SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier: ATORVASTATIN CALCIUM TABLET – 10 mg, 20 mg, 40 mg and 80 mg
Synonyms: ESTAROL

Manufacturer Name: Crassula Pharmaceuticals Pvt. Ltd.
Address: PF-23 GIDC Industrial Estate
Ahmadabad 3821110 Gujarat State, India

Telephone number: 1-954-676-7060

Emergency phone number: 1-800-424-9300

Recommended use: Human drug – Cholesterol-lowering agent
Restrictions on use: Prescription use only.

Date of Preparation: Feb. 2. 2023

2. HAZARD(S) IDENTIFICATION

Classification:

Physical	Health
Not hazardous	Reproductive Toxicity Category 1B

Label Elements

Danger!

Hazard statement(s)

May damage fertility or the unborn child.

Precautionary statement(s)

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective clothing and gloves.
IF exposed or concerned: Get medical attention.
Store locked up.
Dispose in accordance with local and national regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Atorvastatin Ca (Trihydrate)	344423-98-9	10 or 20 mg/tablet
Microcrystalline Cellulose	9004-34-6	Proprietary
Lactose Monohydrate	64044-51-5	Proprietary
Calcium Carbonate	471-34-1	Proprietary
Croscarmellose Sodium	74811-65-7	Proprietary

Hydroxypropyl cellulose	9004-64-2	Proprietary
Magnesium Stearate	557-04-0	Proprietary
Hydroxypropyl methylcellulose	9004-65-3	Proprietary
Polyethylene Glycol	25322-68-3	Proprietary
Talc	14807-96-6	Proprietary
Titanium Dioxide (bound in tablet matrix)	13463-67-7	Proprietary
Polysorbate 80	9005-65-6	Proprietary

The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

Inhalation: Remove victim to fresh air. If irritation occurs or symptoms develop, get medical attention.
Skin contact: In the case of contact with crushed or broken tablets, remove contaminated clothing. Wash skin with soap and water. If irritation develops, get medical attention. Launder clothing before reuse.
Eye contact: Immediately flush eyes with water while lifting the upper and lower lids. Get medical attention if irritation persists**.**
Ingestion: In the case of unintended ingestion, rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to a person who is unconscious or convulsing. Get medical attention if any adverse effects occur or for overdossage.

Most important symptoms/effects, acute and delayed: Dust may cause eye irritation. Inhalation of dust from broken tablets may cause upper respiratory tract irritation and symptoms similar to ingestion. Swallowing may cause nasophatyngitis, joint pain, diarrhea, liver effects and a breakdown of muscle tissue (rhabdomyolysis and myopathy). May cause adverse reproductive effects. Statins may cause fetal harm when administered to a pregnant woman.

Indication of immediate medical attention and special treatment, if necessary: Medical attention is recommended for unintended ingestion.

5. FIRE-FIGHTING MEASURES

Extinguishing media: Use water spray, carbon dioxide, dry chemical or foam to extinguish a fire.

Specific hazards arising from the chemical: Tablets are not a fire hazard but may burn under fire conditions. Fine dust from crushed tablets will present a dust explosion hazard.

Special protective equipment and precautions for fire-fighters: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for all fires involving chemicals. Cool fire exposed containers with water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing and equipment as described in Section 8. If tablets are damaged, respiratory protection may be required. Avoid generating airborne dust during cleanup. If dust is present, eliminate all sources of ignition.

Environmental Precautions: Prevent spill from entering sewers and water courses. Report releases as required by local and national authorities.

Methods and materials for containment and cleaning up: Collect using methods that avoid the generation of dust and damage to tablets (scoop up carefully) and place in appropriate container for disposal. Clean area thoroughly. If dust is present, do not use vacuum unless explosion-proof.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid the generation of dust. If tablets are damaged, avoid contact with eyes, skin and clothing and avoid breathing dust. Wash thoroughly with soap and water after handling.

