

SAFETY DATA SHEET



Conforms to regulation (EC) no. EU 453/2010

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name: Riboflavin

Product Number: EC-501

1.2 Relevant Identified Uses of the Substance/Mixture and Uses Advised Against

Investigational research by professional users

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer

National Diagnostics
305 Patton Drive
Atlanta, GA 30036
(404) 699-2121
(800) 526-3867
info@nationaldiagnostics.com

1.4 Emergency Telephone Number

ChemTel Inc.

Contract number MIS8894340
1-800 255-3924 (United States, Canada, Puerto Rico & US Virgin Islands)
01-800-099-0731 (Mexico)
400-120-0751 (China)
000-800-100-4086 (India)
1-300-954-583 (Australia)
0-800-591-6042 (Brazil)
+1-813-255-3924 (All other regions)

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

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

2.2 Label Elements

This product has no labeling elements associated with EC directives or respective national laws.

2.3 Other Hazards

None found.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Chemical Names/Description

Lactoflavine; Vitamin B2; Vitamin G; Isoalloxazine, 7,8-dimethyl-10-D-ribityl

Chemical Formula

C₁₇H₂₀N₄O₆

Component List

Component	% Comp.	CAS #	EC #
RIBOFLAVIN	99	83-88-5	201-507-1

SECTION 4 - FIRST AID MEASURES

4.1 Description of First Aid Measures

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Skin

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eyes

Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

Inhalation

Causes respiratory tract irritation.

Ingestion

Ingestion of large amounts may cause gastrointestinal irritation.

Skin

Causes skin irritation.

Eyes

Causes eye irritation.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

Unknown/not applicable

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use media appropriate to the primary cause of fire.

5.2 Special Hazards Arising from the Substance/Mixture

Hazardous Combustion Products

Highly toxic gases may be involved in fires of this product.

Hazardous Decomposition Products

Nitrogen oxides, carbon monoxide, oxides of phosphorous, irritating.

Hazardous Polymerization

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

5.3 Advice for Firefighters

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

5.4 Further Information

No data available.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions

Wear appropriate protective equipment as specified in Section 8.

6.2 Environmental Precautions

Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.

6.3 Methods and Materials for Containment and Cleaning Up

Use a vacuum cleaner equipped with charcoal exhaust scrubber or hose from mechanical exhaust ventilation system to vacuum spills. If this is not possible, sweep up spills and place in a covered waste disposal container. Flush area with water.

6.4 References to Other Sections

For disposal information, see Section 13. For protective clothing and equipment, see Section 8.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

7.2 Conditions for Safe Storage (including any incompatibles)

Keep in a tightly closed container, stored in a cooled, dry, ventilated area. Protect from physical damage. Isolate from incompatible materials (section 10).

Incompatibles

Strong oxidizing agents, reducing agents, bases, calcium, metallic salts.

7.3 Specific End Uses

Investigational research by professional users

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

8.1 Control Parameters

ACGIH Threshold Limit Value (TLV): None Established

OSHA Permissible Exposure Limit (PEL): None Established

8.2 Exposure Controls

Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

Respiratory Protection

Not expected to require personal respirator usage.

Eye Protection

Safety glasses.

Skin Protection

Wear protective gloves and clean body covering clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical & Chemical Properties

a. Appearance	Yellow to orange-yellow crystalline powder	b. Odor	Slight odor
c. Odor Threshold	N.A.	d. pH	6
e. Melting/Freezing Point (°C)	290	f. Boiling point (°C)	N.A.
g. Flash Point (°C)	N.A.	h. Evaporation Rate	Negligible
i. Flammability	N.A.	j. Upper/Lower Flammability or Explosive Limits	N.A.
k. Vapor Pressure	Negligible	l. Vapor Density (Air = 1)	N.A.
m. Relative Density	N.A.	n. Water Solubility	Soluble
o. Partition Coefficient n-octanol/water	log Kow = -1.46	p. Autoignition Temperature (°C)	N.A.
q. Decomposition Temperature (°C)	No Data	r. Viscosity	No data available.
s. Explosive Properties	N.A.	t. Oxidizing Properties	Not an oxidizer

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

Aqueous solutions produce free radicals under illumination.

10.2 Chemical Stability

Stable at room temperature in closed containers under normal storage and handling conditions. Light sensitive.

10.3 Possibility of Hazardous Reactions

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

10.4 Conditions to Avoid

Incompatible materials, light, dust generation, moisture, excess heat.

10.5 Incompatible Materials

Strong oxidizing agents, reducing agents, bases, calcium, metallic salts.

10.6 Hazardous Decomposition Products

Nitrogen oxides, carbon monoxide, oxides of phosphorous, irritating.

SECTION 11 - TOXICOLOGICAL INFORMATION

Product LD50 Values

Oral Rat LD50 (mg/kg)

10000

Dermal Rabbit LD50 (mg/kg)

No data available

Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
RIBOFLAVIN	No	No	None

Potential Health Effects

Inhalation

May cause delayed pulmonary edema.

Ingestion

No information available.

Skin

May cause skin discoloration.

Eyes

May cause chemical conjunctivitis.

Carcinogenicity

Not listed as a known or anticipated carcinogen by ACGIH, NIOSH, OSHA, NTP or IARC.

Mutagenicity

Cytogenetic Analysis: Hamster, Lung = 300mg/L. ; Sex Chromosome Loss and Nondisjunction: Hamster, Lung = mg/L.

Reproductive Toxicity

No information available.

Teratogenic Effects

No information available.

Routes of Entry

Ingestion and inhalation.

Target Organ Statement

No information available.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data
	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

12.2 Persistence and Degradability

No data

12.3 Bioaccumulative Potential

No data

12.4 Mobility in Soil

No data

12.5 Results of PBT and vPvB Assessment

No data

12.6 Other Adverse Effects

None

SECTION 13 - DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Offer surplus or non-recyclable product to licensed disposal company. Disposal is subject to user compliance with applicable law and product characteristics at time of disposal. Dispose of packaging as product.

SECTION 14 - TRANSPORT INFORMATION

	ADR/RID	IATA	IMO	DOT
14.1 UN Number	N.A.	N.A.	N.A.	N.A.
14.2 Shipping Name	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.3 Hazard Class	N.A.	N.A.	N.A.	N.A.
14.4 Packing Group	N.A.	N.A.	N.A.	N.A.
14.5 Environmental Hazards	N.A.	N.A.	N.A.	N.A.
14.6 Special Precautions	N.A.	N.A.	N.A.	N.A.

SECTION 15 - REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance/Mixture

United States

TSCA Regulatory Statement

All intentional ingredients are listed on the TSCA Inventory.

SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
RIBOFLAVIN	N.A	N.A	N.A	N.A.	N.A

Europe

EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

SECTION 16 - OTHER INFORMATION

Revisional Updates

4/26/2019 - Updated Section 1.4

5/29/2015 - Updated Sections 2.1 and 3.1

9/19/2013 - Released Version 1.0

NFPA Codes

Health 0 Flammability 0 Reactivity 0

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