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

- **Informations to product No. 2569**
- **Product name:**

Riboflavin
Riboflavinum

- **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

- **Hazard classification:** The substance is not classified as dangerous according to European Union legislation.

3 Composition / information on ingredients

- **Chemical characterization:**

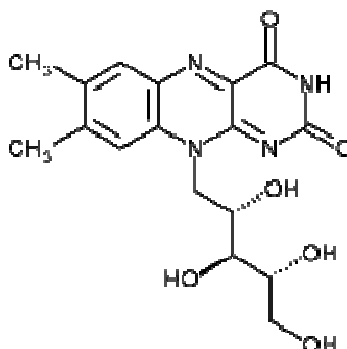
CAS-No. Substance name


83-88-5 Vitmin B2 (Riboflavin)

- **EINECS-No.:** 201-507-1

- **REACH Reg. No.:** 01-2120745124-62-0000

- **INCI-Name:** Riboflavin



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4 First aid measures

- **after inhalation:** Fresh air.
- **after skin contact:** Remove contaminated clothing. Wash away with water and soap.
- **after eye contact:** Rinse out with plenty of water with the eyelid wide open.
- **after swallowing:** Rinse mouth, drink plenty of water.

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: Smoke gases.
- **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 contact with substance and dust formation.
- **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:**
- **Informations to fire or explosion protection:** Avoid dust formation, Take measures to prevent electrostatic charging.
- **Storage:**
- **Requirements for storage areas and containers:** Tightly closed. Store at a dry place. At room temperature (+15°C to +25°C).
- **Advices 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.
- **Respiratory protection:** Required if dusts are generated.
- **Hand protection:** Protection gloves of latex or rubber
- **Eye protection:** Safety glasses

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9 Physical and chemical properties

- **Form:** Crystalline powder
- **Colour:** yellow-orange
- **Odour:** faint odour
- **Melting point / melting range:** 290 °C (Decomposition)
- **Boiling point / boiling range:** not determined
- **Density:** 0,3 g/cm³ (Bulk density)
- **Solubility in / Miscibility with**
- **Water:** (20 °C) 0,07 g/l
- **pH-range:** (0,07 g/l, 20 °C) 5,5 - 7,2

10 Stability and reactivity


- **Thermal decomposition / conditions to avoid:** Avoid strong heating..
- **Materials to avoid:** Strong oxidants.
- **Hazardous reactions:** No hazardous reactions known.
- **Hazardous decomposition products:** none.

11 Toxicological information

- **Acute toxicity:**
LD50/oral/Rat: > 10.000 mg/kg (Richtlinie 92/69/EWG, B.1)
LC50/inhalativ/Rat: > 5,4 mg/l / 4 h(BASF-Test)
After singular oral or inhalative exposition nearly not toxic.
- **Primary irritant effect:**
- **On skin:** (Rabbit) Not irritant. (Draize-Test)
- **On eyes:** (Rabbit) Not irritant. (Draize-Test)
- **Sensitization:** No sensitizing effect on skin in animal experiments.

12 Ecological information

- **Aquatic toxicity:**
Fish:Brachydanio rerio/LC50 (96 h): > 10.000 mg/l (OECD 203)
Bacteria: Pseudomonas putida/EC50 (0,5 h): > 10.000 mg/l (DIN 38412 Teil 2)
The product is less soluble in water. A watery solution, prepared with solubilizers, was tested.
With high probability not acute harmful for water organisms.
- **Persistence and biodegradability**
Elimination: Method: OECD-guideline 301 F (aerob), activated sludge.
Elimination: 90 - 100 % (28 d)
Readily biodegradable. (OECD-criteria).
- **Bioaccumulation potential:** Bioaccumulation is not likely.
- **log p(O/W):** -1,46 (measure)
- **Water hazard class:** 1 (self classification): slightly hazardous for water.

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13 Disposal considerations

- **Product:**
- **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 does not need to be labelled according to GHS-regulations.
- **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.