

# ACROS ORGANICS

## Material Safety Data Sheet

Creation Date 30-Oct-2009

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Revision Number 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	<b>Riboflavin</b>	
<b>Cat No.</b>	<b>AC132350000; AC132350250; AC132351000; AC132355000</b>	
<b>Synonyms</b>	Vitamin B2; Lactoflavine	
<b>Recommended Use</b>	Laboratory chemicals	
<b>Company</b> Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410 Tel: (201) 796-7100	<b>Entity / Business Name</b> Acros Organics One Reagent Lane Fair Lawn, NJ 07410	<b>Emergency Telephone Number</b> For information in the US, call: 800-ACROS-01 For information in Europe, call: +32 14 57 52 11  Emergency Number, Europe: +32 14 57 52 99 Emergency Number, US: 201-796-7100  CHEMTREC Phone Number, US: 800-424-9300 CHEMTREC Phone Number, Europe: 703-527-3887

### 2. HAZARDS IDENTIFICATION

#### CAUTION!

#### Emergency Overview

May cause skin, eye, and respiratory tract irritation. The toxicological properties have not been fully investigated.

**Appearance** Yellow-orange

**Physical State** Solid

**odor** odorless

**Target Organs**

None known.

#### Potential Health Effects

**Acute Effects**

**Principle Routes of Exposure**

<b>Eyes</b>	May cause irritation.
<b>Skin</b>	May cause irritation.
<b>Inhalation</b>	May cause irritation of respiratory tract.
<b>Ingestion</b>	May cause irritation.

**Chronic Effects** None known.

See Section 11 for additional Toxicological information.

**Aggravated Medical Conditions** No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Haz/Non-haz

Component	CAS-No	Weight %
Riboflavin	83-88-5	>95

### 4. FIRST AID MEASURES

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

### 5. FIRE-FIGHTING MEASURES

<b>Flash Point</b>	No information available.
<b>Method</b>	No information available.
<b>Autoignition Temperature</b>	No information available.
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Suitable Extinguishing Media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Unsuitable Extinguishing Media</b>	No information available.
<b>Hazardous Combustion Products</b>	No information available.
<b>Sensitivity to mechanical impact</b>	No information available.
<b>Sensitivity to static discharge</b>	No information available.

#### Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition

**Protective Equipment and Precautions for Firefighters**

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

**NFPA**                      **Health 1**                      **Flammability 0**                      **Instability 1**                      **Physical hazards N/A**

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation.
<b>Environmental Precautions</b>	Should not be released into the environment.
<b>Methods for Containment and Clean Up</b>	Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Avoid dust formation.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Engineering Measures</b>	Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.
<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

*NIOSH IDLH: Immediately Dangerous to Life or Health*

**Personal Protective Equipment****Eye/face Protection**

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 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Solid
<b>Appearance</b>	Yellow-orange
<b>odor</b>	odorless
<b>Odor Threshold</b>	No information available.
<b>pH</b>	5.5-7.2 0.07g/l water (20°C)
<b>Vapor Pressure</b>	negligible
<b>Vapor Density</b>	No information available.
<b>Viscosity</b>	No information available.
<b>Boiling Point/Range</b>	No information available.
<b>Melting Point/Range</b>	290°C / 554°F
<b>Decomposition temperature</b>	290 °C

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Flash Point</b>	No information available.
<b>Evaporation Rate</b>	negligible
<b>Specific Gravity</b>	No information available.
<b>Solubility</b>	Insoluble in water
<b>log Pow</b>	No data available
<b>Molecular Weight</b>	376.36
<b>Molecular Formula</b>	C17 H20 N4 O6

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Light sensitive.
<b>Conditions to Avoid</b>	Incompatible products. Excess heat. Avoid dust formation. Exposure to light.
<b>Incompatible Materials</b>	Strong oxidizing agents, Bases, Reducing agents
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Nitrogen oxides (NO <sub>x</sub> )
<b>Hazardous Polymerization</b>	No information available.
<b>Hazardous Reactions .</b>	None under normal processing..

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

**Product Information** See actual entry in RTECS for complete information.

### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Riboflavin	10 g/kg ( Rat )	>5000 mg/kg (rat)	>5.4 mg/L/4h (rat)

**Irritation** No information available.

**Toxicologically Synergistic Products** No information available.

### Chronic Toxicity

**Carcinogenicity** There are no known carcinogenic chemicals in this product

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Reproductive Effects** No information available.

<b>Developmental Effects</b>	No information available.
<b>Teratogenicity</b>	No information available.
<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated.. See actual entry in RTECS for complete information.
<b>Endocrine Disruptor Information</b>	No information available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Riboflavin	Not listed	Brachydanio rerio: LC50 >10000 mg/L/96h	Not listed	EC50 >7.4 mg/L/48h

**Persistence and Degradability** Readily biodegradable.

**Bioaccumulation/ Accumulation** No information available

**Mobility** No information available

Component	log Pow
Riboflavin	-1.46

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. TRANSPORT INFORMATION

**DOT** Not regulated

**TDG** Not regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

## 15. REGULATORY INFORMATION

## International Inventories

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

## Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

## SARA 313

Not applicable

## SARA 311/312 Hazardous Categorization

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

## Clean Water Act

Not applicable

## Clean Air Act

Not applicable

## OSHA

Not applicable

## CERCLA

Not Applicable

## California Proposition 65

This product does not contain any Proposition 65 chemicals.

## State Right-to-Know

Not applicable

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**

Non-controlled

**16. OTHER INFORMATION**

**Prepared By** Regulatory Affairs  
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**Revision Summary** "\*\*\*\*", and red text indicates revision

**Disclaimer**

The information provided on this Safety Data Sheet 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 MSDS**