

# SAFETY DATA SHEET



## Ramipril Formulation

Version  
5.0

Revision Date:  
2025/04/14

SDS Number:  
3517181-00013

Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

---

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Ramipril Formulation

#### Manufacturer or supplier's details

Company : MSD

Address : 126 E. Lincoln Avenue  
Rahway, New Jersey U.S.A. 07065

Telephone : +1-908-740-4000

Emergency telephone number : +1-908-423-6000

E-mail address : EHSDATASTEWARD@msd.com

#### Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product

Restrictions on use : Not applicable

---

### 2. HAZARDS IDENTIFICATION

#### GHS Classification

Skin sensitisation : Category 1

Reproductive toxicity : Category 1A

Specific target organ toxicity - : Category 2 (Kidney)  
repeated exposure (Oral)

#### GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H317 May cause an allergic skin reaction.  
H360D May damage the unborn child.  
H373 May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.

Precautionary statements : **Prevention:**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read

# SAFETY DATA SHEET



## Ramipril Formulation

Version  
5.0

Revision Date:  
2025/04/14

SDS Number:  
3517181-00013

Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

---

and understood.

P260 Do not breathe dust.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

### Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

### Storage:

P405 Store locked up.

### Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

### Additional Labelling

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 10 %

### Other hazards which do not result in classification

Dust contact with the eyes can lead to mechanical irritation.

Contact with dust can cause mechanical irritation or drying of the skin.

May form explosive dust-air mixture during processing, handling or other means.

---

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Concentration (% w/w)
Starch	9005-25-8	>= 30 -< 60
Cellulose	9004-34-6	>= 30 -< 60
Ramipril	87333-19-5	>= 10 -< 30
Hydrolyzed Vegetable Protein	Not Assigned	< 10
Natural Pork Flavor	Not Assigned	>= 1 -< 10
Hydrogenated Vegetable Oil	Not Assigned	< 10

## 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.

When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.

# SAFETY DATA SHEET

## Ramipril Formulation



Version  
5.0

Revision Date:  
2025/04/14

SDS Number:  
3517181-00013

Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

---

In case of skin contact	<p>Get medical attention.</p> <p>: In case of contact, immediately flush skin with soap and plenty of water.</p> <p>Remove contaminated clothing and shoes.</p> <p>Get medical attention.</p> <p>Wash clothing before reuse.</p> <p>Thoroughly clean shoes before reuse.</p>
In case of eye contact	<p>: If in eyes, rinse well with water.</p> <p>Get medical attention if irritation develops and persists.</p>
If swallowed	<p>: If swallowed, DO NOT induce vomiting.</p> <p>Get medical attention.</p> <p>Rinse mouth thoroughly with water.</p>
Most important symptoms and effects, both acute and delayed	<p>: Contact with dust can cause mechanical irritation or drying of the skin.</p> <p>Dust contact with the eyes can lead to mechanical irritation.</p> <p>May cause an allergic skin reaction.</p> <p>May damage the unborn child.</p> <p>May cause damage to organs through prolonged or repeated exposure if swallowed.</p>
Protection of first-aiders	<p>: First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).</p>
Notes to physician	<p>: Treat symptomatically and supportively.</p>

---

## 5. FIREFIGHTING MEASURES

Suitable extinguishing media	<p>: Water spray</p> <p>Alcohol-resistant foam</p> <p>Carbon dioxide (CO<sub>2</sub>)</p> <p>Dry chemical</p>
Unsuitable extinguishing media	<p>: None known.</p>
Specific hazards during fire-fighting	<p>: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.</p> <p>Exposure to combustion products may be a hazard to health.</p>
Hazardous combustion products	<p>: Carbon oxides</p>
Specific extinguishing methods	<p>: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.</p> <p>Use water spray to cool unopened containers.</p> <p>Remove undamaged containers from fire area if it is safe to do so.</p> <p>Evacuate area.</p>
Special protective equipment for firefighters	<p>: In the event of fire, wear self-contained breathing apparatus.</p> <p>Use personal protective equipment.</p>

# SAFETY DATA SHEET



## Ramipril Formulation

Version  
5.0

Revision Date:  
2025/04/14

SDS Number:  
3517181-00013

Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

---

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

---

### 7. HANDLING AND STORAGE

Technical measures : Static electricity may accumulate and ignite suspended dust causing an explosion. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing. Do not breathe dust. Do not swallow. Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Keep container tightly closed. Minimize dust generation and accumulation. Keep container closed when not in use. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage : Keep in properly labelled containers. Store locked up.

