Safety Data Sheet

For Compliance with OSHA 29 CFR 1910.1200 and ANSI Z400.1-1998

Section 1: Identification

Product Name Timolol Maleate USP
Commercial Name Betime, Timacor, Timoptic, Timoptol
Product Use Antiglaucoma agent, Antihypertensive, Antianginal
Restrictions On Use Not available

Product Code 55-2003

Company
PCCA
9901 South Wilcrest
Houston, TX 77099
Phone: 1-800-331-2498
Fax: 1-800-874-5760

In case of emergency contact:
CHEMTREC (24hr) 1-800-424-9300

Section 2: Hazard(s) Identification

OSHA Haz Com: CFR 1910.1200 Acute toxicity, oral Category: 4 Specific target organ toxicity, single exposure Category 1 (cardiovascular system)

Signal Word DANGER

Hazard Statement(s) Harmful if swallowed. Causes damage to organs (cardiovascular system)

Pictogram(s) or Symbol(s)

Precautionary Statement(s):

Prevention Do not breathe dust. Wash thoroughly after handling.
Response If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If exposed: Call a poison center/doctor.
Storage Store locked up.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3: Composition/Information on Ingredients

Substance/Mixture Substance
Components Timolol Maleate USP
% By Weight 100
CAS# 26921-17-5
Molecular Weight 432.49 g/mole
Chemical Formula C13-H24-N4-O3-S.C4-H4-O4
Synonym(s) (-)-1-(tert-Butylamino)-3-((4-morpholino-1,2,5-thiadiazol-3-yl)oxy)-2-propanol maleate; (S)-Timolol hydrogen maleate; 1-Timolol maleate; Timolol hydrogen maleate

Mixtures

Name	CAS#	% by Weight	TLV/PEL	LC50/LD50
Timolol Maleate USP	26921-17-5	100%	Not Available.	ORAL (LD50): Acute: 1028 mg/kg [Rat]. 1137 mg/kg [Mouse].

Section 4: First-Aid Measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin Contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye Contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	If ingestion of a large amount does occur, call a poison control center immediately. Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Symptoms/Effects	
Acute	Cardiovascular effects. Pharmacologically active material. Occupational exposure may cause physiological effects
Delayed	Cardiovascular effects. Pharmacologically active material. Occupational exposure may cause physiological effects

Immediate Medical Attention

Treat symptomatically. For beta-adrenergic blockers: Treatment may include the following: Do NOT induce vomiting. Administer activated charcoal as a slurry and perform gastric lavage to decrease absorption. Gastric lavage may increase vagal tone. Maintain an open airway and assist ventilation if necessary. Perform an early echocardiographic evaluation. For mild hypotension, administer IV fluids. If severe, administer IV glucagon, calcium, or catecholamines (dopamine, norepinephrine, epinephrine). Concurrent high-dose insulin euglycemia therapy may allow for a decrease in the dose of catecholamine. For bradycardia, administer IV atropine, glucagon, and isoproterenol. Cardiac pacing may also be needed. Sodium bicarbonate may be helpful for dysrhythmias and conduction defects. For bronchospasm, administer nebulized bronchodilators. Systemic corticosteroids may also be beneficial. For seizures, administer a benzodiazepine (diazepam or lorazepam) intravenously. Muscle relaxants and artificial ventilation may also be required. For hypoglycemia, administer glucose or glucagon.

Section 5: Fire-Fighting Measures

Suitable Extinguishing Media

Water. Foam. Dry chemical or CO2. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable Extinguishing Media

Not available

Products of Combustion

No unusual fire or explosion hazards noted

Firefighters Special Equipment and Precautions

Wear suitable protective equipment. As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing. Use standard firefighting procedures and consider the hazards of other involved materials

Section 6: Accidental Release Measures

Keep unnecessary personnel away. Wear appropriate personal protective equipment. Avoid inhalation of dust from the spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. For personal protection, see section 8 of the SDS Methods and materials for containment and cleaning up: Avoid the generation of dusts during clean-up. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

Section 7: Handling and Storage

Handling: As a general rule, when handling USP materials, avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Clean equipment and work surfaces with suitable detergent or solvent after use. After removing gloves, wash hands and other exposed skin thoroughly. Select and use containment devices and personal protective equipment based on a risk assessment of material potency and exposure potential Storage: Store in tight container. This material should be handled and stored per label instructions to ensure product integrity.

