

# Material Safety Data Sheet

## Riboflavin 98%

ACC# 01381

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Riboflavin 98%

**Catalog Numbers:** AC132350000, AC132350250, AC132351000

**Synonyms:** Vitamin B2; Lactoflavine; Vitamin G; 7,8-dimethyl-10-(D-ribo-2,3,4,5-tetrahydroxypentyl)isoalloxazine; 7,8-dimethyl-10-ribitylisoalloxazine

**Company Identification:**

Acros Organics N.V.  
One Reagent Lane  
Fair Lawn, NJ 07410

**For information in North America, call:** 800-ACROS-01

**For emergencies in the US, call CHEMTREC:** 800-424-9300

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
83-88-5	Riboflavin	100	201-507-1

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: orange needles.

**Caution!** May cause eye and skin irritation. May cause respiratory and digestive tract irritation. Light sensitive. This is expected to be a low hazard for usual industrial handling.

**Target Organs:** No data found.

#### Potential Health Effects

**Eye:** May cause eye irritation.

**Skin:** May cause skin irritation.

**Ingestion:** Ingestion of large amounts may cause gastrointestinal irritation. Low hazard for usual industrial handling.

**Inhalation:** May cause respiratory tract irritation. Low hazard for usual industrial handling.

**Chronic:** Not available. Prolonged exposure may cause discoloration of the skin.

### Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dust can be an explosion hazard when exposed to heat or flame.

**Extinguishing Media:** In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 0; Instability: 0

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation.

## Section 7 - Handling and Storage

**Handling:** Use with adequate ventilation. Avoid contact with skin and eyes. Keep container tightly closed. Avoid ingestion and inhalation. Store protected from light. Wash clothing before reuse.

**Storage:** Store in a tightly closed container. Store below 40°C. Store protected from light. Store in a cool, dry area away from incompatible substances.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Riboflavin	none listed	none listed	none listed

**OSHA Vacated PELs:** Riboflavin: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to minimize contact with skin.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

## Section 9 - Physical and Chemical Properties

**Physical State:** Needles

**Appearance:** orange

**Odor:** odorless

**pH:** ~6 (in sat aq soln)

**Vapor Pressure:** Negligible.

**Vapor Density:** Not available.

**Evaporation Rate:** negligible

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:** 290 deg C

**Decomposition Temperature:** 278 - 282 deg

**Solubility:** 0.1g/L (25°C)

**Specific Gravity/Density:** Not available.

**Molecular Formula:** C<sub>17</sub>H<sub>20</sub>N<sub>4</sub>O<sub>6</sub>

**Molecular Weight:** 376.36

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures. May decompose on exposure to moist air or water. Darkens on exposure to light.

**Conditions to Avoid:** Incompatible materials, light, moisture, excess heat.

**Incompatibilities with Other Materials:** Strong oxidizing agents, reducing agents, bases, metallic salts, calcium, moisture, direct light.

**Hazardous Decomposition Products:** Nitrogen oxides, carbon monoxide, oxides of phosphorus, carbon dioxide.

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

### RTECS#:

CAS# 83-88-5: VJ1400000

### LD50/LC50:

CAS# 83-88-5:

Oral, rat: LD50 = >10 gm/kg;

### Carcinogenicity:

CAS# 83-88-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information available.

**Teratogenicity:** No information available.

**Reproductive Effects:** No information available.

**Mutagenicity:** Mutagenic effects have occurred in experimental animals.

**Neurotoxicity:** No information available.

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** No data available. No information available.

**Environmental:** No data available.

**Physical:** No data available.

**Other:** None.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	Not regulated as a hazardous material	No information available.
<b>Hazard Class:</b>		
<b>UN Number:</b>		
<b>Packing Group:</b>		

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 83-88-5 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### Section 313

No chemicals are reportable under Section 313.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 83-88-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

#### California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

### European/International Regulations

#### European Labeling in Accordance with EC Directives

#### Hazard Symbols:

XI

#### Risk Phrases:

R 36/37/38 Irritating to eyes, respiratory system and skin.

#### Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 37/39 Wear suitable gloves and eye/face protection.

#### WGK (Water Danger/Protection)

CAS# 83-88-5: No information available.

#### Canada - DSL/NDSL

CAS# 83-88-5 is listed on Canada's DSL List.

#### Canada - WHMIS

This product has a WHMIS classification of D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all

of the information required by those regulations.

**Canadian Ingredient Disclosure List**

**Section 16 - Additional Information**

**MSDS Creation Date:** 6/30/1999

**Revision #3 Date:** 10/03/2005

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