

date of issue : 11/12/2013

**Safety Data Sheets****1. Identification**

Product name :Riboflavin

Name of supplier :JUNSEI CHEMICAL CO., LTD.

Address :1-6, Ohmano-Cho, Koshigaya, Saitama 343-0844, Japan

Division :Quality Assurance Department

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E-mail :shiyaku-t@junsei.co.jp

Product code(SDS NO) :82190jis_J_E1-1

2. Hazards identification

GHS classification and label elements of the product

GHS classification

(Note) GHS classification without description : Not applicable/Out of classification/Not classifiable

3. Composition/information on ingredients

Substance/Preparation :Substance

Common name, synonyms :Vitamin B2

Ingredient name:Riboflavin

content(%):98.0 <

Chemical formula:C17H20N4O6

Chemicals No, Japan:5-3909;9-2282

CAS No.:83-88-5

MW:376.37

ECNO:201-507-1

4. First-aid measures**IF INHALED**

Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN(or hair)

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES :

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth.

Call a POISON CENTER or doctor/physician if you feel unwell.

5. Fire-fighting measures

Suitable extinguishing media

In case of fire, use water mist, CO2

Specific hazards arising from the chemical

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.

Wear cold insulating gloves/face shield/eye protection.

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area after material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Avoid release to the rivers, lakes, ocean, groundwater.

Methods and materials for neutralization, containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

If appropriate, moisten first to prevent dusting.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Use personal protective equipment as required.

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Exhaust/ventilator

Exhaust/ventilator should be available.

Safety treatments

Avoid contact with skin.

Avoid contact with eyes.

Avoid breathing dust, vapor, mist, or gas.

Safety Measures/Incompatibility

Wear protective gloves/protective clothing/eye protection/face protection.

When using do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities

Recommendation for storage

Keep container tightly closed.

Keep cool . Protect from sunlight.

Store in well-ventilated place.

Store at temperatures not exceeding designated temperature. Keep cool.

Storage temperature upper limit :10°C

Storage temperature lower limit :2°C

8. Exposure controls/personal protection

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Protective equipment

Respiratory protection

Wear positive pressure self-contained breathing apparatus (SCBA).

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

9. Physical and Chemical Properties

Physical properties

Appearance : CRYSTALS

Color : ORANGE-YELLOW

odour data N.A.

pH : 6 (saturated aqueous solution)

Phase change temperature

Initial Boiling Point/Boiling point data N.A.

Melting point/Freezing point : 280°C

Decomposition temperature : 280°C

Flash point data N.A.

Auto-ignition temperature data N.A.

Explosive data N.A.

Vapor pressure data N.A.

Vapor density data N.A.

Solubility

Solubility in water : 0.01 g/100 ml (25°C)

n-Octanol /water partition coefficient : log Pow -1.46

10. Stability and Reactivity

Stability

Stable under normal storage/handling conditions.

Conditions to avoid

Open flames. Heat.

Hazardous decomposition products

Carbon oxides, Nitrogen oxides

11. Toxicological Information

Symptoms related to the physical, chemical and toxicological characteristics

No Acute toxicity data available

No Irritant properties data available

No Allergenic and sensitizing effects data available

No Mutagenic effects data available

No Teratogenic effects data available

No Carcinogenic effects data available

No Toxicity for reproduction data available

No Delayed/chronic effects from short/long-term exposure data available

No Aspiration hazard data available

12. Ecological Information

Ecotoxicity

No Aquatic toxicity data available

Water solubility

0.01 g/100 ml (25°C) (ICSC, 2002)

No Persistence and degradability data available

Bioaccumulative potential

log Pow=-1.46 (ICSC, 2002)

13. Disposal Considerations

Disposal methods

Dispose of contents/container in accordance with local/national regulation

14. Transport Information

UN No, UN CLASS

Not applicable to UN NO.

15. Regulatory Information

The product is not applicable to GHS classifications.

US major regulations

TSCA

Riboflavin

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (4th ed., 2011), UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 17th edit. UN

Classification, labelling and packaging of substances and mixtures (reg.(EC) No 1272/2008)

2012 EMERGENCY RESPONSE GUIDEBOOK(US DOT)

2013 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/monoeval/grlist.html>

Supplier's data/information

Chemical Risk Information Platform (CHRIP)(NITE) <http://www.safe.nite.go.jp/japan/db.html>

GHS Classification Guidance for Enterprises 2013 Revised Edition (August, 2013, METI)

Other information

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It is advised to make their own test

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current EU official data