Conditions for safe storage, including any incompatibilities: Store as indicated on product packaging in a secure location.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Atorvastatin Ca (Trihydrate)	50 ug/m3 TWA (Perrigo OEL)
Microcrystalline Cellulose	10 mg/m3 TWA ACGIH TLV 5 mg/m3 (respirable) 15 mg/m3 (total dust) TWA OSHA PEL
Lactose Monohydrate	None Established
Calcium Carbonate	None Established
Croscarmellose Sodium	None Established
Hydroxypropyl cellulose	None Established
Magnesium Stearate	10 mg/m3 (total dust) TWA ACGIH TLV
Hydroxypropyl methylcellulose	None Established
Polyethylene Glycol	None Established
Talc	2 mg/m3 (respirable) TWA ACGIH TLV 20 mppcf TWA OSHA PEL
Titanium Dioxide	10 mg/m3 TWA ACGIH TLV 15 mg/m3 TWA OSHA PEL
Polysorbate 80	None Established

Appropriate engineering controls: Use with adequate general or local exhaust ventilation to keep exposures below occupational exposure limits.

Individual protection measures:
Respiratory protection: None needed under normal use conditions. If exposure limits are exceeded, a NIOSH approved particulate respirator is recommended. Selection of respiratory protection depends on the contaminant type, form and concentration. Select in accordance with OSHA 1910.134 and good Industrial Hygiene practice.
Skin protection: Impervious gloves recommended for handling damaged tablets.
Eye protection: Chemical safety goggles recommended for handling damaged tablets.
Other: None known.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): White tablet
Odor: None

Odor threshold: Not applicable	**pH:** Not applicable
Melting point/freezing point: Not applicable	**Boiling Point:** Not applicable
Flash point: Not applicable	**Evaporation rate:** Not applicable
Flammability (solid, gas): Not flammable	**VOC:** Not applicable
Flammable limits: LEL: Not applicable	**UEL:** Not applicable
Vapor pressure: Not applicable	**Vapor density:** Not applicable
Relative density: Not available	**Solubility(ies):** Not available
Partition coefficient: n-octanol/water: Not available	**Auto-ignition temperature:** Not available

Decomposition temperature: Not available	**Viscosity:** Not applicable

10. STABILITY AND REACTIVITY

Reactivity: Not reactive under normal conditions of use.
Chemical stability: Stable.
Possibility of hazardous reactions: None known.
Conditions to avoid: None known.
Incompatible materials: Avoid oxidizing agents.
Hazardous decomposition products: Thermal decomposition may yield carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute effects of exposure:
Inhalation: Inhalation of dust from damaged tablets may cause irritation of the mucous membranes and upper respiratory tract.
Ingestion: Swallowing may cause nasophatyngitis, joint pain, and diarrhea.
Skin contact: Contact with damaged tablets may cause slight irritation.
Eye contact: Contact with damaged tablets may cause slight irritation with redness and tearing.
Chronic Effects: Prolonged exposure may cause liver effects and a breakdown of muscle tissue (rhabdomyolysis and myopathy).
Sensitization: Components are not known to be sensitizers.
Germ Cell Mutagenicity: None of the components have been shown to cause germ cell mutagenicity. *In vitro,* atorvastatin was not mutagenic or clastogenic in the following tests with and without metabolic activation: the Ames test with *Salmonella typhimurium* and *Escherichia coli,* the HGPRT forward mutation assay in Chinese hamster lung cells, and the chromosomal aberration assay in Chinese hamster lung cells. Atorvastatin was negative in the *in vivo* mouse micronucleus test

Reproductive Toxicity: Studies in rats performed at doses up to 175 mg/kg produced no changes in fertility. There was aplasia and aspermia in the epididymis of 2 of 10 rats treated with 100 mg/kg/day of atorvastatin for 3 months; testis weights were significantly lower at 30 and 100 mg/kg and epididymal weight was lower at 100 mg/kg. Male rats given 100 mg/kg/day for 11 weeks prior to mating had decreased sperm motility, spermatid head concentration, and increased abnormal sperm. Atorvastatin caused no adverse effects on semen parameters, or reproductive organ histopathology in dogs given doses of 10, 40, or 120 mg/kg for two years. There have been rare reports of congenital anomalies following intrauterine exposure to statins. In a review of about 100 prospectively followed pregnancies in women exposed to other statins, the incidences of congenital anomalies, spontaneous abortions, and fetal deaths/stillbirths did not exceed the rate expected in the general population. However, this study was only able to exclude a three-to-four-fold increased risk of congenital anomalies over background incidence. In 89% of these cases, drug treatment started before pregnancy and stopped during the first trimester when pregnancy was identified.

