SAFETY DATA SHEET

Ranolazine Extended Release Tablet (500mg/1000mg)

1. IDENTIFICATION

Product identifier: Ranolazine extended release tablet
Product code: #
Chemical Description:
Other means of identification: (RS)-N-(2,6-dimethylphenyl)-2-[4-[2-hydroxy-3-(2-methoxyphenoxy).
Recommended use of the chemical: pharmaceutical use. Ranolazine is an anti-anginal medication. It works by improving blood flow to help the heart work more efficiently. Ranolazine is used to treat chronic angina (Chest pain).
Restrictions on use: The product should be used only for the above mentioned uses and may not be used for any other purpose than stated above.

Supplier's details:
Mankind Pharma Ltd.,
Unit III, Opposite Dental College, Rampur Ghat,
Tehsil- Paonta Sahib (Himachal Pradesh-173025), India.
CIN No.: U74899DL1991PLC044843

Emergency Phone Number: +91 1704227600

2. HAZARDS IDENTIFICATION

Fire and Explosion- Expected to be non-combustible.

Health- Material may be irritating to the mucous membranes and upper respiratory tract.
May be harmful by inhalation, ingestion, or skin absorption.
May cause eye, skin, or respiratory system irritation.

Environment- No information is available about the potential of this product to produce adverse environmental effects.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous ingredients	CAS	Content
(RS)-N-(2,6-dimethylphenyl)-2-[4-[2-hydroxy-3-(2-methoxyphenoxy)	95635-55-5	72.8%

4. FIRST-AID MEASURES

Inhalation
In case of irritation of the respiratory system or mucous membranes, seek medical attention. Move to fresh air. Seek medical attention if you feel unwell or if exposure prolonged.

Skin contact
Remove contaminated clothing. Wash affected skin with soap and plenty of water. If skin irritation or dermatitis commences or persists seek medical attention.

Eye contact
Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do – continue rinsing. Seek medical attention.

Ingestion
In case of spontaneous vomiting be sure that vomitus can freely drain due to danger of suffocation. Rinse mouth and then drink plenty of water. Induce vomiting (only first-aid staff) if person is conscious. Seek medical attention. Check breathing and pulse. Place victim in the recovery position, cover and keep warm. Loosen tight clothing such as a collar, tie, belt or waistband. Seek medical attention.

Advice for the doctor
High oral doses of Ranolazine produce symptoms of dizziness, nausea, and vomiting. High intravenous exposure also produces diplopia, paresthesia, confusion, and syncope. In addition to general supportive measures, continuous ECG monitoring may be warranted in the event of overdose.

Since Ranolazine is about 62% bound to plasma proteins, hemodialysis is unlikely to be effective in clearing Ranolazine.

5. FIRE-FIGHTING MEASURES

Fire extinguishing agents
Water spray, Foam, Carbon dioxide (CO2), Dry powder.
Fire/explosion hazard
Please refer to section 9.
Specific hazards arising from the chemical
None identified.
Personal protection
Self-contained breathing apparatus.
Special exposure hazards
Do not release chemically contaminated water into drains, soil or surface water. Sufficient measures must be taken to retain the water used for extinguishing. Dispose of contaminated water and soil according to local regulations.

6. ACCIDENTAL RELEASE MEASURES

Personal protection
Goggles, gloves, protective clothing, respiratory protection.
Remove ignition sources and provide sufficient ventilation.
Environmental precautions
Prevent contamination of soil, drains and surface waters.
Spillage procedure
Take up mechanically and collect in suitable container (adequately labelled) for disposal.

7. HANDLING AND STORAGE

Handling
Occupational hygiene
Avoid ingestion, inhalation, skin and eye contact. Handle in accordance with good industrial hygiene practice and any legal requirements.

Storage

Handling- Avoid inhalation. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure.

Fire precautions

Avoid dust formation and ignition sources. Ensure good local exhaust ventilation.
Keep away from heat/sparks/open flames/hot surfaces – No smoking.
Ground/bond container and receiving equipment.

Storage facilities

Store in a cool, dry area with adequate ventilation. Keep tightly closed. Store at 20 -25 °C [68° F to 77° F] (See USP controlled room temperature)

Segregation

Store locked up.

Storage conditions

Keep containers closed.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure limit values

Components with occupational exposure limits

CAS No	Name	TWA	STEL	Permissible Daily Exposure	Source	%
. 95635-56-6	(RS)-N-(2,6-dimethylphenyl)-2-[4-[2-hydroxy-3-(2-methoxyphenoxy)	0.278 mg/day	-	0.278 mg/day	-	72.8

Occupational exposure controls

Appropriate engineering controls

Maintain air concentrations below occupational exposure standards. Prevent dust formation.

General Personal Protection

Goggles, gloves, protective clothing.

Respiratory protection

Breathing apparatus with filter required if occupational exposure limits may be exceeded.

