

# MATERIAL SAFETY DATA SHEET

## Introductory Details

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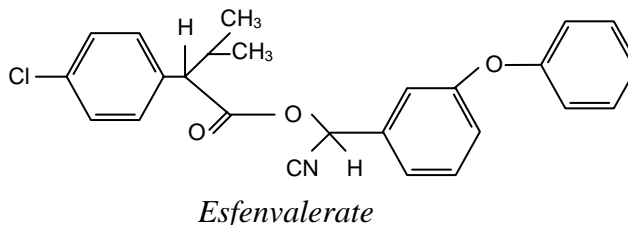
Date of preparation : 13 May 2004

Date revised : 12 June 2008

## SECTION 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product Details

Product Name : Esfenvalerate 2.8% EC  
Trade Name : SUMI-ALPHA 28  
Chemical Name : (S)- $\alpha$ -cyano-3 phenoxybenzyl (S)-2-(4-chlorophenyl)-3-methylbutyrate  
(R)- $\alpha$ -cyano-3 phenoxybenzyl (S)-2-(4-chlorophenyl)-3-methylbutyrate  
(S)- $\alpha$ -cyano-3 phenoxybenzyl (R)-2-(4-chlorophenyl)-3-methylbutyrate  
(R)- $\alpha$ -cyano-3 phenoxybenzyl (R)-2-(4-chlorophenyl)-3-methylbutyrate  
Chemical Formula :  $C_{25}H_{22}NO_3Cl$   
Molar Mass : 419.91  
Chemical Family : Synthetic Pyrethroid  
Manufacturer's Code : S-1844, S-5602A  $\alpha$   
Use : Insecticide  
Structural Formula :



### 1.2 Company Identification

#### **Manufacturer**

Name and Address : Agricultural Chemicals (M) Sdn. Bhd.  
962, Lorong Perusahaan 8, Taman Perindustrian Perai,  
13600 Perai, Penang, Malaysia.

Telephone Number : 604-390 7988

Emergency Telephone Number : 604-390 7988

### 1.3 Contact Point

Designation : Ms. Cheong Wai Ching, Product Support Manager/  
Encik Ahmad Labib bin Yusof, Administrative Assistant

Tel. No. : 604-390 7988

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## SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENT

Chemical Name	CAS No.	Proportion	Exposure Limit	Toxicity Data
(S)- $\alpha$ -cyano-3-phenoxybenzyl (S)-2-(4-chloro-phenyl)-3-methylbutyrate (R)- $\alpha$ -cyano-3-phenoxybenzyl (S)-2-(4-chloro-phenyl)-3-methylbutyrate (S)- $\alpha$ -cyano-3-phenoxybenzyl (R)-2-(4-chloro-phenyl)-3-methylbutyrate (R)- $\alpha$ -cyano-3-phenoxybenzyl (R)-2-(4-chloro-phenyl)-3-methylbutyrate	66280-04-4	2.8 %	Refer Section 9	Refer Section 11
Surfactant	-	< 10 %		
Solvent containing Trimethyl benzene	-	Balance		

## SECTION 3 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Yellowish brown liquid
Odour :	: Characteristic odour
Solubility	: Miscible with water
Boiling Point (Technical)	: 250°C at 0.7 kPa
Melting Point (Technical)	: 59.1 - 60.1°C
Vapour Pressure (Technical)	: 1.17 x 10 <sup>-9</sup> Pa at 20°C 2.84 x 10 <sup>-9</sup> Pa at 25°C
Specific Gravity	: No data available
Percentage Volatiles	: No data available
Evaporation Rate	: No data available
Vapour Density	: No data available
Flash Point	: 60°C
Autoignition Temperature (Technical)	: 420°C
Flammable Limit (%)	: Not known

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## SECTION 4 : HAZARD IDENTIFICATION

Harmful by inhalation and if swallowed.

Toxic by inhalation.

Irritating to eyes, respiratory system and skin.

May cause sensitisation by skin contact.

## SECTION 5 : FIRST AID MEASURES

Ingestion : Get prompt medical attention.

Eye contact : Flush with plenty of water for at least 15 minutes.

Skin contact : Remove contaminated clothing and wash skin thoroughly with soap and water.

Inhalation : Remove victim to fresh air.

