

# MATERIAL SAFETY DATA SHEET

## Introductory Details

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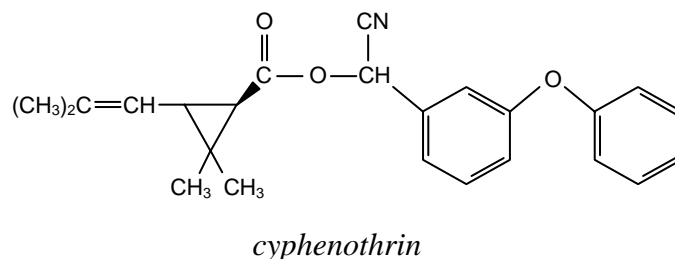
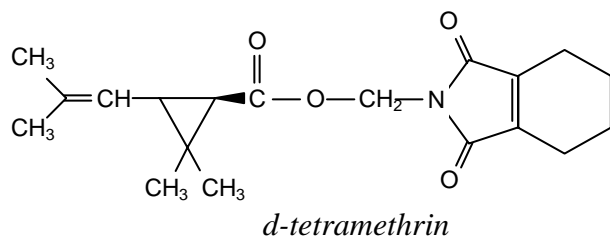
Date of preparation : 5 July 2004

Date revised : 5 June 2008

## SECTION 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product Details

Product Name	: (1) d-Tetramethrin (Neo-Pynamin Forte) (2) Cyphenothrin (Gokilaht)
Trade Name	: PESGUARD FG 161
Chemical Name	: (1) 3,4,5,6-Tetrahydrophthalimidomethyl-(1R)-cis, trans-chrysanthemate (2) (RS)- $\alpha$ -Cyano-3-phenoxybenzyl (1R)-cis,trans-chrysanthemate
Chemical Formula	: (1) C <sub>19</sub> H <sub>25</sub> O <sub>4</sub> N (2) C <sub>23</sub> H <sub>25</sub> O <sub>3</sub> CN
Molar Mass	: (1) 331.4 (2) 375.5
Chemical Family	: -
Manufacturer's Code	: -
Use	: Public health insecticide
Structural Formula	:



### 1.2 Company Identification

<b>Manufacturer</b>	: Available upon request
Name and Address	:
Telephone Number	:
Emergency Telephone Number	:

<b>Importer/Distributor</b>	:
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

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### 1.3 Contact Point

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

Tel. No. : 604-390 7988

## SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENT

This product is to be considered as a preparation in conformance to EC directives

Chemical Name	CAS No.	Proportion	Exposure Limit	Toxicity Data
Cyphenothrin (racemic)	39515-40-7	12%	Refer Section 9	Refer Section 11
d-Tetramethrin (racemix)	7696-12-0	4%		
Emulsifier	Trade secret	10%		
Solvent	64742-94-5	Balance		

## SECTION 3 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Pale yellow transparent liquid  
Odour : Characteristic odor  
Solubility : Emulsifiable in water  
Boiling Point : No data available  
Melting Point (°C) : No data available  
Vapour Pressure (mmHg at 25°C) : No data available  
Percentage Volatiles : No data available  
Evaporation Rate : No data available  
Vapour Density : No data available  
Specific Gravity : 0.917 (20°C)  
Flash Point : 72.5°C (Tag closed cup)  
Autoignition Temperature : No data available  
Flammable Limit (%) : No data available  
Flammability : Combustible  
Viscosity :  $7 \times 10^{-3}$  Pa . s (20°C)

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## SECTION 4 : HAZARD IDENTIFICATION

Irritating to eyes and skin

May cause sensitisation by skin contact

Toxic to aquatic organisms.

May cause long-term adverse effects in the aquatic environment

## SECTION 5 : FIRST AID MEASURES

Ingestion : Immediately rinse mouth with plenty of water and call a physician. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Eye Contact : Immediately flush with plenty of water, holding eyelids apart, for 15 minutes. Get medical attention. Remove contact lenses if worn.

