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein.