



Section 1. Product and Company Identification

Product Name Ramipril
Product ID R0249
Chemical Name (Synonyms) Tritace; Ramace; Unipril; Vesdil
Supplier LKT Laboratories, Inc
545 Phalen Blvd.
St. Paul, MN 55130 USA
Ph: 651-644-8424 Fax: 651-644-8357
www.lktlabs.com - getinfo@lktlabs.com
Emergency Phone # 1-800-424-9300

Section 2. Hazards Identification

GHS Classification Not a hazardous substance or mixture.

GHS Label elements including precautionary statements

Pictogram

Signal word

Hazard and precautionary statements
Hazard statement
Not a hazardous substance or mixture.
Precautionary statements
Not a hazardous substance or mixture.

HMIS Classification Health hazard: 0
Chronic health hazard: 0
Flammability: 0
Physical hazard: 0

NFPA Rating Health hazard: 0
Fire hazard: 0
Reactivity hazard: 0

Potential Health Effects Inhalation - May be harmful if inhaled. May cause respiratory tract irritation.
Skin - May be harmful if absorbed through skin. May cause skin irritation.
Eyes - May cause eye irritation.

Ingestion - May be harmful if swallowed.

Section 3. Composition/Information on Ingredients

Substances	Ingredient: Title Compound	Percent: 100	
Formula	C ₂₃ H ₃₂ N ₂ O ₅	Formula Wt.	416.51
CAS No.	87333-19-5	EC No.	

Section 4. First Aid Measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Eye Contact	Flush eyes with water as a precaution.
Skin Contact	Wash off with soap and plenty of water.
Inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth with water.

Section 5 . Firefighting Measures

Flash Point	Not available.
Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
Firefighting Procedures	Wear self-contained breathing apparatus for fire fighting if necessary.
Unusual Fire Hazards	Carbon oxides, nitrogen oxides (NOx).

Section 6. Accidental Release Measures

Personal Precautions	Avoid dust formation. Avoid breathing vapors, mist, or gas.
Environmental Precautions	Do not let product enter drains.
Methods and materials for containment and cleanup	Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7. Handling and Storage

Handling	Provide appropriate exhaust ventilation at places where dust is formed.
Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: Ambient
Hazardous Decomposition Products	Not available.
Other Remarks	

Section 8. Exposure Controls/Personal Protection

Personal protective equipment

EXPOSURE CONTROLS

Contains no substances with occupational exposure limit values.
General industrial hygiene practice.

PERSONAL PROTECTION

Eye/face protection: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection: Choose body protection in relation to its type, to the concentration and amount of dangerous substances and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Section 9. Physical and Chemical Properties

Physical State	Solid.	Color	White crystal powder.
Boiling Point	Not available.	Volatility	Not available.
Melting Point	109°C	Density	Not available.
Solubility	Soluble in DMSO (10mg/mL).and Acetonitrile	pH	Not available.
Flash Point	Not available.	Ignition temperature	Not available.
Lower explosion limit	Not available.	Autoignition temperature	Not available.
Upper explosion limit	Not available.	Vapor pressure	Not available.
Water solubility	Not available.	Odor	Not available.
Partition coefficient: n-octanol/water	log Pow: 3.32	Odor Threshold	Not available.
Relative vapor density	Not available.	Evaporation rate	Not available.

Section 10. Stability and Reactivity

Stability Stable under recommended storage conditions.

Materials To Avoid Strong oxidizing agents.

Hazardous Decomposition Products Not available.

Possibility of hazardous reactions Not available.

Conditions to avoid Not available.

Section 11. Toxicological Information

Oral LD50 Rat - > 10,000 mg/kg
Mouse - > 10.048 mg/kg

Skin corrosion/irritation Not available.

Inhalation LC50 Not available.

Serious eye damage/irritation Not available.

Dermal LD50 Not available.

Respiratory or skin sensitization Not available.

Other information on acute toxicity Not available.

Germ cell mutagenicity Not available.

Reproductive Toxicity Not available.

Aspiration Hazard Not available.

Specific organ toxicity single exposure (GHS) Not available.

Synergistic effects Not available.

Specific organ toxicity repeated exposure (GHS) Not available.

Additional Information RTECS: GY5879600
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Teratogenicity Not available.

Signs and symptoms of exposure Not available.

Potential Health Effects Inhalation - May be harmful if inhaled. May cause respiratory tract irritation.
Skin - May be harmful if absorbed through skin. May cause skin irritation.
Eyes - May cause eye irritation.
Ingestion - May be harmful if swallowed.

Carcinogenicity **IARC:** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Section 12. Ecological Information

Toxicity Not available.

Mobility in soil Not available.

PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not

conducted.

Persistence and degradability Not available.

Other adverse effects Not available.

Bioaccumulative potential Not available.

Section 13. Disposal Considerations

Waste Disposal Dispose of material according to all federal, state, and local regulations.
Offer material to a licensed, professional waste disposal company to dispose of as unused product.

Section 14. Transport Information

DOT (US) Not dangerous goods.

IATA Not dangerous goods.

IMDG Not dangerous goods.

Further Information

Section 15. Regulatory Information

Reach No.

SARA 302 Components SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Components No SARA hazards.

Massachusetts Right To Know Components No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components Ramipril CAS #: 87333-19-5 Revision Date:

New Jersey Right To Know Components Ramipril CAS #: 87333-19-5 Revision Date:

California Prop 65 Components This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16. Other Information

Other information The information in this document is believed to be correct but is not necessarily complete. LKT does not guarantee the accuracy of the information. The burden of verifying the information in this document rests solely upon the user.

Updated 11/15/2018

For emergencies in the USA, call
CHEMTREC 800-424-9300