


SECTION 1: PRODUCT IDENTIFICATION

PRODUCT NAME	DILTIAZEM HYDROCHLORIDE, USP
PRODUCT CODE	0227
SUPPLIER	MEDISCA Inc. Tel.: 1.800.932.1039 Fax.: 1.855.850.5855 661 Route 3, Unit C, Plattsburgh, NY, 12901 6641 N. Belt Line Road, Suite 130, Irving, TX, 75063 MEDISCA Pharmaceutique Inc. Tel.: 1.800.665.6334 Fax.: 514.338.1693 4509 Rue Dobrin, St. Laurent, QC, H4R 2L8 21300 Gordon Way, Unit 153/158, Richmond, BC V6W 1M2 MEDISCA Australia PTY LTD Tel.: 1.300.786.392 Fax.: 61.2.9700.9047 Unit 7, Heritage Business Park 5-9 Ricketty Street, Mascot, NSW 2020
EMERGENCY PHONE	CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 NSW Poisons Information Centre: 131 126 National Chemical Emergency Centre 44(0)1235239670
RECOMMENDED USES	Manufacturing and Compounding
RESTRICTIONS ON USE	Not applicable

SECTION 2: HAZARDS IDENTIFICATION

GHS CLASSIFICATION	Acute Toxicity - Oral (Category 4) Acute Toxicity - Dermal (Category 3) Skin Irritation (Category 2) Eye Irritation (Category 2A) Specific Target Organ Toxicity - Single Exposure (Category 2) - (cardiovascular system) Sensitization - Skin (Category 1) Toxic to Reproduction (Category 2) Toxic to Reproduction (Effects on or via lactation) Acute Aquatic Toxicity (Category 3)
PICTOGRAM	
SIGNAL WORD	Danger

HAZARD STATEMENT(S)

Harmful if swallowed.
 Toxic in contact with skin.
 Causes skin irritation.
 Causes serious eye irritation.
 May cause damage to organs (cardiovascular system).
 May cause an allergic skin reaction.
 Suspected of damaging fertility or the unborn child.
 May cause harm to breast-fed children.
 Harmful to aquatic life.

ADVERSE PHYSIOCHEMICAL, HUMAN HEALTH AND ENVIRONMENTAL EFFECTS

Repeated exposure may cause skin dryness or cracking.

PRECAUTIONARY STATEMENT(S)
Prevention

Wash hands thoroughly after handling. Do not touch eyes.
 Do not breathe dust, fume, gas, mist, vapors and spray.
 Do not eat, drink or smoke when using this product.
 Obtain, read and follow all special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Wear protective gloves, protective clothing, eye and face protection and hearing protection.
 Contaminated work clothing should not be allowed out of the workplace.
 Avoid contact during pregnancy and while nursing.
 Avoid release to the environment.

Response

IF SWALLOWED: Immediately call a poison center. Get medical help. Rinse mouth.
 IF ON SKIN (HAIR): Wash with plenty of water; Get emergency help immediately.
 Immediately call a poison center or medical professional; Take off immediately all contaminated clothing and wash it before reuse.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical help.
 IF EXPOSED: Get emergency medical help immediately. Call a poison center or doctor.

Storage

Store locked up.

Disposal

Dispose of contents and/or container in accordance with local regulations.

HMIS CLASSIFICATION
Health Hazard

2

Flammability

0

Reactivity

0

Personal Protection

G

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS
CHEMICAL NAME

1, 5-Benzothiazepin-4 (5H)-one, 3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride, (+)-cis-

BOTANICAL NAME

Not applicable

SYNONYM

Not applicable

CHEMICAL FORMULA

C₂₂H₂₆N₂O₄S . HCl

CHEMICAL FAMILY

A benzothiazepine derivative with vasodilating action.

CAS NUMBER

33286-22-5

ALTERNATE CAS NUMBER

Not applicable

MOLECULAR WEIGHT

450.98

COMPOSITION

CHEMICAL NAME	CAS NUMBER	EC NUMBER	% BY WEIGHT
DILTIAZEM HCl	33286-22-5	251-443-3	100

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as health hazards and hence require reporting in this section.