# SAFETY DATA SHEET



## Ramipril Formulation

Version 5.0	Revision Date: 2025/04/14	SDS Number: 3517181-00013	Date of last issue: 2024/12/04 Date of first issue: 2018/10/11
----------------	------------------------------	------------------------------	---

Materials to avoid	Keep tightly closed. Store in accordance with the particular national regulations. : Do not store with the following product types: Strong oxidizing agents
--------------------	--

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
Starch	9005-25-8	NAB	10 mg/m3	ID OEL
	Further information: Not classified as carcinogenic to humans. Not enough data to classify these materials as carcinogenic to humans or animals			
Cellulose	9004-34-6	NAB	10 mg/m3	ID OEL
		TWA	10 mg/m3	ACGIH
Ramipril	87333-19-5	TWA	3 µg/m3 (OEB 4)	Internal
		Wipe limit	30 µg/100cm <sup>2</sup>	Internal

Engineering measures	: The information below is intended for larger pilot/commercial-scale operations and manufacturing. For smaller scale, clinical, or pharmacy settings, site-specific internal risk assessment practices should be conducted to determine appropriate exposure control measures. The health hazard risks of handling this material are dependent on multiple factors, including but not limited to physical form and quantity handled. If applicable, use process enclosures, local exhaust ventilation (e.g., Biosafety Cabinet, Ventilated Balance Enclosures), or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels as low as reasonably achievable. Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., vacuum conveying from a closed system, packout head with inflatable seal from stationary container, ventilated enclosure, etc.). All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment. Essentially no open handling permitted. Use closed processing systems or containment technologies.
----------------------	---

### Personal protective equipment

Respiratory protection	: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
Filter type	: Particulates type

# SAFETY DATA SHEET



## Ramipril Formulation

Version  
5.0

Revision Date:  
2025/04/14

SDS Number:  
3517181-00013

Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

---

### Hand protection

Material

: Chemical-resistant gloves

Remarks

: Consider double gloving.

Eye protection

: Wear safety glasses with side shields or goggles.

If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.

Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection

: Work uniform or laboratory coat.

Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.

Use appropriate degowning techniques to remove potentially contaminated clothing.

Hygiene measures

: If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.

When using do not eat, drink or smoke.

Contaminated work clothing should not be allowed out of the workplace.

Wash contaminated clothing before re-use.

The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

: powder

Colour

: No data available

Odour

: No data available

Odour Threshold

: No data available

pH

: No data available

Melting point/freezing point

: No data available

Initial boiling point and boiling range

: No data available

Flash point

: Not applicable

Evaporation rate

: Not applicable

Flammability (solid, gas)

: May form explosive dust-air mixture during processing, handling or other means.

# SAFETY DATA SHEET



## Ramipril Formulation

Version 5.0      Revision Date: 2025/04/14      SDS Number: 3517181-00013      Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

---

Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	No data available
Density	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
Particle characteristics		
Particle size	:	No data available

---

## 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	May form explosive dust-air mixture during processing, handling or other means. Can react with strong oxidizing agents.
Conditions to avoid	:	Heat, flames and sparks. Avoid dust formation.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition	:	No hazardous decomposition products are known.

# SAFETY DATA SHEET



## Ramipril Formulation

Version 5.0      Revision Date: 2025/04/14      SDS Number: 3517181-00013      Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

---

products

---

### 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation  
Skin contact  
Ingestion  
Eye contact

#### Acute toxicity

Not classified based on available information.

#### Components:

##### **Starch:**

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg
Acute dermal toxicity	: LD50 (Rabbit): > 2,000 mg/kg

##### **Cellulose:**

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 5.8 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 (Rabbit): > 2,000 mg/kg

##### **Ramipril:**

Acute oral toxicity	: LD50 (Rat): > 10,000 mg/kg  LD50 (Dog): > 1,000 mg/kg
Acute toxicity (other routes of administration)	: LD50 (Dog): > 250 mg/kg Application Route: Intravenous  LD50 (Rat): 600 mg/kg Application Route: Intravenous

#### **Skin corrosion/irritation**

Not classified based on available information.

#### **Serious eye damage/eye irritation**

Not classified based on available information.

#### Components:

##### **Starch:**

Species	: Rabbit
Result	: No eye irritation

# SAFETY DATA SHEET

## Ramipril Formulation



Version  
5.0

Revision Date:  
2025/04/14

SDS Number:  
3517181-00013

Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

### Respiratory or skin sensitisation

#### Skin sensitisation

May cause an allergic skin reaction.

#### Respiratory sensitisation

Not classified based on available information.