Notes to physician :

Poisoning symptoms : Muscular fibrillation, tremor, ataxia, limb paralysis, irregular respiration, salivation, urinary incontinence, hyperexcitability, choreoathetotic syndrome and decrease of spontaneous activity. (Based on the results from acute oral toxicity study in rats > 10 mg/kg dose)

## SECTION 6 : FIRE FIGHTING MEASURES

Extinguishing Media : Dry chemical powder, CO<sub>2</sub> For large fire, use foam, water spray.

Fire Fighting Instruction : Fire fighters should wear full-faced self-contained breathing apparatus and protective clothing.

Special hazards : Evolve toxic and corrosive products such as NO<sub>x</sub>, HCl, HCN, CO upon combustion.

## SECTION 7 : ACCIDENTAL RELEASE MEASURE

Leak and/or Spill :

Evacuate non essential personnel to upwind of the spilled area. Wear protective clothing and never work downwind. Absorb the spill with inert material such as clay, sand, white carbon etc.

Collect the absorbed material and place into a waste container for disposal. Wash the contaminated area with detergent and a small amount of water. Drained to Wastewater Treatment Plant. Keep out of lakes, streams or ponds.

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## SECTION 8 : HANDLING AND STORAGE

Handling : Wear protective clothing, pesticide respirator masks, protective gloves.  
Storage : Keep in original containers, tightly closed, in a cool, dry and well-ventilated place.  
Do not store with animal feeds or foodstuff. Keep out of reach of children or farm animals.

## SECTION 9 : EXPOSURE CONTROL AND PERSONAL PROTECTION

a. Exposure Limit : This product contains Trimethyl benzene. ACGIH recommends a TWA of 25 ppm (123 mg / m<sup>3</sup>) for Trimethyl benzene.  
b. Engineering measures : Local exhaust ventilation  
c. Personal protection : Wear protective clothing, pesticide respirator masks, protective gloves.

## SECTION 10 : STABILITY AND REACTIVITY

Stability : Stable under normal conditions.  
Conditions to avoid : Heat, sources of heat, naked flame, sparks  
Incompatibles : Alkaline materials, oxidizing agents.  
Decomposition Products : HCl, HCN, CO (in contact with open fire).  
Hazardous polymerization : No data available

## SECTION 11 : TOXICOLOGICAL INFORMATION (TECHNICAL)

Acute Toxicity :

Oral LD <sub>50</sub> :	(Rat)	88.5 mg/kg
Dermal LD <sub>50</sub> :	(Rat)	> 5,000 mg/kg
Inhalation LC <sub>50</sub> (4 hr) :	(Rat) male	0.48 mg/l
	(Rat) female	0.57 mg/l

Mutagenic Effect : No data available  
Teratogenic Effect : No data available  
Carcinogenicity : No data available  
Reproductive Effect : No data available

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Effects of overexposure :  
Eye : Irritating  
Skin : Irritating  
Skin Sensitization : Negative Buehler and positive Maximization test  
Chronic effects : No data available  
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 : No data available  
Aquatic Toxicity : Very toxic to aquatic organism.  
LC<sub>50</sub> (96 hr) : Fish (*Oncorhynchus mykiss*) 0.1 µg/l (Flow through)  
EC<sub>50</sub> (48 hr) : *Daphnia magna* 0.9 µg/l (Static)  
LC<sub>50</sub> (96 hr) : Algae (*Scenedesmus subspicatus*) 6.5 µg/l

## SECTION 13 : DISPOSAL INFORMATION

Disposal method in accordance with all applicable national environment laws and regulations.  
Do not contaminate water or into any body of water.

## SECTION 14 : TRANSPORT INFORMATION

Follow all regulations with regard to transporting chemicals in your country.

## SECTION 15 : REGULATORY INFORMATION

Pesticides Act : Class III - Harmful  
CPL Regulations : Class - Toxic  
Risk Phrase : R20/22 Harmful by inhalation and if swallowed  
R23 Toxic by inhalation  
R36/37/38 Irritating to eyes, respiratory system and skin  
R43 May cause sensitization by skin contact

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Safety Phrase : S1/2 Keep out of reach of children  
S13 Keep away from food, drink and animal feeding stuff  
S24 Avoid contact with eyes  
S36/37/39 Wear suitable protective clothing, gloves and eyes/face protection

## SECTION 16 : OTHER INFORMATION

Reference : (a) MSDS - Sumi-Alpha 2.5% EC  
Date : 10-8-98  
(b) MSDS - Sumi-Alpha Technical  
Date : 16 May 2008  
(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.