



# SAFETY DATA SHEET

## 1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Riboflavin, USP Grade  
PRODUCT NUMBER: R779  
COMPANY INFO: *PhytoTechnology Laboratories*®  
PO Box 12205, Shawnee, KS 66282-2205  
Phone: 1-888-749-8682 or 1-913-341-5343; Fax: 1-888-449-8682 or 1-913-341-5442  
www.phytotechlab.com

EMERGENCY PHONE NUMBER: 1-800-535-5053 - US Only  
1-352-323-3500 - International

RECOMMENDED USE: For Research Use Only

RESTRICTIONS ON USE: Products sold by *PhytoTechnology Laboratories*® are intended for research and laboratory use only. Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, or as household chemicals.

## 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Not a hazardous substance or mixture.

GHS Label elements, including hazard and precautionary statements:

Not a hazardous substance or mixture.

Hazards not otherwise classified (HNOC) or not covered by GHS - None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: 7,8-Dimethyl-10-(D-ribo-2,3,4,5-tetrahydroxypentyl)-isoalloxazine; Vitamin B<sub>2</sub>  
CAS No: 83-88-5  
Formula: C<sub>17</sub>H<sub>20</sub>N<sub>4</sub>O<sub>6</sub>  
Molecular Weight: 376.37  
EC No.: 201-507-1

Ingredient	CAS Number	Percent	Hazardous
Riboflavin	83-88-5	>99 %	No exposure limits established by OSHA or ACGIH

## 4. FIRST AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Route of Entry	Symptoms	First Aid Procedures
Ingestion	May cause irritation if swallowed	If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. <b>Get medical attention.</b>
Inhalation	May cause irritation to respiratory tract	Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. <b>Get medical attention.</b>
Eye Contact	Direct contact may cause irritation. May cause redness, tearing, or blurred vision.	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. <b>Get medical attention if irritation persists.</b>

Skin Contact                    Irritating. May cause reddening, itching or inflammation.                    Wash area thoroughly with soap and water. Remove and wash contaminated clothing. **Get medical attention if irritation persists.**

Most Important Symptoms or Effects, Both Acute and Delayed:

See section 2 and/or section 11

Recommendation for Immediate Medical Care and Special Treatment Needed:

No data available

## 5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:                    Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.

Special Protective Equipment and Precaution for Firefighters:                    In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance.

Hazardous Combustion Products:                    May emit toxic fumes under fire conditions. Build-up of dust may cause explosion.

Toxic Gases Produced:                    Carbon monoxide, carbon dioxide, nitrogen oxides

## 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental Precautions:                    Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Method of Containment and Cleanup:                    Wear suitable protective clothing. Avoid dust formation. Carefully sweep up and remove. Place material in a dry container and cover. Remove from the area. Flush spill area with water. Do not let products enter drains.

## 7. HANDLING AND STORAGE

Precaution for Safe Handling:                    Avoid contact with skin and eyes. Avoid dust formation and aerosols. Avoid incompatible substances. Wash thoroughly after use.

Conditions for Safe Storage:                    Keep in a tightly closed container and store in a cool, dry, and well-ventilated area. Protect from moisture.

Recommended Storage Temperature:                    Room Temperature

Incompatibilities:                    Strong oxidizing agents, reducing agents, calcium, metallic salts

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA's Permissible Exposure Limits (PELs):                    No data available

Threshold Limit Values (TLVs):                    No data available

Engineering Controls:                    Handle in accordance to general industrial hygiene and safety practice.

Personal Protective Equipment (PPE):

    Eye/Face Protection:                    Chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.

