Section 1 - Product and Company Information

Product Name: TIMOLOL MALEATE
Product Number: T6394
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: S(-)-TIMOLOL MALEATE
CAS #: 26921-17-5
SARA 313: No

Formula: C13H24N4O3S · C4H4O4
Synonyms: Betime *
(-)-1-(tert-Butylamino)-3-((4-morpholino-1,2,5-thiadiazol-3-yl)oxy)-2-propanol maleate * MK 950 *
Timacor * Timolol hydrogen maleate * (S)-Timolol hydrogen maleate * Timolol maleate * 1-Timolol maleate * Timoptic * Timoptol

RTECS Number: UA8475000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Harmful.
Possible risk of harm to the unborn child. Harmful if swallowed.
Target organ(s): Cardiovascular system.

HMIS RATING
HEALTH: 1*
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING
HEALTH: 1
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.
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
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.

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

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<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
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N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Conditions of Instability: Light sensitive.

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: 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. Exposure can cause nausea, vomiting, diarrhea, fatigue, dizziness, bradycardia, congestive heart failure, heart block, hypotension, cold extremities, depression, and disturbances of sleep and vision.

TOXICITY DATA

Ocular
Woman
5 UG/KG
LDLO
Remarks: Cardiac:Other changes. Lungs, Thorax, or Respiration:Structural or functional change in trachea or bronchi.

Oral
Rat
1028 mg/kg
LD50

Intraperitoneal
Rat
381 MG/KG
LD50

Subcutaneous
Rat
881 MG/KG
LD50

Oral
Mouse
1137 mg/kg
LD50

Intraperitoneal
Mouse
300 MG/KG
LD50
Subcutaneous Mouse
805 MG/KG
LD50

CHRONIC EXPOSURE - TERATOGEN
Result: Possible risk of congenital malformation in the fetus.

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 non-hazardous for transport.

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

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION
Symbol of Danger: Xn
Indication of Danger: Harmful.
R: 63-22
Risk Statements: Possible risk of harm to the unborn child. Harmful if swallowed.
S: 36
Safety Statements: Wear suitable protective clothing.

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Harmful.
Risk Statements: Possible risk of harm to the unborn child. 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

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
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