

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



**ROCOAT® Riboflavin 33 1/3%**

**0429465**

Version 1.3

Revision Date 03.04.2019

Date of last issue: 20.02.2015

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Trade name : ROCOAT® Riboflavin 33 1/3%

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub-stance/Mixture : Ingredient for pharmaceutical products, Ingredient for capsules and/or tablets, For the fortification of foods

### 1.3 Details of the supplier of the safety data sheet

Company : DSM Nutritional Products Europe Ltd  
PO Box 2676  
CH-4002 Basel

Telephone : +41618157777  
Telefax : +41618157770  
E-mail address of person responsible for the SDS : sds.nutritionalproducts@dsm.com

### 1.4 Emergency telephone number

+41 848 00 11 77 (Carechem 24 International)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

### 2.3 Other hazards

Risk of dust explosion.

## SECTION 3: Composition/information on ingredients

Brief description of the product : Mixture (preparation) containing active ingredient and auxiliary substances

### 3.1 Substances

Not applicable

### 3.2 Mixtures

#### Hazardous components

Remarks : No hazardous ingredients

#### Further ingredients

Chemical name	CAS-No. EC-No. Registration number	GHS Classification	Concentration [%]
Starch	9005-25-8		>= 10 - < 30

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	232-679-6		
riboflavin (Vitamin B2)	83-88-5 201-507-1 01-2120745124-62-		>= 32.6 - <= 40

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : No hazards which require special first aid measures.
- If inhaled : Move to fresh air.  
If symptoms persist, call a physician.
- In case of skin contact : Take off contaminated clothing and shoes immediately.  
Wash off with soap and plenty of water.
- In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.
- If swallowed : Rinse mouth with water.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.

### 4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : No specific symptoms known.

### 4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Water  
Foam
- Unsuitable extinguishing media : High volume water jet

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire-fighting : Heating or fire can release toxic gas.

### 5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
- Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
Consider dust explosion hazard.

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## SECTION 6: Accidental release measures

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

Personal precautions : Use personal protective equipment.  
Avoid dust formation.

### 6.2 Environmental precautions

Environmental precautions : Try to prevent the material from entering drains or water courses.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Pick up and arrange disposal without creating dust.

### 6.4 Reference to other sections

For personal protection see section 8.

For disposal considerations see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : For personal protection see section 8.

Advice on protection against fire and explosion : Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed. Take precautionary measures against static discharges.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of work-day.

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

Requirements for storage areas and containers : To maintain product quality, do not store in heat or direct sunlight.

Keep container tightly closed and dry.

### 7.3 Specific end use(s)

Specific use(s) : Not applicable

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
starch	9005-25-8	TWA (inhalable dust)	10 mg/m <sup>3</sup>	GB EH40
		TWA (Respirable dust)	4 mg/m <sup>3</sup>	GB EH40
The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m <sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m <sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit.				

## 8.2 Exposure controls

### Personal protective equipment

- Eye protection : Safety glasses with side-shields
- Hand protection : Consider the hazard characteristics of this product and any special workplace conditions when selecting the appropriate type of protective gloves.  
Glove material: for example nitrile rubber
- Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Respiratory protection : No personal respiratory protective equipment normally required.  
In case of high dust concentration use a dust mask applicable to local conditions.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Appearance : free flowing powder
- Colour : orange
- Odour : slight, characteristic
- Odour Threshold : No information available.
- pH : No data available
- Melting point/range : ca. 50 °C
- Boiling point/boiling range : Not applicable
- Flash point : Not applicable
- Flammability (solid, gas) : May form combustible dust concentrations in air.
- Vapour pressure : Not applicable
- Relative vapour density : Not applicable
- Density : not determined
- Water solubility : not determined
- Partition coefficient: n-octanol/water : Not applicable
- Auto-ignition temperature : No self ignition observed in the Grewer oven at temperatures below melting point.
- Thermal decomposition : Decomposes on heating.  
Potential for exothermic hazard
- Explosive properties : Not explosive
- Oxidizing properties : No data available