#### Components:

##### Starch:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Result	:	negative

##### Natural Pork Flavor:

Assessment	:	The product is a skin sensitisier, sub-category 1B.
------------	---	---

#### Germ cell mutagenicity

Not classified based on available information.

#### Components:

##### Starch:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
-----------------------	---	--

##### Cellulose:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
-----------------------	---	--

Test Type: In vitro mammalian cell gene mutation test  
Result: negative

Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Result: negative
----------------------	---	--

##### Ramipril:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
-----------------------	---	--

Test Type: unscheduled DNA synthesis assay  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster ovary cells

# SAFETY DATA SHEET



## Ramipril Formulation

Version  
5.0

Revision Date:  
2025/04/14

SDS Number:  
3517181-00013

Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

Result: negative

### Genotoxicity in vivo

: Test Type: Micronucleus test  
Species: mice  
Result: negative

### Carcinogenicity

Not classified based on available information.

### Components:

#### **Cellulose:**

Species : Rat  
Application Route : Ingestion  
Exposure time : 72 weeks  
Result : negative

#### **Ramipril:**

Species : Rat  
Application Route : Oral  
Exposure time : 24 month(s)  
NOAEL : 500 mg/kg body weight  
Result : negative

Species : Rat  
Application Route : Oral  
Exposure time : 18 month(s)  
NOAEL : 1,000 mg/kg body weight  
Result : negative

### **Reproductive toxicity**

May damage the unborn child.

### Components:

#### **Cellulose:**

Effects on fertility : Test Type: One-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative

Effects on foetal development : Test Type: Fertility/early embryonic development  
Species: Rat  
Application Route: Ingestion  
Result: negative

#### **Ramipril:**

Effects on fertility : Test Type: Fertility  
Species: Rat  
Application Route: Oral

# SAFETY DATA SHEET



## Ramipril Formulation

Version  
5.0

Revision Date:  
2025/04/14

SDS Number:  
3517181-00013

Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

	Fertility: NOAEL: 500 mg/kg body weight Result: No adverse effects
Effects on foetal development	: Test Type: Development Species: Rat Application Route: Oral Developmental Toxicity: NOAEL: 10 mg/kg body weight Result: Malformations were observed.
	Test Type: Development Species: Rat Application Route: Oral Developmental Toxicity: LOAEL: 50 mg/kg body weight Result: Malformations were observed.
	Test Type: Development Species: Rabbit Application Route: Oral Developmental Toxicity: NOAEL: 0.4 mg/kg body weight Result: Maternal toxicity observed.
	Test Type: Development Species: Rabbit Application Route: Oral Developmental Toxicity: LOAEL: 1 mg/kg body weight Result: Maternal toxicity observed.
	Test Type: Development Species: Monkey Application Route: Oral Developmental Toxicity: NOAEL: 5 mg/kg body weight Result: Maternal toxicity observed.
	Test Type: Development Species: Monkey Application Route: Oral Developmental Toxicity: LOAEL: 50 mg/kg body weight Result: Maternal toxicity observed.
Reproductive toxicity - Assessment	: May damage the unborn child.

### STOT - single exposure

Not classified based on available information.

### STOT - repeated exposure

May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.

### Components:

#### **Ramipril:**

Exposure routes	: Oral
Target Organs	: Kidney

# SAFETY DATA SHEET



## Ramipril Formulation

Version  
5.0

Revision Date:  
2025/04/14

SDS Number:  
3517181-00013

Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

### Assessment

: May cause damage to organs through prolonged or repeated exposure.

### Repeated dose toxicity

#### Components:

##### **Starch:**

Species	:	Rat
NOAEL	:	$\geq 2,000$ mg/kg
Application Route	:	Skin contact
Exposure time	:	28 Days
Method	:	OECD Test Guideline 410

##### **Cellulose:**

Species	:	Rat
NOAEL	:	$\geq 9,000$ mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days

##### **Ramipril:**

Species	:	Mouse
LOAEL	:	100 mg/kg
Application Route	:	Oral
Target Organs	:	Blood, Kidney
Symptoms	:	kidney effects
Species	:	Rat
NOAEL	:	2 mg/kg
Application Route	:	Oral
Species	:	Dog
NOAEL	:	2.5 mg/kg
LOAEL	:	250 mg/kg
Application Route	:	Oral
Target Organs	:	Blood, Kidney
Symptoms	:	kidney effects
Species	:	Monkey
NOAEL	:	8 mg/kg
LOAEL	:	250 mg/kg
Application Route	:	Oral
Target Organs	:	Blood, Kidney
Symptoms	:	kidney effects

### Aspiration toxicity

Not classified based on available information.

