

MATERIAL SAFETY DATA SHEET

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Version 1.2

Section 1 - Product and Company Information

Product Name	DINOCAP TECHNICAL MIXTURE OF ISOMERS, PESTANAL, 250 MG
Product Number	45452
Brand	RIEDEL
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS MO 63103 US
Technical Phone:	314 771 5765
Emergency Phone:	414 273 3850 Ext. 5996
Fax:	800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
DINOCAP TECHNICAL MIXTURE OF ISOMERS, PESTANAL	39300-45-3	Yes

Formula	C18H24N2O6
Synonyms	Arathane * 2-Butenoic acid, 2-(or 4)-isooctyl-4,6(or 2,6)-dinitrophenyl ester (9CI) * Caprane * Capryldinitrophenyl crotonate * 2-Capryl-4,6-dinitrophenyl crotonate * CR 1639 * Crotonate de 2,4-dinitro 6-(1-methyl-heptyl)-phenyle (French) * Crotonic acid 2,4-dinitro-6-(1-methylheptyl)phenyl ester * Crotonic acid 2,4-dinitro-6-(2-octyl)phenyl ester * Crotothane * 4,6-Dinitro-2-caprylphenyl crotonate * 4,6-Dinitro-2-(2-capryl)phenyl crotonate * 2,4-Dinitro-6-(1-methylheptyl)-phenylcrotonat (German) * Dinitro(1-methylheptyl)phenyl crotonate * 4,6-Dinitro-2-(1-methylheptyl)phenyl crotonate * 2,4-Dinitro-6-(1-methylheptyl)phenyl crotonate * 2,4-Dinitro-6-(2-octyl)phenyl crotonate * Dinocap * Dinokap * Dinokapu (Polish) * DPC (pesticide) * ENT 24727 * Karathane * Karathane 25 * Karathane FN 57 * Karathane WD * (6-(1-Methyl-heptyl)-2,4-dinitro-fenyl)-crotonaat (Dutch) * 2-(1-Methylheptyl)-4,6-dinitrofenylester kyseliny krotonove (Czech) * (6-(1-Methyl-heptyl)-2,3-dinitro-phenyl)-crotonat

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Highly Toxic (USA) Very Toxic (EU).

Harmful if swallowed. Very toxic by inhalation. Irritating to skin.

HMIS RATING

HEALTH: 3
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING

HEALTH: 3
FLAMMABILITY: 0
REACTIVITY: 0

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

FLASH POINT

N/A

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

Cover with dry-lime, sand, or soda ash. Place in covered

containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure. Do not breathe vapor.

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: Government approved respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Liquid Color: Deep brown	
Property	Value	At Temperature or Pressure
Molecular Weight	364.4 AMU	
pH	N/A	
BP/BP Range	138 - 140 °C	0.05 mmHg
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	1.1 g/cm3	20 °C
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	
Flash Point	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	Solubility in Water: Insoluble.	

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.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

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

Eye Contact: May cause eye irritation.

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

Ingestion: Harmful if swallowed.

TOXICITY DATA

Oral

Rat

766 mg/kg

LD50

Remarks: Liver:Other changes.

Inhalation

Rat

360 mg/m3

LC50

Intravenous

Rat

23 MG/KG

LD50

Oral

Mouse

49.5 mg/kg

LD50

Oral

Dog

100 mg/kg

LD50

Oral

Rabbit

3000 mg/kg

LD50

Skin

Rabbit

9400 mg/kg
LD50

CHRONIC EXPOSURE - CARCINOGEN

Species: Mouse
Route of Application: Subcutaneous
Dose: 10 MG/KG
Result: Tumorigenic:Neoplastic by RTECS criteria. Blood:Tumors.

CHRONIC EXPOSURE - TERATOGEN

Species: Mouse
Dose: 50 MG/KG
Route of Application: Oral
Exposure Time: (7-16D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Mouse
Dose: 100 MG/KG
Route of Application: Oral
Exposure Time: (7-16D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Hepatobiliary system.

Species: Mouse
Dose: 200 MG/KG
Route of Application: Oral
Exposure Time: (7-16D PREG)
Result: Specific Developmental Abnormalities: Craniofacial (including nose and tongue).

Species: Hamster
Dose: 800 MG/KG
Route of Application: Oral
Exposure Time: (7-14D PREG)
Result: Specific Developmental Abnormalities: Eye, ear.

Species: Hamster
Dose: 400 MG/KG
Route of Application: Oral
Exposure Time: (7-14D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Mouse
Dose: 120 MG/KG
Route of Application: Oral
Exposure Time: (7-16D PREG)
Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain). Effects on Newborn: Behavioral.

Species: Mouse
Dose: 250 MG/KG
Route of Application: Oral
Exposure Time: (7-16D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Effects on Newborn: Viability index (e.g., # alive at day 4 per # born alive).

Species: Hamster

Dose: 400 MG/KG

Route of Application: Oral

Exposure Time: (8-11D PREG)

Result: Effects on Newborn: Live birth index (# fetuses per litter; measured after birth). Effects on Newborn: Viability index (e.g., # alive at day 4 per # born alive). Effects on Newborn: Growth statistics (e.g., reduced weight gain).

Species: Hamster

Dose: 800 MG/KG

Route of Application: Oral

Exposure Time: (7-14D PREG)

Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Effects on Embryo or Fetus: Fetal death.

Section 12 - Ecological Information

N/A

ACUTE ECOTOXICITY TESTS

Test Type: EC50 Daphnia

Species: Daphnia magna

Time: 48 h

Value: 0.004 mg/l

Test Type: LC50 Fish

Species: Carassius auratus (Goldfish)

Time: 96 h

Value: 0.03 mg/l

Test Type: LC50 Fish

Species: Lepomis macrochirus (Bluegill)

Time: 96 h

Value: 0.02 mg/l

Test Type: LC50 Fish

Species: Onchorhynchus mykiss (Rainbow trout)

Time: 96 h

Value: 0.02 mg/l

ADDITIONAL RESULTS/DATA FROM RELEVANT SCIENTIFIC EXPERIMENTS

Avoid contamination of the environment

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: Toxic, liquids, organic, n.o.s.

UN#: 2810
Class: 6.1
Packing Group: Packing Group I
Hazard Label: Toxic substances.
PIH: Not PIH

IATA

Proper Shipping Name: Toxic liquid, organic, n.o.s.
IATA UN Number: 2810
Hazard Class: 6.1
Packing Group: I

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: Xn
Indication of Danger: Harmful.
R: 22 38
Risk Statements: Harmful if swallowed. Irritating to skin.
S: 37
Safety Statements: Wear suitable gloves.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Highly Toxic (USA) Very Toxic (EU).
Risk Statements: Harmful if swallowed. Very toxic by inhalation.
Irritating to skin.
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. 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).

UNITED STATES REGULATORY INFORMATION

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

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: No

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 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.