### 9.2 Other information

- Combustibility index for deposited dust : 3 ( 23 °C)
- Dust explosion class : St(H)1 (Milled sample, Median value of the tested sample)

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	0.048 mm; The value was determined in the modified Hartmann tube.)
Minimum ignition energy	: 3 - 10 mJ (Milled sample, Median value of the tested sample 0.048 mm, EN 13821) The Minimum ignition energy (MIE) of a dust/air mix depends on the particle size the water content and the temperature of the dust. The finer and the dryer the dust the lower the MIE. : General remark: The indicated dust explosion characteristics are only valid for this product and are sensitive to the sample's parameters.
Powder volume resistivity	: ca. 2E+12 Ohmm (Product sample, Median value of the tested sample 0.117 mm) The material can accumulate static charge and can therefore cause electrical ignition.
Minimum ignition temperature of a dust/air mix	: 340 °C (Median value of the tested sample 0.117 mm) determined in the BAM oven
Particle size	: <= 50 % <= 0.075 mm

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No hazards to be specially mentioned.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Dust may form explosive mixture in air.

### 10.4 Conditions to avoid

Heat

### 10.5 Incompatible materials

Strong acids and strong bases  
Strong oxidizing agents

### 10.6 Hazardous decomposition products

Nitrogen oxides (NO<sub>x</sub>)  
Carbon oxides

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute oral toxicity	: Acute toxicity estimate : > 5,000 mg/kg (Calculation method)
Skin irritation	: None of the components is classified as an irritant.
Eye irritation	: Dust contact with the eyes can lead to mechanical irritation.
Sensitisation	: No data available

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- Genotoxicity in vitro : not mutagenic (Ames test)  
Test substance: active ingredient
- : not genotoxic (Chromosome aberration test in vitro)  
Test substance: active ingredient
- Carcinogenicity : No indication for carcinogenicity known.
- Reproductive toxicity : This information is not available.
- Teratogenicity : not teratogenic  
not embryotoxic  
Test substance: active ingredient  
(Rat)
- STOT - single exposure (Acute exposure) : The substance or mixture is not classified as specific target organ toxicant, single exposure.
- STOT - repeated exposure : NOAEL (Oral, Rat) : 200 mg/kg bw/d  
Sub-chronic toxicity study (90-day)  
Test substance: active ingredient
- Aspiration toxicity : No aspiration toxicity classification

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## SECTION 12: Ecological information

### 12.1 Toxicity

- Toxicity to algae : Desmodium subspicatus (green algae)  
ErC50 (72 h) 21 mg/l  
Test substance: active ingredient  
(OECD Test Guideline 201)

### 12.2 Persistence and degradability

- Biodegradability : Readily biodegradable.  
100 % (28 d)  
(OECD Test Guideline 301F)  
Test substance: active ingredient

### 12.3 Bioaccumulative potential

- Bioaccumulation : No data available

- Partition coefficient: n-octanol/water : Not applicable

### 12.4 Mobility in soil

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Distribution among environmental compartments : No data available

## 12.5 Results of PBT and vPvB assessment

Assessment : 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.

## 12.6 Other adverse effects

Additional ecological information : Harmful to aquatic organisms.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Discharge into the environment must be avoided.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Do not dispose of waste into sewer.  
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging : Dispose of as unused product.  
Do not re-use empty containers.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.

## SECTION 14: Transport information

### 14.1 UN number

Not regulated as a dangerous good

### 14.2 UN proper shipping name

Not regulated as a dangerous good

### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

### 14.4 Packing group

Not regulated as a dangerous good

### 14.5 Environmental hazards

Not regulated as a dangerous good

### 14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

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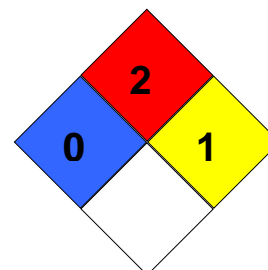
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**NFPA Classification** : Health hazard: 0  
Fire Hazard: 2  
Reactivity Hazard: 1



## 15.2 Chemical safety assessment

Not applicable

## SECTION 16: Other information

### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; Ems - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

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