    Skin Protection:                    Protective gloves

    Body Protection:                    Lab coat

    Respiratory Protection:                    Respiratory protection is not required.  
    Use N95 (US) or type P1 (EN 143) dust mask where dust level is nuisance.  
    A NIOSH/MSHA approved air purifying respirator is recommended where airborne concentrations are expected to exceed exposure limits. Protection provided by purifying respirators is limited.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Yellow to Orange Powder
pH (0.001 g/L):	Under Development (9.0 – 11.0 suspected range) (solvent dependant)
Solubility:	Very slightly soluble in cold water; More soluble in NaOH or KOH
Melting Range:	278-282 °C
Vapor Density:	No data available
Vapor Pressure:	No data available
Specific Gravity:	No data available
Odor:	Odorless
Odor Threshold:	No data available
Viscosity:	No data available
Relative Density:	No data available
Evaporation Rate:	No data available
Initial Boiling Point and Boiling Range:	No data available
Flammability (solid, gas):	No data available
Partition coefficient: n-octanol/water):	No data available
Auto-ignition Temperature:	No data available
Decomposition Temperature:	No data available
Flash Point (Closed Cup):	No data available
Flammable Limits:	Upper (%) – No data available      Lower (%) – No data available

## 10. STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical Stability:	Stable under normal conditions of use
Possibility of Hazard Reactions:	Will not occur
Conditions to Avoid:	Excessive heat, light, dust generation
Incompatibles Materials:	Strong oxidizing agents, reducing agents, calcium, metallic salts
Hazardous Decomposition Products:	Carbon dioxide, carbon monoxide, nitrogen oxides

## 11. TOXICOLOGICAL INFORMATION

Toxicity:	LD <sub>50</sub> (Oral-Rat)(mg/Kg):	>10,000
	LD <sub>50</sub> (IV-Rat)(mg/Kg):	50
	LD <sub>50</sub> (IP-Rat)(mg/Kg):	560
Carcinogenicity:	NTP:	No
	IARC:	No
	Z List:	No
	OSHA Reg:	No
Reproductive Toxicity:	No data available	
Symptoms Associated with Overexposure:	Irritation, itching, gastrointestinal upset, headache, possible kidney impairment, possible mutagenic effects, weight loss or gain, nausea, vomiting.	

Specific Target Organ Toxicity:	Single Exposure:	No data available
	Repeated Exposure:	No data available
Target Organs:	Kidneys	
Medical Conditions Aggravated By Exposure:	None identified	
Routes of Entry:	Ingestion, inhalation, skin and eye contact	
NIOSH/RTECS NO:	VJ1400000	

***The toxicological properties of this product have not been thoroughly investigated***

## 12. ECOLOGICAL INFORMATION

Ecotoxicity:	No data available
Persistence and Degradability:	No data available
Bioaccumulative Potential:	No data available
Mobility in Soil:	No data available
Other Adverse Effects:	No data available

## 13. DISPOSAL CONSIDERATION

Disposal Procedure:	Dispose in accordance with all applicable federal, state, and local environmental regulations.
EPA Hazardous Waste Number:	No data available

## 14. TRANSPORT INFORMATION

Domestic (D.O.T.):	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

### International:

IMDG:	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

IATA:	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

## 15. REGULATORY INFORMATION

TSCA:	Yes
SARA TITLE III:	
Section 302 (EHS) Ingredients:	No
Section 313 Ingredients:	No
Section 304 (EHS/CERCLA) Ingredients:	No
Section 311/312 Hazard:	No SARA Hazards

Massachusetts Right to Know Components: No components are subject to the Massachusetts Right to Know Act.  
 Pennsylvania Right to Know Components: CAS No.: 83-88-5 Riboflavin  
 New Jersey Right to Know Components: CAS No.: 83-88-5 Riboflavin  
 California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**16. OTHER INFORMATION**

HMIS Rating:	<b>Health Hazard</b>	<b>Chronic Health Hazard</b>	<b>Flammability</b>	<b>Physical Hazard</b>
	0		0	0
NFPA Rating:	<b>Health Hazard</b>	<b>Fire Hazard</b>	<b>Reactivity Hazard</b>	<b>Special Hazard</b>
	0	0	0	

***Phyto*Technology Laboratories® provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. The above information is intended to be used only as a guide to the appropriate precautionary handling of this material by a properly trained person. *Phyto*Technology Laboratories® shall not be held liable for any damage resulting from handling or from contact with the above product. This product is intended for LABORATORY USE ONLY. Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticidal products, food additives or as household chemicals.**

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