

## 1. Product and Company Identification

www.rxmarine.com

Product Name Riboflavin  
Part Number RXSOL-19-3215-050

Company Details:....

RX MARINE INTERNATIONAL  
105, A wing , BSEL , TECH PARK.  
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## 2. Composition / Information on ingredients

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### Substances

Formula C<sub>17</sub>H<sub>20</sub>N<sub>4</sub>O<sub>6</sub>  
Molecular weight 376,37 g/mol  
CAS-No. 83-88-5  
EC-No. 201-507-1

No components need to be disclosed according to the applicable regulations.

### 3. Hazards Identification

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#### Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

#### Label elements

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required

#### Other hazards

This substance/mixture contains no components considered to be either persistent,

bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at

levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine

disrupting properties according to REACH Article 57(f) or Commission Delegated regulation

(EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine

disrupting properties according to REACH Article 57(f) or Commission Delegated regulation

(EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## 4. First Aid Measures

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### Description of first-aid measures

**If inhaled**

After inhalation: fresh air

**In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

**In case of eye contact**

After eye contact: rinse out with plenty of water. Remove contact lenses.

**If swallowed**

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

**Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**Indication of any immediate medical attention and special treatment needed**

No data available

## 5. Fire-fighting Measures

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### Extinguishing media

**Suitable extinguishing media**

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

**Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

**Special hazards arising from the substance or mixture**

Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard.

In a fire or if heated, a pressure increase will occur and the container may burst, with the

risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along

the ground. Vapors may accumulate in low or confined areas or travel a considerable

distance to a source of ignition and flash back.

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Carbon oxides

Nitrogen oxides (NOx)

Combustible.

Fire may cause evolution of:

nitrogen oxides, Hydrogen cyanide (hydrocyanic acid), nitrous gases

Development of hazardous combustion gases or vapours possible in the event of fire.

In the event of fire, wear self-contained breathing apparatus.

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

spray to keep fire-exposed containers cool. Promptly isolate the scene by removing all persons from the vicinity of the incident if

there is a fire. No action shall be taken involving any personal risk or without suitable

training. Move containers from fire area if this can be done without risk. Use water

spray to keep fire-exposed containers cool.

#### **Advice for firefighters**

#### **Further information Suppress (knock down)**

## **6. Accidental Release Measures**

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#### **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

#### **Environmental precautions**

Do not let product enter drains.

#### **Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

#### **Reference to other sections**

For disposal see section 13.

## **7. Handling and Storage**

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#### **Precautions for safe handling**

For precautions see section 2.2.

#### **Conditions for safe storage, including any incompatibilities**

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**Storage conditions**

Protected from light.Tightly closed. Dry.

**Storage class**

Recommended storage temperature see product label.

**Specific end use(s)**

Storage class (TRGS 510): 11: Combustible Solids

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. Exposure controls and personal protection

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**Control parameters****Ingredients with workplace control parameters****Exposure controls****Personal protective equipment****Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

**Skin protection**

This recommendation applies only to the product stated in the safety data sheet,

supplied by us and for the designated use. When dissolving in or mixing with other

substances and under conditions deviating from those stated in EN 16523-1 please

contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell,

Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

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supplied by us and for the designated use. When dissolving in or mixing with other

substances and under conditions deviating from those stated in EN 16523-1 please

contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124

Eichenzell,

Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

Required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following

standards: DIN EN 143, DIN 14387 and other accompanying standards relating to

the used respiratory protection system.

Recommended Filter type: Filter type P1

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory

protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Do not let product enter drains.

## Respiratory protection

## Control of environmental exposure

## 9. Physical and chemical properties

Information on basic physical and chemical properties

[www.rxmarine.com](http://www.rxmarine.com)

Physical state

solid

Colour

yellow

Odor

odorless

Melting point/freezing point

Melting point: 290 °C

Initial boiling point and boiling range

No data available

Flammability (solid, gas)

No data available

Upper/lower flammability or explosive limits

No data available

Flash point

Not applicable

Autoignition temperature

No data available

Decomposition temperature

No data available

**materials. Extremely flammable in the presence of the following materials or conditions: oxidizing**

**materials.**

ca.6

pH

Viscosity

Viscosity, kinematic: No data available

Viscosity, dynamic: No data available

Water solubility

No data available

Partition coefficient: n-octanol/water

log Pow: 1,46 - Bioaccumulation is not expected.

Vapor pressure

< 0,001 hPa

Density

No data available

Relative density

No data available

<b>Relative vapor density</b>	No data available
<b>Particle characteristics</b>	No data available
<b>Explosive properties</b>	No data available
<b>Oxidizing properties</b>	none
<b>Other safety information</b>	Bulk density ca.100 kg/m3

## 10. Stability and reactivity

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<b>Reactivity</b>	The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.
<b>Chemical stability</b>	The product is chemically stable under standard ambient conditions (room temperature) .
<b>Possibility of hazardous reactions</b>	Violent reactions possible with:  Strong oxidizing agents
<b>Conditions to avoid</b>	No information available
<b>Incompatible materials</b>	No data available
<b>Hazardous decomposition products</b>	In the event of fire: see section 5

## 11. Toxicological information

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### Information on toxicological effects

<b>Acute toxicity</b>	LD50 Oral - Rat - > 10.000 mg/kg  Remarks: (RTECS)  LC50 Inhalation - Rat - 4 h - > 5,4 mg/l - dust/mist  Remarks: (External MSDS)
<b>Skin corrosion/irritation</b>	Dermal: No data available Skin - Rabbit  Result: No skin irritation  Remarks: (External MSDS)
<b>Serious eye damage/eye irritation</b>	Eyes - Rabbit  Result: No eye irritation  Remarks: (External MSDS)
<b>Respiratory or skin sensitization</b>	In animal experiments:  Result: negative  Remarks: (External MSDS)In animal experiments:  Result: negative  Remarks: (External MSDS)
<b>Germ cell mutagenicity</b>	Test Type: Ames test  Test system: Salmonella typhimurium

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Result: negative

Remarks: (National Toxicology Program)

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

**Endocrine disrupting properties**

**Product**

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Substances which occur in nature

Handle in accordance with good industrial hygiene and safety practice.

## 12. Ecological information

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**Toxicity**

Toxicity to fish

static test LC50 - Danio rerio (zebra fish) - > 10.000 mg/l - 96 h

(OECD Test Guideline 203)

Remarks: (above the solubility limit in the test medium)

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - > 47,4 mg/l - 48 h

(OECD Test Guideline 202)

Toxicity to bacteria

EC50 - Pseudomonas putida - > 10.000 mg/l - 0,5 h

Remarks: (above the solubility limit in the test medium)

(External MSDS)

**Persistence and degradability**

Biodegradability

Aerobic - Exposure time 28 d

Result: 90 - 100 % - Readily biodegradable.

(OECD Test Guideline 301F)

No data available

No data available

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Bioaccumulative potential  
Mobility in soil  
Results of PBT and vPvB assessment

Endocrine disrupting properties

Product  
Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission

Regulation (EU) 2018/605 at levels of 0.1% or higher.

No data available

Other adverse effects

### 13. Disposal considerations

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Waste treatment Method

No data available

### 14. Transport information

[www.rxmarine.com](http://www.rxmarine.com)

UN number

ADR/RID: IMDG: IATA:

UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

Transport hazard class(es)

ADR/RID: IMDG: IATA:

Packaging group

ADR/RID: IMDG: IATA:

Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

Special precautions for user

No data available

Further information

Not classified as dangerous in the meaning of transport regulations.

### 15. Regulatory information

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

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

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

### 16. Other information

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Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event

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