SECTION 4: FIRST-AID MEASURES

IN CASE OF EYE CONTACT	Flush with copious amounts of water for 15 minutes, separating eyelids with fingers. If irritation persists seek medical aid.
IN CASE OF SKIN CONTACT	Wash with soap & water for 15 minutes. If irritation persists seek medical aid.
IF SWALLOWED	Call a physician. Wash out mouth with water. Do not induce vomiting without medical advice.
IF INHALED	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
MEDICAL ATTENTION AND SPECIAL TREATMENT	Get emergency medical help.
SYMPTOMS CAUSED BY EXPOSURE	Not expected to present a significant hazard under anticipated conditions of normal use.

SECTION 5: FIREFIGHTING MEASURES

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL	Not applicable
FLAMMABLE PROPERTIES	May be combustible at high temperature.
HAZARDOUS COMBUSTION PRODUCTS	Under fire conditions, hazardous fumes will be present.
SUITABLE & UNSUITABLE EXTINGUISHING MEDIA	Small fire: dry chemical, CO ₂ or water spray. Large fire: dry chemical, CO ₂ , alcohol resistant foam or water spray. Do not get water inside containers.
PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS	Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
METHODS & MATERIAL FOR CONTAINMENT	On land, sweep or shovel into suitable containers. Minimize generation of dust.
CLEANUP PROCEDURE	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Shut off all sources of ignition. Evacuate the area. If necessary, employ water fog to disperse the vapors. Absorb the matter with compatible vermiculite or other absorbing material. Place in a suitable container and retain for disposal. Ventilate and clean the affected area. Do not flush into sewerage system or to drains.
REFERENCE TO OTHER SECTIONS	See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Do not inhale. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Wash thoroughly after handling. Store away from incompatible materials, in a well-ventilated area. Eliminate all sources of ignition. Store in accordance with local regulations. Do not store in unlabeled containers. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Use appropriate containment to avoid environmental contamination.

CONDITIONS FOR SAFE STORAGE

Store away from incompatible materials, in a well-ventilated area. Eliminate all sources of ignition. Store in accordance with local regulations. Do not store in unlabeled containers. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Use appropriate containment to avoid environmental contamination.

STORAGE CONDITIONS

Store in original container, tightly sealed, protected from direct sunlight and moisture.

Short term excursions, temperature excursions as experienced during shipping and warehousing, up to 40 °C are acceptable.

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

Chemical Name: DILTIAZEM HCl CAS #: 33286-22-5

	Country	Limit value-8 hours		Limit value-Short Term		IDLH	REL	Advisory	Notes
		ppm	mg/m ³	ppm	mg/m ³				
OSHA	USA	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
ACGIH	USA	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
NIOSH	USA	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
WEEL	USA	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
HSIS	Australia	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
HSE	UK	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A
GESTIS	Add Country	N/L	N/L	N/L	N/L	N/L	N/L	N/A	N/A

N/L = Not listed ; N/A = Not Available

PELs are 8-hour TWAs = Limit value - Eight hours

Ceiling or Short-Term TWA = STEL = Limit value - Short term

EXPOSURE GUIDELINES

Consult local authorities for provincial or state exposure limits. Particulates not otherwise regulated, respirable fraction: 5 mg/m³

PERSONAL PROTECTIVE EQUIPMENT

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by WHMIS or OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. **Skin:** Wear appropriate gloves to prevent skin exposure. **Clothing:** Wear appropriate protective clothing to minimize contact with skin. **Respirators:** Follow WHMIS or OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. **Thermal Hazards:** For products representing a thermal hazard, appropriate Personal Protective Equipment should be used.

SPECIFIC ENGINEERING CONTROLS

Adequate mechanical ventilation. Fumehood, eye wash station, and safety shower.