Skin Contact : Remove contaminated clothing. Wash skin with soap and water immediately. Get medical attention if irritation develops or persists.

Inhalation : Remove to fresh air and rest. Give artificial respiration if not breathing, give oxygen if breathing is difficult. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Notes to Physician : Treatment is symptomatic.

## SECTION 6 : FIRE FIGHTING MEASURES

Extinguishing Media : Use dry powder or carbon dioxide for small fire, foam for large fire.

Fire Fighting Instruction : Fire fighters should wear full-faced self-contained breathing apparatus and protective clothing. Water used to extinguish a fire should not be allowed to enter the drainage system or watercourses. Evacuate personnel to safe area. Keep personnel removed to upwind of fire.

Special Hazards : Thermal decomposition will produce CO, NO<sub>x</sub> or HCN.

## SECTION 7 : ACCIDENTAL RELEASE MEASURE

Leak and/or Spill :

Wear protective clothing. Eliminate ignition source. Ventilate area. This chemical is toxic to aquatic organisms and do not allow to escape into sewage system or water courses. Absorb the spillage with inert material such as clay, sand, sawdust etc and collect into a drum. Wash the contaminated area with detergent and small amount of water. Absorb with inert material and collect the slurry into the drum for disposal, following local regulations. If the chemical enters body of water, notify the authority at once.

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## SECTION 8 : HANDLING AND STORAGE

Handling: Read label before use. The usual precautions for handling chemicals should be observed. Wear protective gloves of rubber, suitable protective clothing and goggles. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse.

Storage : Keep only in original container, tightly closed, in a cool dry and well-ventilated place, out of reach of children. Avoid heat and direct sunlight. Keep away from foodstuffs and animal feeds. Keep away from all ignition sources.

## SECTION 9 : EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Limit : [Oil mist, mineral] ACGIH TLV (2002)  
Notice of intended change for 2002  
0.2 mg/m<sup>3</sup> (TWA)

Engineering Measures : Provide adequate ventilation.

Personal Protection : The usual precautions for handling chemicals should be observed.

Respiratory Protection : Wear air-purifying respirator equipped with organic vapour cartridges or canister

Eye Protection : Safety goggles

Skin Protection : Protective rubber gloves and other protective clothing as appropriate.

## SECTION 10 : STABILITY AND REACTIVITY

Conditions to Avoid : Direct sunlight, source of heat, open flames, sparks and high temperature.

Incompatibles : Alkaline materials

Decomposition Products : Emits toxic fumes under fire conditions (refer Section 6)

Hazardous Polymerization : Will not occur.

Stability : Stable under normal recommended storage and handling conditions.

## SECTION 11 : TOXICOLOGICAL INFORMATION

Toxicity Data :

Acute Oral LD <sub>50</sub>	: (Rat) male	2,350 mg/kg
	(Rat) female	2,500 mg/kg
Acute Dermal LD <sub>50</sub>	: (Rat)	> 2,000 mg/kg
Inhalation LC <sub>50</sub> (4 hr)	: (Rat)	> 5,050 mg/kg

*There is no information on Pesguard FG-161 for the following. Data for individual technical*

Pesguard FG-161

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### *substance were utilized.*