Hand protection

Protective gloves.

Eye protection

Goggles.

Skin and body protection

Protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: 500mg: - White to off white oblong shaped, biconvex film coated tablets debossed with “LS703” on one side plain on other side.

1000mg: -Pale Yellow oblong shaped, biconvex film coated tablets debossed with “LS704” on one side plain on other side.

Colour: White

Odour: N.A.

pH: not tested

Melting point: not tested

Boiling point: not tested

Flash point: not tested

Flammability (solid): not tested
Vapour pressure: not tested
Auto-ignition temperature: not tested
Decomposition temperature: not tested
Density: not tested
Solubility in water: Very slightly soluble in water, 756 mg/L at 25 Deg C.
Solubility in solvents: Soluble in dichloromethane, methanol; sparingly soluble in tetrahydrofuran, ethanol, acetonitrile, acetone; slightly soluble in ethyl acetate, isopropanol, toluene, ethyl ether
n-Octanol/Water Partition Coefficient: 1.43
Viscosity: Not tested
Oxidizing properties: not expected on structural indication
Explosivity: not tested.

10. STABILITY AND REACTIVITY

Conditions to avoid
Avoid extreme conditions. Keep away from heat/sparks/open flames/hot surfaces. See information on section 9.
Materials to avoid
Oxidizing and reducing agents.
Hazardous decomposition products
None under normal storage conditions

11. TOXICOLOGICAL INFORMATION

Acute toxicity
Ranolazine active ingredient was tested for acute toxicity.
LD50 (oral, rat): 980 mg/kg

Primary Irritation
- Skin: Not tested
- Eye: Not tested

Respiratory or Skin sensitization
- Respiratory: Not tested

CMR consideration:

Germ cell mutagenicity:
- Mutagenicity (in-vitro, Ames test and E. coli assay): negative
- Mutagenicity (in-vitro, Gene mutation assay in mouse lymphoma cells): negative
- Mutagenicity (in-vitro, Chromosomal aberration test): negative
- Mutagenicity (in-vivo, Micronucleus assay in mouse): negative

Carcinogenicity
- There was no evidence of carcinogenic potential in mice or rats. (Oral doses 150 mg/kg/day for 21 months in rats), (900 mg/sq. m/day) and 50 mg/kg/day for 24 months in mice
- The study shows API is not carcinogenic.

Reproductive toxicity

- Developmental Toxicity- An increased incidence of misshapen sternebrae and reduced ossification of pelvic and cranial bones in fetuses of pregnant rats; dose at 400 mg/kg/day (2 times the MRHD on a surface area basis).
- These doses in rats were associated with an increased maternal mortality rate.
- Developmental or Reproductive Toxicity/ Reduced ossification of sternebrae was observed in fetuses of pregnant rabbits dosed at 150 mg/kg/day (1.5 times the MRHD on a surface area basis).
- These doses in rabbits were associated with an increased maternal mortality rate.

Specific target organ toxicity single exposure:

Adverse effects reported in 2% or more of patients receiving Ranolazine and more frequently include constipation, dizziness, nausea, and headache.
High oral doses of Ranolazine produce dose-related increases in dizziness, nausea, and vomiting.

Specific target organ toxicity repeated exposure:

Rat (dose 50 mg/kg) - toxicity to the central nervous system (CNS) and include convulsions, ataxia, prostration.
Dogs (Dose 60-80 mg/kg) - toxicity to the central nervous system (CNS) and include convulsions, ataxia, prostration.
Target organs are adrenals, liver and kidney at high doses.

Aspiration hazard:
Not classified.

Additional information:
Nil

12. ECOLOGICAL INFORMATION

Ecotoxicity
Acute aquatic toxicity
Ranolazine active ingredient was not tested for Ecotoxicity.

- **LC50 (fish, 96 hr):** Not tested
- **EC50 (daphnia, 48 hr):** Not tested
- **ErC50 (algae, 72 hr**): Not tested
- **IC50 (bacteria, 5 days):** Not tested

Persistence and degradability
Not classified.

Behaviour in treatment plants
Not classified.

Additional information
Do not discharge product uncontrolled into the environment.

13. DISPOSAL CONSIDERATIONS

Product disposal
Observe specific national regulation.

Contaminated packaging
Contaminated, empty containers must be disposed of as chemical waste.

14. TRANSPORT INFORMATION

The substance is not considered to be a dangerous good according to transport regulations

15. REGULATORY INFORMATION

CLASSIFICATION AND LABELLING
Generic medicine. Approved by USFDA.

16. OTHER INFORMATION

Recommended restrictions on use
The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. Nothing herein shall be deemed to create any warranty, express or implied. It is the responsibility of the user to determine the applicability of this information and the suitability of the material or product for any particular purpose.
Mankind shall not be held liable for any damage resulting from handling or from contact with product. Mankind reserves the right to revise the SDS.

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