

## Adenine for biochemistry

Version number: GHS 1.0

Date of compilation: 2023-04-18

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

#### 1.1 Product identifier

<b>Identification of the substance</b>	<b>Adenine for biochemistry</b>
<b>CAS number</b>	73-24-5
<b>Article number</b>	1163

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

<b>Relevant identified uses</b>	General use
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#### 1.3 Details of the supplier of the safety data sheet

NeoFroxx GmbH  
Marie-Curie-Str. 3  
D-64683 Einhausen  
Germany

Telephone: +49 (6251) 989 24 - 0  
e-mail: info@neofroxx.com  
Website: neofroxx.com

**e-mail (competent person)** info@neofroxx.com (neoFroxx GmbH)

#### 1.4 Emergency telephone number

Poison centre			
Country	Name	Postal code/city	Telephone
United Kingdom	National Poisons Information Service		111

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.10	acute toxicity (oral)	3	Acute Tox. 3	H301

For full text of abbreviations: see SECTION 16.

#### 2.2 Label elements

##### Labelling

- Signal word danger

- Pictograms

GHS06



- Hazard statements

H301 Toxic if swallowed.

**Adenine for biochemistry**

Version number: GHS 1.0

Date of compilation: 2023-04-18

**- Precautionary statements**

P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P321	Specific treatment (see on this label).
P330	Rinse mouth.
P405	Store locked up.
P501	Dispose of contents/container to industrial combustion plant.

**2.3 Other hazards**

**Results of PBT and vPvB assessment**

According to the results of its assessment, this substance is not a PBT or a vPvB.

**Endocrine disrupting properties**

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

**SECTION 3: Composition/information on ingredients**

**3.1 Substances**

**Name of substance** Adenine for biochemistry

**Identifiers**

CAS No 73-24-5

EC No 200-796-1

Specific Conc. Limits	M-Factors	ATE	Exposure route
-	-	100 mg/kg	oral

**Molecular formula** C<sub>5</sub>H<sub>5</sub>N<sub>5</sub>

**Molar mass** 135.1 g/mol

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

**General notes**

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

**Following inhalation**

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

**Following skin contact**

Brush off loose particles from skin. Rinse skin with water/shower.

**Following eye contact**

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

**Following ingestion**

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

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

Symptoms and effects are not known to date.

## Adenine for biochemistry

Version number: GHS 1.0

Date of compilation: 2023-04-18

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water, Foam, ABC-powder

#### Unsuitable extinguishing media

Water jet

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

Deposited combustible dust has considerable explosion potential.

#### Hazardous combustion products

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

## SECTION 6: Accidental release measures

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

#### For non-emergency personnel

Remove persons to safety.

#### For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

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

#### Advice on how to contain a spill

Covering of drains, Take up mechanically

#### Advice on how to clean up a spill

Take up mechanically.

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## Adenine for biochemistry

Version number: GHS 1.0

Date of compilation: 2023-04-18

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

##### Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Take precautionary measures against static discharge. Use only in well-ventilated areas. Ground/bond container and receiving equipment.

- Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

##### Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

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

##### Managing of associated risks

- Explosive atmospheres

Removal of dust deposits.

- Ventilation requirements

Use local and general ventilation.

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

#### 7.3 Specific end use(s)

See section 16 for a general overview.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
GB	dust		WEL		10					i	EH40/2005
GB	dust		WEL		4					r	EH40/2005

##### Notation

Ceiling-C

ceiling value is a limit value above which exposure should not occur

i

inhalable fraction

r

respirable fraction

STEL

short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA

time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours  
time-weighted average (unless otherwise specified)

#### 8.2 Exposure controls

##### Appropriate engineering controls

General ventilation.

## Adenine for biochemistry

Version number: GHS 1.0

Date of compilation: 2023-04-18

### Individual protection measures (personal protective equipment)

#### Eye/face protection

Wear eye/face protection.

#### Skin protection

##### - Hand protection

In the case of wanting to use the gloves again, clean them before taking off and air them well.

##### - Type of material

NBR: acrylonitrile-butadiene rubber

##### - Material thickness

min. 0,11 mm

##### - Breakthrough times of the glove material

>480 minutes (permeation: level 6)

##### - Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

#### Respiratory protection

Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

#### Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Physical state</b>	solid
<b>Colour</b>	light yellow
<b>Odour</b>	characteristic
<b>Melting point/freezing point</b>	358.4 °C at 1,013 hPa
<b>Boiling point or initial boiling point and boiling range</b>	not determined
<b>Flammability</b>	this material is combustible, but will not ignite readily
<b>Lower and upper explosion limit</b>	not determined
<b>Flash point</b>	not applicable
<b>Auto-ignition temperature</b>	not determined
<b>Decomposition temperature</b>	>360 °C at 1,013 hPa (ECHA)
<b>pH (value)</b>	not applicable
<b>Kinematic viscosity</b>	not relevant