Atorvastatin crosses the rat placenta and reaches a level in fetal liver equivalent to that of maternal plasma. Atorvastatin was not teratogenic in rats at doses up to 300 mg/kg/day or in rabbits at doses up to 100 mg/kg/day. In a study in rats given 20, 100, or 225 mg/kg/day, from gestation day 7 through to lactation day 21 (weaning), there was decreased pup survival at birth, neonate, weaning, and maturity in pups of mothers dosed with 225 mg/kg/day. Body weight was decreased on days 4 and 21 in pups of mothers dosed at 100 mg/kg/day; pup body weight was decreased at birth and at days 4, 21, and 91 at 225 mg/kg/day. Pup development was delayed (rotorod performance at 100 mg/kg/day and acoustic startle at 225 mg/kg/day; pinnae detachment and eye-opening at 225 mg/kg/day). Statins may cause fetal harm when administered to a pregnant woman.

Carcinogenicity: Titanium dioxide is classified by IARC as a suspected carcinogen (Group 2B). Titanium dioxide causes cancer only by inhalation of respirable particles. The titanium dioxide is bound in the tablet matrix and no inhalation exposure will occur during the handling of these gelcaps. None of the components are listed as carcinogens or suspected carcinogens by IARC, NTP, ACGIH or OSHA. In a 2-year carcinogenicity study in rats at dose levels of 10, 30, and 100 mg/kg/day, 2 rare tumors were found in muscle in high-dose females: in one, there was a rhabdomyosarcoma and, in another, there was a fibrosarcoma. A 2-year carcinogenicity study in mice given 100, 200, or 400 mg/kg/day resulted in a significant increase in liver adenomas in high-dose males and liver carcinomas in high-dose females.

Acute Toxicity Values:
Atorvastatin Ca (Trihydrate): Oral rat LD50 >5000 mg/kg; dermal rabbit >2000 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity values:
Atorvastatin Calcium: LC50 oncorhynchus mykiss >92 mg/L/96 hr; NOEC pimephales promelas 0.45 mg/L/32 d.; EC50 daphnia magna 200 mg/L/48 hr; NOEC 0.14 mg/L/21 d.
Persistence and degradability: Atorvastatin Calcium is not readily biodegradable.
Bioaccumulative potential: No data is available
Mobility in soil: No data is available.
Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state and federal regulations. No specific disposal method is recommended.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT		Not Regulated			
TDG		Not Regulated			
IMDG		Not Regulated			
IATA		Not Regulated			

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known.

15. REGULATORY INFORMATION

Safety, health, and environmental regulations specific for the product in question.

CERCLA: This product is not subject to CERCLA release reporting. Many states have more stringent release reporting requirements. Report spills as required under federal, state and local regulations.

SARA Hazard Category (311/312): Chronic Health
EPA SARA 313: This product contains the following chemicals regulated under SARA Title III, section 313:
None

EPA TSCA Inventory: This product is a drug and not subject to TSCA**.**
CANADA:
Canadian CEPA: This product is a drug and not subject to CEPA regulations.
Canadian WHMIS Classification: Drugs are exempt from WHMIS
This product has been classified under the CPR and this SDS discloses information elements required by the CPR.

16. OTHER INFORMATION

NFPA Rating: Health = 1 Flammability = 1 Instability = 0
HMIS Rating: Health = 1* Flammability = 1 Physical Hazard = 0

SDS Revision History: Corrections to Sections 11 and 15.
Date of preparation: February 7, 2015
Date of last revision: September 3, 2014

Disclaimer: This SDS has been prepared for occupational exposure. Consumers: Refer to the package insert or product label for appropriate consumer-specific information about this product when used according to manufacturer's directions. Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequence of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).