Carcinogenicity	: <b><u>d-Tetramethrin</u></b> (Rat, 104-week feeding)	Not carcinogenic
	<b><u>Cyphenothrin</u></b> (Rat, 2 year feeding)	Not carcinogenic
Reproductive Effect	: <b><u>Cyphenothrin</u></b> (Two-generation study - feeding) (Rat) NOEL (adult & offspring)	No reproductive toxicity 300 ppm
Mutagenicity	: <b><u>d-Tetramethrin</u></b> Negative (Ames test, <i>in vivo</i> DNA damage test, chromosomal aberration test) <b><u>Cyphenothrin</u></b> Negative (Ames test, <i>in vitro</i> sister chromatid exchange test, <i>in vivo</i> micronucleus test)	
Teratogenicity	: <b><u>d-Tetramethrin</u></b> (Rats and rabbits, subcutaneous) <b><u>Cyphenothrin</u></b> (Rats and rabbits, subcutaneous) NOEL (Rat, maternal & developmental) (Rabbit, maternal) (Rabbit, developmental)	Not teratogenic Not teratogenic 150 mg/kg/day 50 mg/kg/day 125 mg/kg/day
Effects of Overexposure	:	
Eye Effect	: (Rabbit)	Slightly irritating
Skin Effect	: (Rabbit) (Rabbit)	Strongly irritating Not irritating (320 fold dilution)
Sensitizing Effect	: (Guinea pig)	Weak skin sensitizer (Buehler method)
Chronic Effects	: <b><u>d-Tetramethrin</u></b> NOAEL NOEL	1000 ppm 48 mg/kg/day 18 mg/kg/day
Target Organs	: No data available	
Medical Conditions Generally Aggravated by Exposure	: No data available	

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## SECTION 12 : ECOLOGICAL INFORMATION

Mobility & Bioaccumulation : No data available

Biodegradability : No data available

Aquatic Toxicity :

### d-Tetramethrin

LC<sub>50</sub> (96 hours) : (Bluegill) 0.069 mg/L

LC<sub>50</sub> (96 hours) : (Rainbow trout) 0.010 mg/L

### Cyphenothrin

LC<sub>50</sub> (96 hours) : (Rainbow trout) 0.34 µg/l

EC<sub>50</sub> (48 hours) : (Water flea) 0.43 µg/l

## SECTION 13 : DISPOSAL INFORMATION

Dispose of wastes and used containers in accordance with local regulation. Do not contaminate surface water or sanitary sewer system.

## SECTION 14 : TRANSPORT INFORMATION

### *Land transport (ADRI RID)*

ADR Class 9 ADR/RID Item No. 11c / 11c

RID Class 9 ADR/RID Packing Group III

Hazard Identification No. 90 Substance Identification No. 3082

TREM-Card CEFIC TEC(R)-90G01 UN Number 3082

Proper Shipping Name : Environmentally hazardous substance, liquid, n.o.s. (Contains: Cyphenothrin)

### *Sea transport (IMDG-code / IMO)*

IMO / IMDG code

Class 9 Packing Group III, page 9028

UN Number 3082 EMS None

MFAG None Marine pollutant No

Proper Shipping Name : Environmentally hazardous substance, liquid, n.o.s. (Contains: Cyphenothrin and d-Tetramethrin)

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### *Air transport (ICAO-TI / IATA-DGR)*

ICAO-TI / IATA-DGR	UN number	3082
Class 9	Packing group	II

Proper Shipping Name : Environmentally hazardous substance, liquid, n.o.s. (Contains: Cyphenothrin and d-Tetramethrin)

## SECTION 15 : REGULATORY INFORMATION

Follow all regulations in your country.

Pesticides Act :  
Class : III (Harmful)

CPL Regulations :  
Class : Irritant  
Risk Phrase : R36/38 Irritating to eyes and skin  
R43 May cause sensitisation by skin contact  
R51 Toxic to aquatic organisms.  
R53 May cause long-term adverse effects in the aquatic environment  
Safety Phrase S2 Keep out of reach of children  
S36/37/39 Wear suitable protective clothing, gloves and eyes/face protection  
S24/25 Avoid contact with skin and eyes  
S56 Do not discharge into drains or the environment, dispose of to an authorised waste collection point.

## SECTION 16 : OTHER INFORMATION

- Reference :
- MSDS - Pesguard FG161, Doc. No. SCEA 2003-04-ams
  - MSDS - Pesguard FG-161, date : Nov. 01, 2002  
Sumitomo Chemicals
  - Guidelines for The Classification of Hazardous Chemicals - DOSH 1997
  - Guidelines for The Formulation of A Chemical Safety Data Sheet - DOSH 1997
  - 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.