

MATERIAL SAFETY DATA SHEET

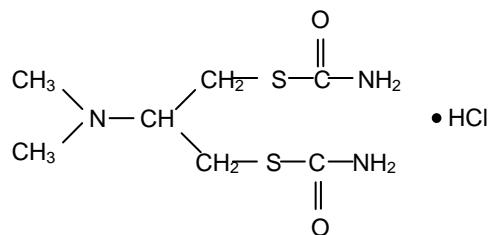
Introductory Details

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Date of preparation : 24 March 2004
Date revised : 4 October 2007

SECTION 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Details

Product Name : Cartap Hydrochloride 4% Granule
Trade Name : PADAN 4G
Chemical Name : S,S'-2-dimethylaminotrimethylene bis (thiocarbamate) hydrochloride
Chemical Formula : $C_7H_{16}ClN_3S_2O_2$
Molar Mass : 273.8
Chemical Family : Thiocarbamate
Manufacturer's Code : -
Use : Insecticide
Structural Formula :



Cartap Hydrochloride

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
S,S'-2-dimethylaminotri-methylene bis (thiocarbamate) hydrochloride	15263-53-3	4%	Refer to Section 9	Refer to Section 11
Surfactant		< 1%		
Carrier & Others	-	Balance		

SECTION 3 : PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Greenish granule
Odour : Characteristic odour
Solubility (technical) : Soluble in water, slightly soluble in ethanol, methanol, insoluble in acetone, benzene, chloroform, diethyl ether, ethyl acetate and n-hexane.
Boiling Point : No data available
Melting Point (Technical) : 179 - 181°C
Vapour Pressure : Negligible
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 : No data available
Flammable Limit (%) : No data available
Corrosive Properties : Corrodes iron, copper and zinc.

SECTION 4 : HAZARD IDENTIFICATION

Harmful if swallowed.
May cause long term adverse effects in the aquatic environment.

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SECTION 5 : FIRST AID MEASURES

Ingestion : Induce vomiting after drinking water. 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.
Inhalation : Remove victim to fresh air, keep warm and at rest.
Notes to physician : Symptomatic treatment is advised. Based on the result of experiment with animals, L-cystaine has an evident life saving efficacy by intraperitoneal injection in mice.
Poisoning symptoms :
 Ingestion : Major clinical signs included nausea, limb tremor, salivation, clonic and occasional tonic convulsion dyspnoea and mydriasis were observed.
 Skin contact : Flare and rash of skin were observed.
 Inhalation : Gasping, labored breathing, excessive salivation, eye closure and reduced activity were observed.
Medical treatment : Intravenous injection of 100 mg L-cysteine.

SECTION 6 : FIRE FIGHTING MEASURES

Extinguishing Media : Foam, water fog, dry chemical and CO₂ type fire extinguisher.
Fire fighting instruction : Fire fighters should wear full-faced self-contained breathing apparatus and protective clothing. Avoid water spray.
Special hazards : Gas in combustion contains nitrogen oxides, sulphur oxides and carbon oxides.
Fire hazard : Not inflammable
Explosion hazard : None

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.

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SECTION 8 : HANDLING AND STORAGE

Handling : Read the label before use. Wear protective clothing such as 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 foodstuff. Keep out of reach of children or farm animals.

SECTION 9 : EXPOSURE CONTROL AND PERSONAL PROTECTION

- a. Exposure Limit : No data available.
b. Engineering measures : Local exhaust ventilation
c. Personal protection : Wear pesticide respiratory masks, protective gloves and clothing.

SECTION 10 : STABILITY AND REACTIVITY

- Conditions to avoid : Direct sunlight, heat and extreme temperature, high humidity
Incompatible : Alkaline materials, oxidizing agents
Decomposition products : Nitrogen oxides, sulphur oxides and carbon oxides on combustion.
Hazardous polymerization : No data available
Stability : Stable under normal conditions.
Stable under acidic condition, unstable under neutral to alkaline condition.
Dust explodability (technical) : 120 - 135 mg/l
Corrosiveness : Corrode iron, copper and zinc.

SECTION 11 : TOXICOLOGICAL INFORMATION (TECHNICAL)

- Toxicity Data :
- | | | | |
|-----------------------------------|---------|--------|------------------|
| Acute Oral LD ₅₀ | : (Rat) | male | 345 mg/kg |
| | | female | 325 mg/kg |
| | (Mice) | male | 150 mg/kg |
| | | female | 154 mg/kg |
| Acute Dermal LD ₅₀ | : (Rat) | | > 2000 mg/kg |
| Acute Inhalation LC ₅₀ | : (Rat) | | 5.7 mg/L (4 hrs) |

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Subacute toxicity : NOEL 15 mg/kg/day in 3-month rat feeding studies.

Chronic toxicity : NOEL 10 mg/kg/day in 2-year rat feeding studies

Irritant to rabbit eyes and skin.

No skin sensitization was induced in guinea pig.

Oncogenicity : No oncogenic effects were observed in 2-year rat or 18-month mouse feeding studies.

Mutagenicity : Not mutagenic in Ames bacterial assay, DNA repair assay and in vivo chromosomal aberration test in mice.

Teratogenicity : No teratogenic effects on rats and rabbits were observed.

Carcinogenicity : No data available.

Reproductive Effect : No adverse effect on reproductive performance in rats was observed.

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.

SECTION 12 : ECOLOGICAL INFORMATION (TECHNICAL)

Mobility & Bioaccumulation : No data available

Biodegradability : No data available

Aquatic Toxicity : Toxic to aquatic organisms

 LC₅₀ (Carp) : 0.6 mg/L (96 hr)

 (Loach) : 0.13 mg/L (48 hr)

 EC₅₀ (*Daphnia magna*): 0.065 mg/L (48 hr)

Toxic to silkworms

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.

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SECTION 15 : REGULATORY INFORMATION

Pesticides Act : Class IV

CPL Regulations : Class - Harmful

Risk Phrases : R22 Harmful if swallowed
R53 May cause long term adverse effects in the aquatic environment

Safety Phrases : S2 Keep out of reach of children
S13 Keep away from food, drink and animal feeding stuff
S56 Do not discharge into drains or the environment, dispose of to an authorised waste collection point

SECTION 16 : OTHER INFORMATION

- Reference : (a) Material Safety Data Sheet - Padan 4G
Date : 28-5-1996
- (b) Material Safety Data Sheet - Padan Technical
Date of preparation : 11th April 2002
- (c) Material Safety Data Sheet - Padan Technical
Sumitomo Chemical Co., Ltd.
Revised : Aug. 29, 2006
MSDS No. : LATA20000Z10
- (d) Guidelines for The Classification of Hazardous Chemicals, DOSH 1997
- (e) Guidelines for The Formulation of A Chemical Safety Data Sheet, DOSH 1997
- (f) 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.