

**1 Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** FLAVINE-ADENINE-DINUCLEOTID DISODIUM SALT \geq 95%, CELLPURE®**Article number:** 6833**CAS Number:**

84366-81-4

EC number:

282-733-8

Registration number

A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

No further relevant information available.

Application of the substance / the mixture

Laboratory chemical

1.3 Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

Carl Roth GmbH + Co. KG

Schoemperlenstraße 3-5

76185 Karlsruhe

Germany

Telefon: +49/(0)721 5606-0

Telefax: +49/(0)721 5606-149

E-Mail: sicherheit@carlroth.de

Further information obtainable from: Department Health, Safety and Environment**1.4 Emergency telephone number:**

Poison Centre Munich

Telefon +49/(0)89 19240

2 Hazards identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008** Void**Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Void**Additional information:** Note, not yet fully tested.**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008** Void**Hazard pictograms** Void**Signal word** Void**Hazard statements** Void**Additional information:**

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2.3 Other hazards

All chemicals are potentially dangerous. They are therefore only be handled by specially trained personnel with the necessary care.

Results of PBT and vPvB assessment**PBT:** Not applicable.

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vPvB: Not applicable.

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3 Composition/information on ingredients

3.1 Chemical characterization: Substances

CAS No. Description

84366-81-4 riboflavin 5'-(trihydrogen diphosphate), 5'-5'-ester with adenosine, disodium salt

Identification number(s)**EC number:** 282-733-8**Formula:** C₂₇H₃₁N₉O₁₅P₂Na₂**Molar mass [g/mol]:** 829,52

4 First aid measures



4.1 Description of first aid measures

General information:

Remove any clothing soiled by the product.

After inhalation:

Supply fresh air.

After skin contact:

Rinse with water

After eye contact:

To be sure rinse opened eye under running water. If there is any trouble seek medical help.

After swallowing:

Rinse out mouth and then drink water.

If there is any trouble seek medical help.

4.2 Most important symptoms and effects, both acute and delayed

We have no description of any toxic symptoms.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: CO₂, powder, foam or water spray.**For safety reasons unsuitable extinguishing agents:**

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

In the event of fire development of hazardous combustion gases or vapours possible.

In case of fire, the following can be released:Nitrogen oxides (NO_x)

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Carbon monoxide and carbon dioxide

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5.3 Advice for firefighters**Protective equipment:**

Wear self-contained respiratory protective device.

6 Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Avoid formation of dust.

Avoid contact with the eyes and skin.

6.2 Environmental precautions

Do not allow product to reach sewage system or any water course.

6.3 Methods and material for containment and cleaning up

Pick up mechanically.

Dispose of the material collected according to regulations.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**7.1 Precautions for safe handling**

Provide suction extractors if dust is formed.

7.2 Conditions for safe storage, including any incompatibilities**Storage:****Requirements to be met by storerooms and receptacles:**

No special requirements.

Information about storage in one common storage facility:

Store away from foodstuffs.

Further information about storage conditions:

Keep container tightly sealed.

Store in dry conditions.

Protect from exposure to the light.

Recommended storage temperature: 15 - 25 °C**7.3 Specific end use(s)**

No further relevant information available.

8 Exposure controls/personal protection**Additional information about design of technical facilities:**

No further data; see item 7.

8.1 Control parameters**Ingredients with limit values that require monitoring at the workplace:** Not required.**Additional information:**

The lists valid during the making were used as basis.

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8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.
Wash hands before breaks and at the end of work.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Respiratory protection:



When dusts are generated: protective device filter P1.

Protection of hands:



Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

Nitrile, thickness: \geq 0.11 mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material

Value for the permeation: Level \geq 6

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

As protection from splashes gloves made of the following materials are suitable:

Nitrile, thickness: \geq 0.11 mm

Value for the permeation: Level \geq 6

Eye protection:



Tightly sealed goggles

Body protection:

Protective work clothing

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9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:	Like powder
Colour:	orange-yellow
Odour:	Nearly odourless
Odour threshold:	No information available.

pH-value (10 g/l) at 20 °C: 5.5-6.5

Change in condition

Melting point/Melting range:	No information available.
Boiling point/Boiling range:	No information available.

Flash point: No information available

Flammability (solid, gaseous): No information available

Ignition temperature: No information available

Decomposition temperature: No information available

Self-igniting: No information available

Danger of explosion: Not classified als explosive.

Explosion limits:

Lower:	No information available.
Upper:	No information available.

Oxidizing properties: No information available.

Vapour pressure: No information available

Density: No information available.

Vapour density: No information available

Evaporation rate: No information available

Solubility in / Miscibility with water:

Soluble.

Partition coefficient (n-octanol/water): No information available

Viscosity:

Dynamic:	No information available.
Kinematic:	No information available.

9.2 Other information No further relevant information available.

10 Stability and reactivity

10.1 Reactivity

The following applies in general to flammable organic substances and preparations: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability Light-sensitive

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions

Reacts with strong oxidizing agents.

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10.4 Conditions to avoid

Exposure to light
Strong Heating.

10.5 Incompatible materials:

No information available.

10.6 Hazardous decomposition products:

In case of fire: see item 5.

11 Toxicological information**11.1 Information on toxicological effects****Acute toxicity:****LD/LC50 values relevant for classification:**

Quantitative data on the toxicity of this product are not available.

Primary irritant effect:**on the skin:**

Prolonged or repeated contact may cause skin irritations.

on the eye:

Intense exposure may cause irritative symptoms.

after inhalation:

Intensive contact with dusts may lead to irritations of the eyes and the respiratory tract.

Sensitization:

No sensitizing effects known.

CMR effects:**Germ cell mutagenicity:**

No known significant effects or critical hazards.

Carcinogenicity:

No known significant effects or critical hazards.

Reproductive toxicity:

No known significant effects or critical hazards.

Aspiration hazard:

Not applicable.

Specific target organ toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Additional toxicological information:

When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

Further information:

The product should be handled with the care usual when dealing with chemicals.

12 Ecological information**12.1 Toxicity****Aquatic toxicity:**

Quantitative data on the ecological effect of this product are not available.

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according to Regulation (EC) No. 1907/2006



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12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

Ecotoxicological effects:**Remark:**

Do not allow to enter waters, waste water, or soil!

12.5 Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Other adverse effects**

No further relevant information available.

13 Disposal considerations

Waste treatment methods**Recommendation**

The disposal is regionally differently regulated, therefore the kind of disposal is to be inquired at the responsible authorities.

Uncleaned packaging:**Recommendation:**

Disposal according to official regulations.

14 Transport information

14.1 UN-Number

ADR, ADN, IMDG, IATA

Void

14.2 UN proper shipping name

ADR, ADN, IMDG, IATA

Void

14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class

Void

14.4 Packing group

ADR, IMDG, IATA

Void

14.5 Environmental hazards:**Marine pollutant:**

No

14.6 Special precautions for user

Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

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Transport/Additional information:	
ADR	
Remarks:	Not subject to transport regulations.
UN "Model Regulation":	-

15 Regulatory information

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

National regulations:

Breakdown regulations:

-

Waterhazard class:

Water hazard class 3 (Self-assessment): extremely hazardous for water.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS: Department: Health, Safety and Environment

Contact: Frau Weckemann

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

LD50*: Lethal Dose, 50 percent (Not relevant for classification)

LD50*: Lethal Concentration, 50 percent (Not relevant for classification)