Material Safety data sheet

CARVEDILOL TABLETS

Strength: 3.125, 6.25, 12.5, 25 mg **Pack Size:** 28/100/500 Tablets per bottle **Revision No.:** 00

EMERGENCY OVERVIEW

CARVEDILOL TABLET contain Carvedilol and excipients generally considered to be non- toxic and non-hazardous in small quantities and under conditions of normal occupational exposure.

Section 1. Identification of the substance

Identification of the product

Product name:	Carvedilol Tablets
Formula:	$C_{24}H_{26}N_2O_4$
Chemical Name:	(±)-1-(Carbazol-4-yloxy)-3-[[2-(o-methoxyphenoxy)ethyl]amino]-2-propanol
Therapeutic Category	A nonselective β-adrenergic blocking agent with α_1-blocking activity

Manufacturer / supplier identification

Company:	**Cadila Healthcare Ltd. Ahmedabad, India**
Contact for information:	Tel.: +91 79 26868100 Fax: +91 79 26862365
Emergency telephone No.	Tel.: +91 79 26868100

Section 2. Composition / information on ingredients

Component	Exposure Limit	CAS No.
Principle Component :		
Carvedilol.	Not Found	72956-09-03
Inactive Ingredients :		
Colloidal silicon dioxide	Not Found	7631-86-9
Crosspovidone,	Not Found	25249-54-1
Hypromellose	Not Found	9004-65-3
Lactose monohydrate	Not Found	63-42-3
Magnesium stearate	Not Found	557-04-0
Polyethylene glycol	Not Found	25322-68-3
Povidone	Not Found	9080-59-5
Talc	Not Found	14807-96-6
Titanium dioxide	Not Found	13463-67-7

Section 3. Health Hazards Information

Dose and Administration	**Left Ventricular Dysfunction Following Myocardial Infarction:** DOSAGE MUST BE INDIVIDUALIZED. It is recommended that carvedilol tablets be started at 6.25 mg twice daily and increased after 3 to 10 days, based on tolerability to 12.5 mg twice daily, then again to the target dose of 25 mg twice daily. **Hypertension** The recommended starting dose of carvedilol tablets is 6.25 mg twice daily. If this dose is tolerated, using standing systolic pressure measured about 1 hour after dosing as a guide, the dose should be maintained for 7 to 14 days, and then increased to 12.5 mg twice daily.
Adverse Effects	**Cardiovascular :** Bradycardia, Postural hypotension, Peripheral edema **Central Nervous System :** Dizziness, Insomnia, **Gastrointestinal:** Diarrhea **Hematologic :** Thrombocytopenia **Metabolic:** Hypertriglyceridemia
Over Dose Effect	Overdosage may cause severe hypotension, bradycardia, cardiac insufficiency, cardiogenic shock, and cardiac arrest. Respiratory problems, bronchospasms, vomiting, lapses of consciousness, and generalized seizures may also occur. Symptoms experienced included low blood pressure and heart rate. Standard supportive treatment was provided and individuals recovered.
Medical Conditions	**Left Ventricular Dysfunction Following Myocardial Infarction:** Carvedilol tablets are indicated to reduce cardiovascular mortality in clinically stable patients who have survived the acute phase of a myocardial infarction and have a left ventricular ejection fraction of $\leq$ 40% (with or without symptomatic heart failure). **Hypertension:** Carvedilol tablets are indicated for the management of essential hypertension It can be used alone or in combination with other antihypertensive agents, especially thiazide-type diuretics.
Contraindications	Carvedilol tablets are contraindicated in the following conditions: – Bronchial asthma or related bronchospastic conditions. – Deaths from status asthmaticus have been reported following single doses of carvedilol tablets. – Second- or third-degree AV block – Sick sinus syndrome – Severe bradycardia (unless a permanent pacemaker is in place) – Patients with cardiogenic shock or who have decompensated heart failure requiring the use of intravenous inotropic therapy. Such patients should first be weaned from intravenous therapy before initiating carvedilol tablets – Patients with severe hepatic impairment – Patients with a history of a serious hypersensitivity reaction to carvedilol (e.g. Stevens-Johnson syndrome)

Pregnancy Comments	**Pregnancy** Studies performed in pregnant rats and rabbits given carvedilol revealed increased post-implantation loss in rats at doses of 300 mg/kg/day (50 times the MRHD as mg/m^2) and in rabbits at doses of 75 mg/kg/day (25 times the MRHD as mg/m^2). There are no adequate and well-controlled studies in pregnant women. **Nursing Mothers** It is not known whether this drug is excreted in human milk. Studies in rats have shown that carvedilol and/or its metabolites (as well as other β-blockers) cross the placental barrier and are excreted in breast milk.
Pregnancy Category	**C**