# SAFETY DATA SHEET



## Ramipril Formulation

Version  
5.0

Revision Date:  
2025/04/14

SDS Number:  
3517181-00013

Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

### Experience with human exposure

#### Components:

##### **Ramipril:**

Ingestion	: Symptoms: Allergic reactions, Kidney disorders, liver function change, Rash, Cough, Dizziness, Nausea, Headache, Vomiting
-----------	---

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### **Cellulose:**

Toxicity to fish	: LC50 (Oryzias latipes (Japanese medaka)): > 100 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
------------------	--

##### **Ramipril:**

Toxicity to fish	: LC50 (Brachydanio rerio (zebrafish)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

#### Hydrolyzed Vegetable Protein:

##### **Ecotoxicology Assessment**

Acute aquatic toxicity	: Toxic effects cannot be excluded
Chronic aquatic toxicity	: Toxic effects cannot be excluded

#### Natural Pork Flavor:

##### **Ecotoxicology Assessment**

Acute aquatic toxicity	: Toxic effects cannot be excluded
Chronic aquatic toxicity	: Toxic effects cannot be excluded

# SAFETY DATA SHEET



## Ramipril Formulation

Version 5.0      Revision Date: 2025/04/14      SDS Number: 3517181-00013      Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

---

### Hydrogenated Vegetable Oil:

#### Ecotoxicology Assessment

Acute aquatic toxicity	:	Toxic effects cannot be excluded
Chronic aquatic toxicity	:	Toxic effects cannot be excluded

#### Persistence and degradability

#### Components:

##### Cellulose:

Biodegradability	:	Result: Readily biodegradable.
------------------	---	--------------------------------

##### Ramipril:

Biodegradability	:	Result: Not readily biodegradable. Biodegradation: 20 - 50 % Exposure time: 28 d Method: OECD Test Guideline 301A
------------------	---	--

#### Bioaccumulative potential

No data available

#### Mobility in soil

No data available

#### Other adverse effects

No data available

---

## 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

Waste from residues	:	Do not dispose of waste into sewer. Dispose of in accordance with local regulations.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product.

## 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Environmentally hazardous	:	no

# SAFETY DATA SHEET



## Ramipril Formulation

Version 5.0      Revision Date: 2025/04/14      SDS Number: 3517181-00013      Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

---

### IATA-DGR

UN/ID No. : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
Packing instruction (cargo aircraft) : Not applicable  
Packing instruction (passenger aircraft) : Not applicable

### IMDG-Code

UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
EmS Code : Not applicable  
Marine pollutant : Not applicable

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### Special precautions for user

Not applicable

---

## 15. REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture

**Minister of Industry Regulation No. 23/M-IND/PER/4/2013 concerning the Revision of Minister of Industry Regulation No. 87/M-IND/PER/9/2009 concerning Globally Harmonized System of Classification and Labelling of Chemicals.**

### **Regulation of the Minister of Health No. 472 of 1996 on the Safeguarding of Substances Hazardous to Health**

Hazardous substances that must be registered : Not applicable

### **Government Regulation No. 74 of 2001 on the Management of Hazardous and Toxic Substances**

Hazardous substances approved for use : Not applicable

Prohibited substances : Not applicable

Restricted substances : Not applicable

### **Regulation of the Ministry of Trade No. 7 of 2022 on Distribution and Control of Hazardous Materials**

Type of hazardous materials subject to distribution and control, Annex I : Not applicable

Type of hazardous materials subject to distribution and : Not applicable

# SAFETY DATA SHEET



## Ramipril Formulation

Version 5.0      Revision Date: 2025/04/14      SDS Number: 3517181-00013      Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

---

control, Annex II

### **The components of this product are reported in the following inventories:**

AICS : not determined  
DSL : not determined  
IECSC : not determined

---

## 16. OTHER INFORMATION

Revision Date : 2025/04/14

### **Further information**

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format : yyyy/mm/dd

### **Full text of other abbreviations**

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
ID OEL : Indonesia. Occupational Exposure Limits  
  
ACGIH / TWA : 8-hour, time-weighted average  
ID OEL / NAB : Long term exposure limit

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECL - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumu-

# SAFETY DATA SHEET



## Ramipril Formulation

Version  
5.0

Revision Date:  
2025/04/14

SDS Number:  
3517181-00013

Date of last issue: 2024/12/04  
Date of first issue: 2018/10/11

---

lative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

ID / EN