

MATERIAL SAFETY DATA SHEET

Date Printed: 08/09/2006

Date Updated: 02/02/2006

Version 1.3

Section 1 - Product and Company Information

Product Name ANTU PESTANAL (1-(1-NAPHTHYL)- 2-THIOUR
Product Number 45328
Brand RIEDEL

Company Sigma-Aldrich Canada, Ltd
Address 2149 Winston Park Drive
Oakville ON L6H 6J8 CA

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Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
1-(1-NAPHTHYL)-2-THIOUREA	86-88-4	Yes

Formula C11H10N2S
Synonyms Alphanaphthyl thiourea * Alphanaphtyl thiouree
(French) * Alrato * ANTU (ACGIH:OSHA) * Anturat *
Bantu * Chemical 109 * Dirax * Kill kantz *
Krysid * Krysid PI * 1-Naftil-tiourea (Italian) *
alpha-Naftylthiomocovina (Czech) *
1-Naftylthioureum (Dutch) *
1-Naphthalenylthiourea *
alpha-Naphthalthioharnstoff (German) *
alpha-Naphthothiourea *
alpha-Naphthylthiocarbamide *
1-Naphthyl-thioharnstoff (German) * 1-Naphthyl
thiourea * N-(1-Naphthyl)-2-thiourea *
1-(1-Naphthyl)-2-thiourea *
alpha-Naphthylthiourea (DOT:OSHA) *
1-Naphthyl-thiouree (French) * Naphtox * Rattrack
* Rat-TU * RCRA waste number P072 * Smeesana *
Thiourea, 1-naphthalenyl- * U-5227 * USAF
EK-P-5976

RTECS Number: YT9275000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Highly Toxic (USA) Very Toxic (EU).
Very toxic if swallowed. Limited evidence of a carcinogenic effect.
Possible Carcinogen (US).

HMIS RATING

HEALTH: 3*
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING

HEALTH: 3

FLAMMABILITY: 0

REACTIVITY: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe dust. Do not get in eyes, on skin,

on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	0.3 MG/M3
USA	MSHA Standard-air	TWA	0.3 MG/M3
USA	OSHA.	PEL	8H TWA 0.3 MG/M3
New Zealand OEL			
Remarks: check ACGIH TLV			
USA	NIOSH	TWA	0.3 MG/M3

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
Molecular Weight	202.28 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	192.0 - 198.0 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Explosion Limits	N/A	
Flammability	N/A	

Autoignition Temp N/A
Refractive Index N/A
Optical Rotation N/A
Miscellaneous Data N/A
Solubility Other Solvents: H2O 0.6 G/L 25°C

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: May cause eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be fatal if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

Potential symptoms of toxicity following ingestion of large doses are vomiting, dyspnea, cyanosis and coarse pulmonary rales; mild liver damage. May cause glomerular injury in nonlethal poisonings.

TOXICITY DATA

Oral

Rat

6 mg/kg

LD50

Intraperitoneal

Rat

2470 UG/KG

LD50

Remarks: Lungs, Thorax, or Respiration: Acute pulmonary edema.

Lungs, Thorax, or Respiration: Pleural effusion.

Oral

Mouse

5 mg/kg

LD50

Intraperitoneal

Mouse

10 MG/KG

LD50

Oral

Dog
0.38 mg/kg
LD50

Intraperitoneal
Dog
16 MG/KG
LD50

Oral
Monkey
4250 mg/kg
LD50

Intraperitoneal
Monkey
175 MG/KG
LD50

Oral
Cat
500 mg/kg
LD50

Intraperitoneal
Guinea pig
350 MG/KG
LD50

Oral
Chicken
4250 mg/kg
LD50

Intraperitoneal
Chicken
2500 MG/KG
LD50

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Species: Mouse

Route of Application: Subcutaneous

Dose: 5 MG/KG

Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration:Tumors. Blood:Tumors.

IARC CARCINOGEN LIST

Rating: Group 3

ACGIH CARCINOGEN LIST

Rating: A4

CHRONIC EXPOSURE - MUTAGEN

Species: Hamster

Dose: 1600 UG/L

Cell Type: Embryo
Mutation test: Morphological transformation.

Section 12 - Ecological Information

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Naphthylthiourea
UN#: 1651
Class: 6.1
Packing Group: Packing Group II
Hazard Label: Toxic substances.
PIH: Not PIH

IATA

Proper Shipping Name: Naphthylthiourea
IATA UN Number: 1651
Hazard Class: 6.1
Packing Group: II

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: T+
Indication of Danger: Very toxic.
R: 28-40
Risk Statements: Very toxic if swallowed. Limited evidence of a carcinogenic effect.
S: 23-36/37-45
Safety Statements: Do not breathe fumes. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Highly Toxic (USA) Very Toxic (EU).
Risk Statements: Very toxic if swallowed. Limited evidence of a carcinogenic effect.
Safety Statements: Do not breathe fumes. After contact with skin, wash immediately with plenty of soap-suds. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
US Statements: Possible Carcinogen (US).

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes
NOTES: This product is subject to SARA section 313 reporting requirements.
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: Yes

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2006 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.