Section 8: Exposure Controls/Personal Protection

Exposure Limits	The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits. TWA 10 micrograms/m3
Engineering Controls	For laboratory operations, use local exhaust ventilation or a ventilated enclosure for high energy operations such as particle sizing. Control exposures to below the occupational exposure level (if available). Select and use containment devices and personal protective equipment based on a risk assessment of exposure potential. Cover all containers for solutions and slurries while being transferred.
Personal Protection	Eye/face protection: Wear safety glasses with side shields, chemical splash goggles, or full face shield, if necessary. Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available. Skin protection Hand protection: Wear nitrile or other impervious gloves if skin contact is possible. When the material is dissolved or suspended in an organic solvent, wear gloves that provide protection against the solvent. Other: Train employees in proper gowning and degowning practices. Wear lab coat. Base the choice of skin protection on the job activity, potential for skin contact and solvents and reagents in use. Do not wear protective garments in common areas (e.g., cafeterias) or out-of-doors. Respiratory protection: Respirators are generally not required for laboratory operations. Use a tight-fitting full-face respirator with HEPA filters for spill cleanup. Choose respiratory protection appropriate to the task and the level of existing engineering controls. Thermal hazards: Wear appropriate thermal protective clothing, when necessary. General hygiene considerations: Handling practices in this SDS are recommendations for laboratory use of USP materials.

Section 9: Physical and Chemical Properties

Appearance	White powder. Solid.
Odor	Odorless Almost odorless.
Odor Threshold	Not available

Melting Point	390.2 - 397.4 °F (199 - 203 °	**pH**	in aqueous solution 3.8 - 4.3 Solut
Freezing Point	Not available	**Vapor Pressure**	Not applicable.
Boiling Point/Range	Not available.	**Vapor Density**	Not available.
Decomposition temperature	Not available	**Viscosity**	Not available.
Partition Coefficient: n-octanol/water	Not available	**Evaporation Rate**	Not available
Flash Point	Not available.	**Autoignition temperature**	Not available
Flammability	Not available	**Flammability or Explosive Limits:**	
		Lower	Not available
		Upper	Not available

Solubility(ies)	Soluble in water.
Other	Alcohol: Soluble. Chloroform: Sparingly soluble. Cyclohexane: Insoluble. Ether: Insoluble. Methanol: Soluble. Propylene glycol: Sparingly soluble. Chemical family Morpholine derivative. Molecular formula C13H24N4O3S . C4H4O4 Molecular weight 432.49 g/mol

Section 10: Stability and Reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport
Chemical Stability	Material is stable under normal conditions.
Hazardous Polymerization	No dangerous reaction known under conditions of normal use
Conditions to Avoid	Contact with incompatible materials.
Incompatible Materials	Oxidizing agents.
Hazardous Decomposition Products	rritating and/or toxic fumes or gases. Emits toxic fumes under fire conditions. NOx. SOx

Section 11: Toxicological Information

RTECS UA8475000

Acute Toxicity
Harmful if swallowed. Acute Oral LD50 Mouse 1137 mg/kg Rat 1028 mg/kg

Skin Corrosion/Irritation
Not available

Serious Eye Damage/Irritation
Not available

Respiratory or Skin Sensitization
Not available

Germ Cell Mutagenicity
Not available

Carcinogenicity
Not available

Reproductive Toxicity
Knowledge about health hazard is incomplete Some beta-adrenergic blocking agents have been reported to cause fetal and neonatal bradycardia, hypotension, and hypoglycemia when administered during pregnancy, and may also be associated with fetal growth retardation

Routes of Entry
Eye. Ingestion.

Symptoms Related to Exposure
Beta-adrenergic blockers: Gastrointestinal disturbances. Headache. Mood or mental changes Drowsiness. Weakness. Insomnia. Nervousness. Visual disturbances. Swelling of feet or legs. Muscle, joint, or chest paint. Seizures. Coma. Cardiovascular effects. Respiratory depression.

Potential Health Effects
Pharmacologically active material. Occupational exposure may cause physiological effects

Target Organ(s) Causes damage to organs (cardiovascular system)

Section 12: Ecological Information

Ecotoxicity
Aquatic Crustacea LC50 Water flea (Daphnia magna) 161 mg/l, 48 hours Fish LC50 Fathead minnow (Pimephales promelas) 411 mg/l, 96 hours

Persistance and Degradability
Not available

Bioaccumulative Potential
Not available

Mobility in Soil
Not available

Other Adverse Effects
Not available

Section 13: Disposal Considerations

Waste Disposal
Dispose in accordance with all applicable regulations. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. The waste code should be assigned in discussion between the user, the producer and the waste disposal company Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions)

Disposal of Container
Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Other Considerations
Not available

Section 14: Transport Information

DOT Classification
Not a DOT controlled material (United States). This material is not classified dangerous good according to international transportation regulations (ADR/RID-IMDG-ICAO/IATA).

Section 15: Regulatory Information

Regulations
US federal regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200 Toxic Substances Control Act (TSCA) TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not regulated. CERCLA Hazardous Substance List (40 CFR 302.4) Not listed. SARA 304 Emergency release notification Not regulated. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053) Not listed. SARA 302 Extremely hazardous substance Superfund Amendments and Reauthorization Act of 1986 (SARA) Not listed. YesSARA 311/312 Hazardous chemical Acute toxicity (any route of exposure) Specific target organ toxicity (single or repeated exposure) Classified hazard categories SARA 313 (TRI reporting) Not regulated. Other federal regulations Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List Not regulated. Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) Not regulated. Not regulated.Safe Drinking Water Act (SDWA) US state regulations California Proposition 65 California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov

Other
Not available

Section 16: Other Information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.