



SAFETY DATA SHEET

Creation Date 30-Oct-2009

Revision Date 09-Feb-2011

Revision Number 2

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Description: Riboflavin
Cat No. 132350000; 132350250; 132351000
Synonyms Vitamin B2; Lactoflavine

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory chemicals
Uses advised against No Information available

Details of the supplier of the safety data sheet

Company

Acros Organics BVBA
Janssen Pharmaceuticaaan 3a
2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

Emergency Telephone Number

For information in the US, call: 001-800-ACROS-01
For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
CHEMTREC Phone Number, Europe: 001-703-527-3887

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Not hazardous

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R phrases mentioned in this Section, see Section 16

R -phrase(s) none

Label Elements

Signal Word None

Hazard Statements

Other Hazards

No information available.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | EC No. | Weight % | CAS-No | Classification | GHSCLAS | REACH Reg. No. |
|-----------------------|-----------------------|----------|---------|----------------|---------|----------------|
| Riboflavin 83-88-5 | EEC No. 201- 507-1 | >95 | 83-88-5 | - | - | - |

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Description of first aid measures

| | |
|---------------------------|---|
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes Obtain medical attention |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes Get medical attention immediately if symptoms occur |
| Ingestion | Do not induce vomiting Obtain medical attention |
| Inhalation | Move to fresh air If breathing is difficult, give oxygen Get medical attention immediately if symptoms occur |
| Notes to Physician | Treat symptomatically |

5. FIRE-FIGHTING MEASURES

Extinguishing media
Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors

Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.

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Environmental precautions

Should not be released into the environment.

Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment Ensure adequate ventilation Avoid contact with skin, eyes and clothing Avoid ingestion and inhalation Avoid dust formation

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place

Specific End Uses

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

Exposure controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location Ensure adequate ventilation, especially in confined areas

Personal protective equipment

Eye Protection

Safety glasses with side-shields

Hand Protection

Protective gloves

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

Solid

Appearance

Yellow-orange

odor

odorless

pH

5.5-7.2 0.07g/l water (20°C)

Vapor Pressure

negligible

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9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|----------------------------------|---------------------------|
| Vapor Density | No information available. |
| Boiling Point/Range | No information available. |
| Melting Point/Range | 290°C / 554°F |
| Decomposition temperature | 290 °C |
| Flash Point | No information available. |
| Evaporation Rate | negligible |
| Water Solubility | 0.07 g/l (20°C) |
| Molecular Formula | C17 H20 N4 O6 |
| Molecular Weight | 376.36 |

10. STABILITY AND REACTIVITY
Reactivity
Chemical Stability

Light sensitive.

Possibility of Hazardous Reactions
Hazardous Polymerization

No information available.

Hazardous Reactions .

None under normal processing..

Conditions to Avoid

Incompatible products, Excess heat, Avoid dust formation, Exposure to light.

Incompatible Materials

Strong oxidizing agents, Bases, Reducing agents.

Hazardous Decomposition Products

 Carbon monoxide (CO). Carbon dioxide (CO₂). Nitrogen oxides (NO_x).

11. TOXICOLOGICAL INFORMATION
Information on Toxicological Effects
Acute Toxicity
Product Information

See actual entry in RTECS for complete information.

Component Information
Component

Riboflavin

| | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|--|------------------|--------------------|------------------------|
| | 10 g/kg (Rat) | | >5.4 mg/L/4h (rat) |

Chronic Toxicity
Carcinogenicity

There are no known carcinogenic chemicals in this product

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| | |
|--|---|
| Sensitization | No information available. |
| Mutagenic Effects | No information available |
| Reproductive Effects | No information available. |
| Developmental Effects | No information available. |
| Target Organs | None known. |
| Other Adverse Effects | The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information |
| Endocrine Disruptor Information | None known |

12. ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity effects Do not empty into drains

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|------------|------------------|--|----------|--------------------|
| Riboflavin | | Brachydanio rerio: LC50 >10000 mg/L/96h | | EC50 >7.4 mg/L/48h |

Persistence and degradability

Readily biodegradable

Bioaccumulative potential

No information available.

| Component | log Pow |
|------------|---------|
| Riboflavin | -1.46 |

Mobility in soil

No information available.

Results of PBT and vPvB assessment

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues / Unused Products Dispose of in accordance with local regulations

Contaminated Packaging Empty containers should be taken for local recycling, recovery or waste disposal

14. TRANSPORT INFORMATION

IMDG/IMO Not regulated

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14. TRANSPORT INFORMATION

ADR Not regulated

IATA Not regulated

15. REGULATORY INFORMATION

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

International Inventories

| Component | EINECS | ELINCS | NLP | TSCA | DSL | NDSL | PICCS | ENCS | CHINA | AICS | KECL |
|------------|-----------|--------|-----|------|-----|------|-------|------|-------|------|---------------|
| Riboflavin | 201-507-1 | - | | X | X | - | X | X | X | X | KE-11845 X |

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory Lists

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

CHINA - China Inventory of Existing Chemical Substances

AICS - Inventory of Chemical Substances

KECL - Existing and Evaluated Chemical Substances

Chemical Safety Assessment

16. OTHER INFORMATION

Text of R phrases mentioned in Section 2-3

No information available.

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Revision Summary Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text

End of Safety Data Sheet

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