Section 4. First aid measures

General	Remove from exposure. Remove contiminated Clothing. Person devloping serious hypersensitivity reaction must receive medical attention
Overdose Treatment	The patient should be placed in a supine position and, where necessary, kept under observation and treated under intensive-care conditions. Gastric lavage or pharmacologically induced emesis may be used shortly after ingestion. The following agents may be administered, Atropine, 2 mg IV to support cardiovascular function in case of **excessive bradycardia.** Glucagon, 5 to 10 mg IV rapidly over 30 seconds, followed by a continuous infusion of 5 mg/hour; sympathomimetics (dobutamine, isoprenaline, adrenaline) at doses according to body weight and effect. Additionally, If an overdose persists, it should be treated symptomatically with laboratory monitoring and supportive measures should be instituted as required

Section 5. Fire – fighting measures

Flash point	Not Found	**Upper Flammable Limit:**	Not Found
Auto-Ignition Temperature:	Not Found	**Lower Flammable Limit:**	Not Found
Extinguishing Media	Water Spray, dry chemical, carbon dioxide or foam as appropriate for surrounding fire and material.	**Fire and Explosion Hazard**	This material is assumed to be combustible. As with all dry powders it is advisable to ground mechanical equipment in contact with the dry material to dissipate the potential build up of static electricity.

Fire Fighting Procedure	As with all fires, evacuate personnel to a safe area. Fire fighter should use self-contained breathing equipment and protective clothing.

Section 6. Storage / Spill / Disposal Measures

Storage	Store at 20°-25°C (68°-77°F) Protect from moisture. Dispense in a tight, light-resistant container.
Spill Response	Wear approved respiratory protection, chemically compatible gloves and protective clothing. Wipe up spillage or collect spillage using high efficiency vacuum cleaner. Avoid breathing dust. Place spillage in appropriately labelled container for disposal. Wash spill site.
Disposal	Dispose the waste in accordance with all applicable Federal, State and local laws.

Section 7. Exposure controls and personal protection

Respiratory Protection	Protection from inhalation is not normally necessary. If ventilation is inadequate or dust is likely to generate, use of suitable dust mask would be appropriate.
Skin Protection	Skin protection is not normally necessary, however it is good practice to avoid contact with chemical to use suitable gloves when handling.
Eye protection	Eye protection is not normally necessary. If concerned wear protective goggles or glasses. Wash hands prior to touching eye and in particular handling contact lenses.
Protective Clothing	Protective clothing is not normally necessary, however it is good practice to use apron.

Section 8. Physical and chemical properties

Appearance	The white to off-white, round, film-coated tablets are available in the following strengths: 3.125 mg– debossed with Z and 1, 6.25 mg–debossed with ZC40, 12.5 mg–debossed with ZC41 and 25 mg–debossed with ZC42.

Solubility in water	No Data Available	**Odour**	Odourless
Boiling point	No Data Available	**Melting Point**	No Data Available
Evaporation rate	No Data Available	**Vapour density**	No Data Available
Reactivity in water	No Data Available	**Evaporation rate**	No Data Available
Percentage Volatile by volume	No Data Available	**Specific gravity**	No Data Available
Vapour pressure	No Data Available		

Other information	Carvedilol is a white to almost white crystalline powder practically insoluble in water, slightly soluble in alcohol, practically insoluble in dilute acids.

Section 9. Physical Hazards

Condition to avoid	Avoid exposure to extreme heat, light and moisture.	**Stable**	Stable under normal ambient and anticipated storage and handling conditions.
Decomposition Products	No Data Available	**Hazardous Reaction**	No data available.
Incompatibilities	No data available.		

Section 10. Toxicological information

General	Handling of formulated product is not expected to cause any toxicological affects. The data pertains to the ingredient in formulations, rather than this specie formulation.
Target organ	Eye contact, Skin contact and inhalation is not great risk as this product is tablet.
other	**Carcinogenesis, Mutagenesis, Impairment of Fertility** In 2-year studies conducted in rats given carvedilol at doses up to 75 mg/kg/day (12 times the maximum recommended human dose [MRHD] when compared on a mg/m^2 basis) or in mice given up to 200 mg/kg/day (16 times the MRHD on a mg/m^2 basis), carvedilol had no carcinogenic effect. At doses ≥200 mg/kg/day (≥32 times the MRHD as mg/m^2) carvedilol was toxic to adult rats (sedation, reduced weight gain).

Section 11. Ecological information

No data available on Ecotoxicity

Section 12. Other information

None

Date of issue: 13/08/2007 **Supersedes edition of:** New Edition

The information contained herein is based on the state of our knowledge. It

Characterises the product with regard to the appropriate safety precautions.
It does not represent a guarantee of the properties of the product.