1 Identification of the substance/mixture and of the company/undertaking

· Informations to product No. 4155
· Product name:
  Captopril, API (mikrobielle Herkunft)
  Captoprilum

· Supplier of the Product / responsible Company:
  Caesar & Loretz GmbH
  Herderstr. 31
  40721 Hilden
  Tel.: 02103/4994-0
  Fax: 02103/32360
  e-mail: info@caelo.de

· Emergency telephone:
  Giftinformationszentrum Mainz
  Langenbeckstr. 1, 55131 Mainz
  Tel.: 06131/19240

· Relevant identified uses of the substance or mixture and uses advised against:
  No further relevant information available.

· Application of the substance / mixture:
  Ingredient for pharmaceutical drugs or active pharmaceutical ingredient.

2 Hazards identification

· GHS-Labelling Elements:

  · Signal word: Danger
  · H-Phrases:
    H317 May cause an allergic skin reaction.
    H360 May damage fertility or the unborn child

  · P- Phrases:
    P202 Do not handle until all safety precautions have been read and understood
    P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
    P280 Wear protective gloves/protective clothing/eye protection/face protection.
    P405 Store locked up.

  Repr. 1A
  Skin Sens. 1
3 Composition / information on ingredients

CAS-No. Substance name
62571-86-2 Captopril
  · EINECS-No.: 263-607-1
  · REACH Reg. No.: (pre-registered)
  · INCI-Name: -
  · Chemical characterization:

![Chemical Structure](image)

4 First aid measures

· after inhalation: Fresh air. Get medical advice.
· after skin contact: Take off contaminated clothes and shoes, wash immediately with plenty of water and soap.
· after eye contact: Rinse out with plenty of water with the eyelid wide open.
· after swallowing: Drink water. Induce vomiting. Seek medical advice.

5 Fire-fighting measures

· Suitable extinguishing media: All regular extinguishing media can be used. Select fire fighting measures suitable to surrounding environment.
· Specific hazards during fire fighting: Combustible. In case of fire dangerous vapours/gases can be generated: sulfur oxides, nitrogen oxides.
· Special protective equipment for fire-fighters: Suitable protective clothes and respiratory protection.
· Additional information: Prevent fire extinguishing water from contaminating surface water, the ground water system or soil. Residues must be deposited according to local regulations.

6 Accidental release measures:

· Personal protective measures: Avoid dust formation and contact with substance.
· Environmental protective measures: Prevent from entering into drains.
· Methods for cleaning: Take up dry. Disposal according to Chapter 13 of this MSDS. Clean up with water.
7 Handling and storage

- **Handling:** Ensure good ventilation / exhaustion at the workplace. Avoid formation of dust, aerosol.
- **Advice on safe handling:** The usual precaution measures during handling of chemicals are to observe.
- **Informations to fire or explosion protection:** Avoid generating dust and aerosols. Good ventilation if dust is generated. Keep away from ignition sources.
- **Storage:**
  - **Requirements for storage areas and containers:** Tightly closed. Store at a dry, ventilated place.
  - **Advice on common storage:** Not required.
  - **Additional informations to storage conditions:** none

8 Exposure controls / personal protective equipment

- **Personal protective equipment:**
  - **General protective and hygiene measures:** The usual precaution measures during handling of chemicals are to observe. Remove contaminated clothing immediately. Avoid contact with skin.
  - **Respiratory protection:** Dust protection mask.
  - **Hand protection:** Protection gloves of rubber or latex.
  - **Eye protection:** Tightly closing Safety glasses

9 Physical and chemical properties

- **Form:** fine crystalline powder.
- **Colour:** white
- **Odour:** Odourless
- **Melting point / melting range:** 104 - 108 °C
- **Boiling point / boiling range:** not determined
- **Flash point:** not inflammable
- **Solubility in / Miscibility with**
  - **Water:** readily soluble

10 Stability and reactivity

- **Stability:** the product is stable
- **Thermical decomposition / conditions to avoid:** No decomposition during appropriate use.
- **Hazardous reactions:** reactions with the strong oxidants
- **Hazardous decomposition products:** Carbon monoxide and carbon dioxide, nitrogen oxides (NOx) and sulfur dioxide.

11 Toxicological information

- **Acute toxicity:**
  - **LD/LD50-data relevant for hazard classification:**
    - **LD/LC50:** 4245mg/kg (rat)
  - **Primary irritant effect:** On skin: irritant to the skin
On eyes: irritant
- Sensitization: possible during the skin contact

12 Ecological information

- Aquatic toxicity: No data available.
- log pO/W: 0.34
- Water hazard class: 1 (self classification): slightly hazardous for water.
- General advices: Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

- Recommendation: Disposal according to local regulations as pharmaceutical waste.
- Empty contaminated packaging:
  - Recommendation: Disposal according to the local regulations.

14 Transport informations

- Land transport according to ADR:
  Not classified as dangerous in the meaning of transport regulations.

15 Regulatory information

- Labelling according to actual legislation (GHS, Globally Harmonized System of Classification and Labelling of Chemicals):
The product is classified and labelled according to GHS-regulations.
- Hazard symbols: GHS07, GHS08
- Signal word: Danger
- H-Phrases:
  H317 May cause an allergic skin reaction.
  H360 May damage fertility or the unborn child
- P-Phrases:
  P202 Do not handle until all safety precautions have been read and understood
  P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
  P280 Wear protective gloves/protective clothing/eye protection/face protection.
  P405 Store locked up.
- National regulations (Germany):
  - Water hazard class: see chapter 12
  - Storage class TRGS 510: 11

16 Other Information

The information provided in this MSDS is correct to the best of our knowledge at the date of edition.

- Reason for last revision: Adjustment to regulation (EC) 1907/2006 (REACH) and GHS-labelling system.