BIOLOGICAL MONITORING

Not available

CONTROL BANDING

Not available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES
PHYSICAL STATE

Solid

DESCRIPTION	White or almost white, odorless, crystalline powder or small crystals.				
SOLUBILITY	Freely soluble in chloroform, in formic acid, in methanol, and in water; sparingly soluble in dehydrated alcohol; insoluble in ether.				
ODOR	Odorless				
FLAMMABILITY	May be combustible at high temperature				
AUTO-IGNITION TEMPERATURE	Not available	BOILING POINT	Not available	DECOMPOSITION TEMPERATURE	Not available
EVAPORATION RATE	Not available	EXPLOSIVE LIMIT	Not available	FLASH POINT	Not available
log P (OCTANOL-WATER)	2.7 (20 °C)	LOWER FLAMMABLE/EXPLOSIVE LIMIT(S)	Not available	MELTING/FREEZING POINT	(207 - 212)°C, (404.6-413.6)°F
PARTICLE CHARACTERISTICS	Not available	OXIDIZING PROPERTY	Not available	pH	4.3 - 5.3 (1%)
RELATIVE DENSITY (WATER = 1)	Not available	SPECIFIC GRAVITY	Not available	UPPER FLAMMABLE/EXPLOSIVE LIMIT(S)	Not available
VAPOR DENSITY (AIR = 1)	Not available	VAPOR PRESSURE	1.54E-11 mm Hg (25°C)	VISCOSITY	Not available

The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY	Not established.
CHEMICAL STABILITY	Stable under recommended storage conditions.
INCOMPATIBLE MATERIALS	Strong oxidants.
HAZARDOUS DECOMPOSITION PRODUCTS	Toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides and other gases may occur.
HAZARDOUS POLYMERIZATION	Will not occur.
POSSIBILITY OF HAZARDOUS REACTION	Not established.
CONDITIONS TO AVOID	Moisture, sunlight and extreme temperatures.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY	Oral: Rat: LD50: (mg/kg): 560 Dermal: Rabbit: LD50: (mg/kg): 271 Inhalation: Rat: LC50: (mg/L/4hr): Not available
SKIN CORROSION/IRRITATION	Causes skin irritation. Irritancy test; Result: Irritant.; Species: Human; Organ: Skin; Severity: Moderate.

