



SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 09/03/2008
Date Updated: 01/30/2006
Version 1.30

Section 1 - Product and Company Information

Product Name Dipyrnidamole, minimum 98% TLC
Product Number D9766
Brand Sigma Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

<u>Substance Name</u>	<u>CAS #</u>	<u>SARA 313</u>	<u>EC no</u>	<u>Annex I Index Number</u>
DIPYRIDAMOLE	58-32-2	No	200-374-7	

Formula C24H40N8O4
Synonyms Anginal, 2,6-Bis(diethanolamino)-4,8-dipiperidinopyrimido(5,4-d)pyrimidine, Cardoxin, Cleridium 150, Coronarine, Curantyl, 2,2',2'',2'''-(4,8-Dipiperidinopyrimido(5,4-d)pyrimidine-2,6-diyl(dinitrilo)tetraethanol, Dipyrnidamine, Dipyrnidamol, Dipyrnidamole, Dipyrnidan, Dipyrnidamine, Gulliostin, Natyl, Peridamol, Persantin, Persantine, Piroan, Prandiol, RA 8, Pyrimido(5,4-d)pyrimidine, 2,6-bis(bis(2-hydroxyethyl)amino)-4,8-dipiperidino-, USAF GE-12

Section 3 - Hazards Identification

Emergency Overview

Irritant.
Irritating to eyes, respiratory system and skin.
Target organ(s): Heart, Blood.

HMIS Rating

Health: 1 Flammability: 0 Reactivity: 1

NFPA Rating

Flammability: 0 Reactivity: 1

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.

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 contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

Autoignition Temp: 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(s) of Personal Precaution(s)

Wear respirator, chemical safety goggles, 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. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed. Store in a cool dry place. Store in the dark. Store at -20°C

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Mechanical exhaust required.

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 dust mask type N95 (US) or type P1 (EN 143) respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	
Physical State	Color
Solid	White
Molecular Weight	504.64 AMU
pH	N/A
BP/BP Range	N/A
MP/MP Range	165 - 166 °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
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point °F	N/A
Flash Point °C	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable
Stable.

Conditions to Avoid
Light.

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
Causes eye irritation.

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

Ingestion
May be harmful if swallowed.

Target Organ(s) or System(s)
Heart, Blood.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: KK7450000

Toxicity Data

Oral - Man: 1,429 mg/kg (LDLO)
Remarks: Cardiac: Cardiomyopathy including infarction.

Oral - Man: 1,429 mg/kg (LDLO)
Remarks: Cardiac: Cardiomyopathy including infarction.

Oral - Rat: 8400 mg/kg (LD50)
Remarks: Behavioral: Altered sleep time (including change in righting reflex).
Behavioral: Somnolence (general depressed activity).
Behavioral: Irritability.

Oral - Rat: 8400 mg/kg (LD50)
Remarks: Behavioral: Altered sleep time (including change in righting reflex).
Behavioral: Somnolence (general depressed activity).
Behavioral: Irritability.

Subcutaneous - Rat: 1650 MG/KG (LD50)
Remarks: Behavioral: Somnolence (general depressed activity).
Lungs, Thorax, or Respiration: Respiratory depression.
Behavioral: Ataxia.

Intraperitoneal - Rat: 1260 MG/KG (LD50)

Intravenous - Rat: 195 MG/KG (LD50)
Remarks: Lungs, Thorax, or Respiration: Respiratory depression.
Gastrointestinal: Hypermotility, diarrhea.

Subcutaneous - Rat: 1650 MG/KG (LD50)
Remarks: Behavioral: Somnolence (general depressed activity).
Lungs, Thorax, or Respiration: Respiratory depression.
Behavioral: Ataxia.

Oral - Mouse: 2150 mg/kg (LD50)

Intravenous - Rat: 195 MG/KG (LD50)
Remarks: Lungs, Thorax, or Respiration: Respiratory depression.
Gastrointestinal: Hypermotility, diarrhea.

Intraperitoneal - Mouse: 150 MG/KG (LD50)

Oral - Mouse: 2150 mg/kg (LD50)

Intraperitoneal - Mouse: 150 MG/KG (LD50)
Subcutaneous - Mouse: 2700 MG/KG (LD50)
Intravenous - Mouse: 85 MG/KG (LD50)
Subcutaneous - Mouse: 2700 MG/KG (LD50)
Intravenous - Mouse: 85 MG/KG (LD50)
Oral - Rabbit: 4250 mg/kg (LD50)

Chronic Exposure- Mutagen

<u>Species</u>	<u>Dose</u>	<u>Route</u>	<u>Mutation test</u>
Rat	40 MG/KG	Intravenous	DNA inhibition
Rat	40 MG/KG	Intravenous	DNA inhibition
Rat	200 NMOL/L	liver	DNA inhibition
Rat	200 NMOL/L	liver	DNA inhibition
Rat	300 NMOL/L	liver	Other mutation test systems
Rat	300 NMOL/L	liver	Other mutation test systems
Mouse	60 UOMOL/L	Ascites tumor	Other mutation test systems
Mouse	60 UOMOL/L	Ascites tumor	Other mutation test systems

Section 12 - Ecological Information

No data available.

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: None
Non-Hazardous for Transport This substance is considered to be nonhazardous for transport.

IATA

Non-Hazardous for Air Transport Non-hazardous for air transport.

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: Xi

Indication of Danger

Irritant.

Risk Statements R: 36/37/38

Irritating to eyes, respiratory system and skin.

Safety Statements S: 26 36

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

US Classification and Label Text

Indication of Danger

Irritant.

Risk Statements

Irritating to eyes, respiratory system and skin.

Safety Statements

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

US Statements

Target organ(s): Heart, Blood.

United States Regulatory Information

SARA Listed: No

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. SigmaAldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.