

## MATERIAL SAFETY DATA SHEET

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Version 1.3

## Section 1 - Product and Company Information

Product Name	DL-PROPRANOLOL HCL
Product Number	P0884
Brand	SIGMA
Company	Sigma-Aldrich Canada, Ltd
Address	2149 Winston Park Drive Oakville ON L6H 6J8 CA
Technical Phone:	9058299500
Fax:	9058299292
Emergency Phone:	800-424-9300

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
PROPRANOLOL HYDROCHLORIDE	318-98-9	No

Formula C16H21NO2.ClH

Synonyms Anaprilin \* DL-Anapriline \* Avlocardyl \* AY 64043  
\* Berkolol \* beta-NEG \* Caridorol \* Deralin \*  
Dociton \* Duranol \* Frekven \* ICI 45520 \* Inderal  
\* Inderal LA \* Indobloc \*  
1-(Isopropylamino)-3-(alpha-naphthoxy)-2-propanol  
hydrochloride \*  
1-(Isopropylamino)-3-(1-naphthyloxy)propan-2-ol  
hydrochloride \*  
1-(Isopropylamino)-3-(1-naphthyloxy)-2-propanol  
hydrochloride \*  
1-(1-Naphthyloxy)-2-hydroxy-3-isopropylaminopropan  
e hydrochloride \* Naprilin \* NSC-91523 \* Obsidan  
\* Oposim \* DL-Propranolol hydrochloride \*  
(R,S)-Propranolol hydrochloride \*  
(+)-Propranolol hydrochloride \* 2-Propanol,  
1-((1-methylethyl)amino)-3-(1-naphthalenyloxy)-,  
hydrochloride \* Propraratiopharm \* Pylapron \*  
Rapynogen \* Tesnol

RTECS Number: UB7525000

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Toxic (USA) Harmful (EU).

Harmful if swallowed.

Target organ(s): Cardiovascular system.

## HMIS RATING

HEALTH: 2\*

FLAMMABILITY: 0

REACTIVITY: 0

## NFPA RATING

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 0

\*additional chronic hazards present.

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

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#### Section 4 - First Aid Measures

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##### 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 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.

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#### Section 5 - Fire Fighting Measures

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##### 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.

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#### Section 6 - Accidental Release Measures

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##### 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.

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#### Section 7 - Handling and Storage

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#### 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 at 2-8°C

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#### Section 8 - Exposure Controls / PPE

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##### ENGINEERING CONTROLS

Mechanical exhaust required. Safety shower and eye bath.

##### 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 N99 (US) or type P2 (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 thoroughly after handling.

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#### Section 9 - Physical/Chemical Properties

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Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
Molecular Weight	295.81 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	163.0 - 165.0 °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	
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	N/A	

N/A = not available

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## Section 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Strong acids.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Hydrogen chloride gas.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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## Section 11 - Toxicological Information

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

Ingestion: Harmful if swallowed.

### TARGET ORGAN(S) OR SYSTEM(S)

Cardiovascular system.

### SIGNS AND SYMPTOMS OF EXPOSURE

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

### TOXICITY DATA

Intravenous Oral

Woman Woman

64 mg/kg

40 UG/KG

LDLO LDLO

Remarks: Cardiac:Arrhythmias (including changes in conduction).

Lungs, Thorax, or Respiration:Acute pulmonary edema.

Behavioral:General anesthetic. Behavioral:Coma. Cardiac:EKG changes not diagnostic of above.

Oral Oral

Rat Man

466 mg/kg 34 mg/kg

LD50 LDLO

Remarks: Behavioral:Convulsions or effect on seizure threshold.

Cardiac:Pulse rate. Vascular:BP lowering not characterized in autonomic section.

Intraperitoneal Intravenous

Rat Woman

76 MG/KG 40 UG/KG

LD50 LDLO

Remarks: Lungs, Thorax, or Respiration:Dyspnea.

Behavioral:Irritability. Behavioral:Muscle weakness.

Cardiac:Arrhythmias (including changes in conduction). Lungs, Thorax, or Respiration:Acute pulmonary edema.

Subcutaneous Oral

Rat Rat

466 mg/kg

115 MG/KG

LD50 LD50

Remarks: Nutritional and Gross Metabolic:Changes in:Body temperature decrease. Behavioral:Convulsions or effect on seizure threshold. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Mydriasis (pupilliary dilation).