SERIOUS EYE DAMAGE/EYE IRRITATION	Causes serious eye irritation. Local effects; Irritancy test; Result: Irritant.; Species: Human; Organ: Eyes								
RESPIRATORY SENSITIZATION	Due to lack of data the classification is not possible.								
SKIN SENSITIZATION	May cause an allergic skin reaction. Dermal hypersensitivity reactions with therapeutic use have been reported. Suspected skin sensitiser: The Toolbox profiler Protein binding alerts for skin sensitization by OASIS v1.3 gives an alert for skin sensitisation.								
GERM CELL MUTAGENICITY	Based on available data, the classification criteria are not met. Not mutagenic in in vivo and in in vitro tests.								
CARCINOGENICITY	<table border="0"> <tr> <td style="vertical-align: top;">OSHA</td> <td>DILTIAZEM HYDROCHLORIDE is not listed.</td> </tr> <tr> <td style="vertical-align: top;">NTP</td> <td>DILTIAZEM HYDROCHLORIDE is not listed.</td> </tr> <tr> <td style="vertical-align: top;">IARC</td> <td>DILTIAZEM HYDROCHLORIDE is not evaluated.</td> </tr> <tr> <td style="vertical-align: top;">California Proposition 65</td> <td>This product contains the following chemical known to the State of California to cause birth defects or other reproductive harm: DILTIAZEM HYDROCHLORIDE.</td> </tr> </table>	OSHA	DILTIAZEM HYDROCHLORIDE is not listed.	NTP	DILTIAZEM HYDROCHLORIDE is not listed.	IARC	DILTIAZEM HYDROCHLORIDE is not evaluated.	California Proposition 65	This product contains the following chemical known to the State of California to cause birth defects or other reproductive harm: DILTIAZEM HYDROCHLORIDE.
OSHA	DILTIAZEM HYDROCHLORIDE is not listed.								
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IARC	DILTIAZEM HYDROCHLORIDE is not evaluated.								
California Proposition 65	This product contains the following chemical known to the State of California to cause birth defects or other reproductive harm: DILTIAZEM HYDROCHLORIDE.								
ADDITIONAL CARCINOGENICITY INFORMATION	Based on available data, the classification criteria are not met.								
REPRODUCTIVE TOXICITY	<p>Epidemiological studies are not sufficient to determine an association between therapeutic use of this material during pregnancy and an increased incidence of birth defects. This material has been administered during pregnancy in humans to stop preterm labor.</p> <p>Reproductivity studies in animals administered the base of this material have yielded mixed results. Adverse reproductive effects were seen in animals administered the base of this material. The base of this material did not impair fertility in animal studies.</p> <p>Diltiazem is distributed into breast milk; in a woman receiving oral diltiazem 60 mg four times daily, concentrations in breast milk were similar to those in serum. Therefore it is recommend that diltiazem should generally be avoided during breast feeding.</p>								
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	May cause damage to organs (cardiovascular system).								
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	Based on available data, the classification criteria are not met.								
ASPIRATION HAZARDS	Based on available data, the classification criteria are not met.								
SIGNS AND SYMPTOMS OF EXPOSURE	<p>ROUTES OF EXPOSURE: Oral, Dermal, Inhalation, Eye contact</p> <p>EARLY ONSET SYMPTOMS RELATED TO EXPOSURE: Not available</p> <p>DELAYED HEALTH EFFECT FROM EXPOSURE: Slow heartbeat. Low blood pressure. Heart block. Heart failure.</p> <p>Symptoms related to the physical, chemical, and toxicological characteristics: Headache. Nausea. Difficulty breathing. Coughing. Wheezing. Constipation. Diarrhea. Dizziness. Lightheadedness. Swelling of feet or lower legs. Flushing. Skin rash. Tiredness. Weakness.</p> <p>Cross sensitivity: Persons sensitive to one calcium channel blocking agent may be sensitive to this material also.</p> <p>Medical conditions aggravated by exposure: Heart problems. Hypotension.</p>								
POTENTIAL HEALTH EFFECTS	<table border="0"> <tr> <td style="vertical-align: top;">Inhalation</td> <td>May be harmful if inhaled. May cause respiratory tract irritation.</td> </tr> <tr> <td style="vertical-align: top;">Ingestion</td> <td>Harmful if swallowed.</td> </tr> <tr> <td style="vertical-align: top;">Skin</td> <td>Toxic in contact with skin. Causes skin irritation. May cause an allergic skin reaction.</td> </tr> <tr> <td style="vertical-align: top;">Eyes</td> <td>Causes serious eye irritation.</td> </tr> </table>	Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.	Ingestion	Harmful if swallowed.	Skin	Toxic in contact with skin. Causes skin irritation. May cause an allergic skin reaction.	Eyes	Causes serious eye irritation.
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Ingestion	Harmful if swallowed.								
Skin	Toxic in contact with skin. Causes skin irritation. May cause an allergic skin reaction.								
Eyes	Causes serious eye irritation.								

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY	EC50: 48 Hr: Crustacea: Daphnia magna: (mg/L): 3.13* LC50: 96 Hr: Fish: (mg/L): 19.04* EC50: 96 Hr: Green Algae: (mg/L): 1.25*
PERSISTENCE AND DEGRADABILITY	Suspected persistent in the environment: The Danish QSAR database contains information indicating that the substance is predicted as non readily biodegradable.
BIOACCUMULATIVE POTENTIAL	LogPow: 2.7 (20 °C).
MOBILITY IN SOIL	Freely soluble in water. Water solubility: 12.3 mg/L (25 °C) Henry's Law Constant: 8.61E-17 atm-m ³ /mole (25 °C)
OTHER ADVERSE EFFECTS	Not available
NOTES	This product is not intended to be released into the environment. *Danish QSAR database.

