

MATERIAL SAFETY DATA SHEET

Introductory Details

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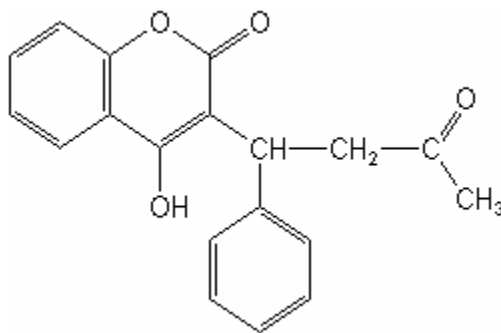
Date of preparation : 10 May 2004

Date revised : 17 October 2008

SECTION 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Details

Product Name : Warfarin 1% Heavy Dust
Trade Name : TIKUMIN 1000
Chemical Name : 3-(alpha-acetylbenzyl)-4-hydroxycoumarin
Chemical Formula : C₁₉H₁₆O₄
Molar Mass : 308
Chemical Family : Coumarin anticoagulant
Manufacturer's Code : -
Use : Rodenticide
Structural Formula :



Warfarin

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

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SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENT

Chemical Name	CAS No.	Proportion	Exposure Limit	Toxicity Data
3-(alpha-acetonylbenzyl)-4-hydroxycoumarin	81-81-2	1%	Refer to Section 9	Refer to Section 11
Carrier & Others	-	Balance		

SECTION 3 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Light purplish powder
Odour	: Slight, characteristic odour
Solubility	: Practically insoluble in water
Boiling Point	: No data available
Melting Point (technical)	: 159 - 164°C
Vapour Pressure	: No data available
Percentage Volatiles	: No data available
Evaporation Rate	: No data available
Vapour Density	: No data available
Specific Gravity	: No data available
Flash Point	: Not applicable
Autoignition Temperature	: Not inflammable
Flammable Limit (%)	: Not inflammable

SECTION 4 : HAZARD IDENTIFICATION

Toxic if swallowed
May cause birth defects.
Danger of serious damage to health by prolonged exposure.

SECTION 5 : FIRST AID MEASURES

Ingestion	: Get prompt medical attention.
Eye contact	: Flush with plenty of water. Obtain medical advice if necessary.
Skin contact	: Remove contaminated clothing and wash skin thoroughly with soap and water.
Inhalation	: Remove victim to fresh air. Get medical attention if necessary.

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Notes to physician :
Poisoning symptoms : Lassitude, bruising, blood stools and urine, prolonged blood clotting time.
Medical treatment : The recommended antidote is Vitamin K1. Maximum dosage of 65 mg must be given 3 times on the first day of treatment and smaller doses between 2 - 20 mg at regular interval should be continued until prothrombin time has reach normal. In severe cases, blood transfusion may be necessary.

SECTION 6 : FIRE FIGHTING MEASURES

Extinguishing media : Foam, CO₂ type fire extinguisher.
Fire fighting instruction : Fire fighters should wear full-faced self-contained breathing apparatus and protective clothing.
Special hazards : No data available

SECTION 7 : ACCIDENTAL RELEASE MEASURE

Leak and/or Spill :
Wear protective clothing as indicated in Section 8. Evacuate non essential personnel. Collect the spill into waste container for disposal. Wash the contaminated area with a little water and detergent. Adsorb with inert material such as clay or earth. Collect into the same container for disposal. Prevent the spillage from entering local drainage system.

SECTION 8 : HANDLING AND STORAGE

Handling : Read the label before use. Wear pesticide respiratory masks, protective gloves and clothing while handling.
Storage : Keep in original containers, tightly closed, in a cool dry and well-ventilated place. Do not store with animal feeds or foodstuffs. Keep out of reach of children or farm animals.

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SECTION 9 : EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure limit (Technical) :

Occupational Exposure Level (OEL)	: TLV 0.1 mg/m ³
NIOSH REL	: TWA 0.1 mg/m ³
IDLH	: 100 mg/m ³
OSHA PEL	: 0.1 mg/m ³
ACGIH TLV	: TWA 0.1 mg/m ³

Engineering measures : Local exhaust ventilation

Personal protection : Wear pesticide respiratory masks, protective gloves and clothing.

SECTION 10 : STABILITY AND REACTIVITY

Conditions to avoid	: Direct sunlight, heat and extreme temperature.
Incompatible	: No data available.
Decomposition products	: No data available.
Hazardous polymerization	: Will not occur.
Stability	: Stable to acids. Stable at normal condition.

SECTION 11 : TOXICOLOGICAL INFORMATION (TECHNICAL)

Toxicity data :

		<u>95% Confidence Intervals</u>	
Acute Oral LD ₅₀	: (Rat) male	80 mg/kg	43.2 - 116.6 mg/kg
	: (Rat) female	10 mg/kg	5.0 - 20.0 mg/kg
Acute Dermal LD ₅₀	: (Rat) male	326.7 mg/kg	217.5 - 604.8 mg/kg
	: (Rat) female ...	200-400 mg/kg	

Carcinogenicity	: No data available
Reproductive effect	: No data available
Effects of overexposure	: No data available
Chronic effects	: No data available
Target organs	: No data available

Medical conditions generally aggravated by exposure : No data available

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SECTION 12 : ECOLOGICAL INFORMATION (TECHNICAL)

Mobility & Bioaccumulation : No data available

Biodegradability : No data available

Aquatic toxicity : No data available

Bee : Non Toxic

Poultry are more resistant than mammals.

SECTION 13 : DISPOSAL INFORMATION

Dispose of waste in accordance with government or local regulations.

SECTION 14 : TRANSPORT INFORMATION

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

SECTION 15 : REGULATORY INFORMATION

Pesticides Act : Class IV

CPL Regulations : Class - Toxic

Risk Phrase : R25 Toxic if swallowed
R47 May cause birth defects
R48 Danger of serious damage to health by prolonged exposure

Safety Phrase : S1/2 Keep out of reach of children
S13 Keep away from food, drink and animal feeding stuff
S44 If you feel unwell, seek medical advice (*show the label where possible*)
S53 Avoid exposure - obtain special instruction before use

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SECTION 16 : OTHER INFORMATION

Reference : (a) Material Safety Data Sheet - Tikumin 1000
Date : 28-7 -2001

(b) Material Safety Data Sheet - Warfarin Technical
Date of preparation : 20-9-2001
Date revised : 17 October 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 Labeling 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.