Intravenous Intraperitoneal

Rat Rat

21 MG/KG 76 MG/KG

LD50 LD50

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Mydriasis (pupilliary dilation). Nutritional and Gross Metabolic:Changes in:Body temperature decrease. Behavioral:Convulsions or effect on seizure threshold. Behavioral:Muscle weakness. Behavioral:Irritability. Lungs, Thorax, or Respiration:Dyspnea.

Oral Subcutaneous

Mouse Rat

320 mg/kg

115 MG/KG

LD50 LD50

Remarks: Nutritional and Gross Metabolic:Changes in:Body temperature decrease. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Mydriasis (pupilliary dilation). Behavioral:Convulsions or effect on seizure threshold.

Intraperitoneal Intravenous

Mouse Rat

80 MG/KG 21 MG/KG

LD50 LD50

Remarks: Behavioral:Convulsions or effect on seizure threshold. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Mydriasis (pupilliary dilation). Nutritional and Gross Metabolic:Changes in:Body temperature decrease.

Subcutaneous Oral

Mouse Mouse

320 mg/kg

208 MG/KG

LD50 LD50

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Mydriasis (pupilliary dilation). Nutritional and Gross Metabolic:Changes in:Body temperature decrease. Behavioral:Convulsions or effect on seizure threshold.

Intravenous Intraperitoneal

Mouse Mouse

18 MG/KG 80 MG/KG

LD50 LD50

Oral Subcutaneous

Rabbit Mouse

600 mg/kg

208 MG/KG

LD50 LD50

Remarks: Behavioral:Convulsions or effect on seizure threshold. Nutritional and Gross Metabolic:Changes in:Body temperature

decrease. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Mydriasis (pupillary dilation).

Intravenous Intravenous  
Rabbit Mouse  
12500 UG/KG 18 MG/KG  
LD50 LD50

Oral  
Rabbit  
600 mg/kg  
LD50

Intravenous  
Rabbit  
12500 UG/KG  
LD50

#### CHRONIC EXPOSURE - TERATOGEN

Species: Rat  
Dose: 130 MG/KG  
Route of Application: Implant  
Exposure Time: (7-19D PREG)  
Result: Effects on Embryo or Fetus: Other effects to embryo.  
Specific Developmental Abnormalities: Respiratory system.

#### CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Woman Woman  
Dose: 48 MG/KG 48 MG/KG  
Route of Application: Oral Oral  
Exposure Time: (25-34W PREG) (25-34W PREG)  
Result: Effects on Newborn: Other neonatal measures or effects.  
Effects on Newborn: Biochemical and metabolic. Effects on  
Newborn: Other neonatal measures or effects. Effects on Newborn:  
Biochemical and metabolic.

Species: Rat Rat  
Dose: 150 MG/KG 150 MG/KG  
Route of Application: Oral Oral  
Exposure Time: (8-18D PREG) (8-18D PREG)  
Result: Effects on Newborn: Growth statistics (e.g., reduced  
weight gain). Effects on Newborn: Growth statistics (e.g.,  
reduced weight gain).

Species: Rat Rat  
Dose: 60 MG/KG 60 MG/KG  
Route of Application: Oral Oral  
Exposure Time: (18-22D PREG) (18-22D PREG)  
Result: Effects on Newborn: Behavioral. Effects on Newborn:  
Behavioral.

Species: Rabbit Rabbit  
Dose: 10500 UG/KG 10500 UG/KG  
Route of Application: Intravenous Intravenous  
Exposure Time: (7D PRE) (7D PRE)  
Result: Effects on Fertility: Pre-implantation mortality (e.g.,  
reduction in number of implants per female; total number of  
implants per corpora lutea). Effects on Fertility: Mating  
performance (e.g., # sperm positive females per # females mated;  
# copulations per # estrus cycles). Effects on Fertility: Other

measures of fertility Effects on Fertility: Other measures of fertility Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Fertility: Mating performance (e.g., # sperm positive females per # females mated; # copulations per # estrus cycles).

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## Section 12 - Ecological Information

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No data available.

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## Section 13 - Disposal Considerations

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### 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.

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## Section 14 - Transport Information

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### DOT

Proper Shipping Name: None  
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

### IATA

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

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## Section 15 - Regulatory Information

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### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xn  
Indication of Danger: Harmful.  
R: 22  
Risk Statements: Harmful if swallowed.

### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Toxic (USA) Harmful (EU).  
Risk Statements: Harmful if swallowed.  
Safety Statements: Wear suitable protective clothing.  
US Statements: Target organ(s): Cardiovascular system.

### 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

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## Section 16 - Other Information

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### 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 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.