SECTION 13: DISPOSAL CONSIDERATIONS

DISPOSAL METHODS	Dispose of in accordance with federal / local laws and regulations. Avoid release into the environment.
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SECTION 14: TRANSPORT INFORMATION

UN PROPER SHIPPING NAME	TOXIC SOLID, ORGANIC, N.O.S.
UN NUMBER	2811
CLASS	6.1
PACKING GROUP	III
AUSTRALIA HAZCHEM	2X
EU TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE	Not listed
ENVIRONMENTAL HAZARDS	Not available
SPECIAL SHIPPING INFORMATION	Not applicable

SECTION 15: REGULATORY INFORMATION
UNITED STATES REGULATIONS

Chemical Name & CAS	CERCLA 40 CFR Part 302.4	SARA (Title III) 40 CFR Part 372.65	EPA 40 CFR Part 355		Pennsylvania	Right-to-know		California Prop 65
			Appendix A	Appendix B		New Jersey	Massachusetts	
DILTIAZEM HCl 33286-22-5	N/L	N/L	N/L	N/L	N/L	N/L	N/L	X

N/L = Not Listed; X = Listed

AUSTRALIAN REGULATIONS

Chemical Name & CAS	Poisons and Therapeutic Goods	Therapeutic Goods Act	Code of Practices - Illicit Drug Precursors	Poisons Standard	Work Health and Safety Regulations	Inventory of Industrial Chemicals
DILTIAZEM HCl 33286-22-5	N/L	Listed as Schedule 4	N/L	Listed	N/L	N/L

N/L = Not Listed

EU REGULATIONS

Chemical Name & CAS	REACH ANNEX XVII	REACH ANNEX XIV	EC 1005/2009	EC 850/2004	EC 1107/2009	PIC - Prior Informed Consent Regulation	EC 2012/18
DILTIAZEM HCl 33286-22-5	N/L	N/L	N/L	N/L	N/L	N/L	N/L

N/L = Not Listed; X = Listed

Any EU regulation not listed above is not applicable to this product.

SUBJECT TO INTERNATIONAL AGREEMENT Not applicable

SECTION 16: OTHER INFORMATION
REFERENCES

Available upon request

ABBREVIATIONS AND ACRONYMS

ACGIH - American Conference of Governmental Industrial Hygienists; **AIHA WEEL** – American Industrial Hygiene Association Workplace Environment Exposure Levels; **CAESAR** – Computer Assisted Evaluation of industrial chemical Substances According to Regulations; **CAS** – Chemical Abstract Service; **CERCLA** – Comprehensive Environmental Response, Compensation, and Liability Act; **EC50** – Effective Concentration, 50%; **EPA** – Environmental Protection Agency; **GHS** – Global Harmonized System; **HMIS** – Hazardous Materials Information System; **HSE** – Health and Safety Executive; **HSIS** – Hazardous Substances Information System; **IARC** – International Agency for Research on Cancer; **IDLH** - Immediately Dangerous to Life or Health; **IRFMN** – Ready Biodegradability Model; **ISS** – Istituto Superiore Sanità; **LC50** – Lethal Concentration, 50%; **LD50** – Lethal Dose, 50%; **MSHA** - Mine Safety and Health Administration; **NIOSH** – National Institute for Occupational Safety and Health; **NTP** – National Toxicology Program; **OSHA PEL** – Occupational Safety & Health Administration Permissible Exposure Limits; **QSAR** – Quantitative Structure-activity relationship; **REL** - Recommended Exposure Limit; **SARA** – Superfund Amendments and Reauthorization Act; **STEL** – Short Term Exposure Limit; **TLV** – Threshold Limit Value; **TWA** – Time Weighted Average; **WHMIS** – Workplace Hazardous Materials Information System

LAST REVISION

02/2023

SUPERSEDES

05/2021

For a list of changes to the SDS since the last version, please communicate with MEDISCA at www.medisca.com

DISCLAIMER

This document was created in accordance with OSHA, Safe Work Australia and WHMIS regulations. 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. MEDISCA[®] shall not be held liable for any damage resulting from handling or from contact with the above product. Recipients of the product must take responsibility for observing existing laws and regulations.

SUPPLEMENTARY INFORMATION

For all country specific requirements not outlined on this Safety Data Sheet, please request Supplementary Page to this Safety Data Sheet.