## Adenine for biochemistry

Version number: GHS 1.0

Date of compilation: 2023-04-18

### Solubility(ies)

Water solubility	667.2 mg/l at 20 °C
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### Partition coefficient

Partition coefficient n-octanol/water (log value)	-0.1 (20 °C) (ECHA)
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Vapour pressure	not determined
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### Density and/or relative density

Density	1.49 g/cm <sup>3</sup> at 20 °C
Relative vapour density	information on this property is not available

### Particle characteristics

Particle size	4.3 µm
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## 9.2 Other information

<b>Information with regard to physical hazard classes</b>	hazard classes acc. to GHS (physical hazards): not relevant
<b>Other safety characteristics</b>	there is no additional information

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### Hints to prevent fire or explosion

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

### 10.5 Incompatible materials

Oxidisers

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## Adenine for biochemistry

Version number: GHS 1.0

Date of compilation: 2023-04-18

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Classification acc. to GHS

##### Acute toxicity

Toxic if swallowed.

##### - Acute toxicity estimate (ATE)

Oral 100 mg/kg

##### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

##### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Shall not be classified as carcinogenic.

##### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

##### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

##### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

##### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

#### 11.2 Information on other hazards

There is no additional information.

### SECTION 12: Ecological information

#### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

#### 12.2 Persistence and degradability

##### Biodegradation

The substance is readily biodegradable.

Process of degradability

Process	Degradation rate	Time
oxygen depletion	99 %	28 d

#### 12.3 Bioaccumulative potential

Data are not available.

## Adenine for biochemistry

Version number: GHS 1.0

Date of compilation: 2023-04-18

<b>n-octanol/water (log KOW)</b>	-0.1 (20 °C) (ECHA)
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### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of  $\geq 0,1\%$ .

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

#### Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

## SECTION 14: Transport information

### 14.1 UN number or ID number

**ADR/RID** UN 2811

**IMDG-Code** UN 2811

**ICAO-TI** UN 2811

### 14.2 UN proper shipping name

**ADR/RID** TOXIC SOLID, ORGANIC, N.O.S.

**IMDG-Code** TOXIC SOLID, ORGANIC, N.O.S.

**ICAO-TI** Toxic solid, organic, n.o.s.

**Technical name** Adenine for biochemistry

### 14.3 Transport hazard class(es)

**ADR/RID** 6.1

**IMDG-Code** 6.1

**ICAO-TI** 6.1

### 14.4 Packing group

**ADR/RID** III

**IMDG-Code** III

**ICAO-TI** III



**Adenine for biochemistry**


Version number: GHS 1.0

Date of compilation: 2023-04-18

- 14.5 Environmental hazards** non-environmentally hazardous acc. to the dangerous goods regulations
- 14.6 Special precautions for user**  
Provisions for dangerous goods (ADR) should be complied within the premises.
- 14.7 Maritime transport in bulk according to IMO instruments**  
The cargo is not intended to be carried in bulk.

**Information for each of the UN Model Regulations**

**Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Additional information**

Classification code	T2
Danger label(s)	6.1
	
Special provisions (SP)	274, 614, 802(ADN)
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	60
Emergency Action Code	2X

**Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information**

Classification code	T2
Danger label(s)	6.1
	
Special provisions (SP)	274, 614, 802(ADN)
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
Transport category (TC)	2
Hazard identification No	60


**International Maritime Dangerous Goods Code (IMDG) - Additional information**

Marine pollutant	-
Danger label(s)	6.1
	
Special provisions (SP)	223, 274
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg

## Adenine for biochemistry

Version number: GHS 1.0

Date of compilation: 2023-04-18

EmS	F-A, S-A
Stowage category	A
<b>International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information</b>	
Danger label(s)	6.1
	
Special provisions (SP)	A3, A5
Excepted quantities (EQ)	E1
Limited quantities (LQ)	10 kg

### SECTION 15: Regulatory information

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

##### Relevant provisions of the European Union (EU)

###### Deco-Paint Directive

VOC content	0 %
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###### Industrial Emissions Directive (IED)

VOC content	0 %
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###### Water Framework Directive (WFD)

not listed

###### Regulation on persistent organic pollutants (POP)

Not listed.

###### National regulations (GB)

###### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

not listed

###### Restrictions according to GB REACH, Annex 17

not listed

###### National inventories

Country	Inventory	Status
EU	REACH Reg.	substance is listed
US	TSCA	substance is listed (ACTIVE)

###### Legend

REACH Reg. REACH registered substances  
TSCA Toxic Substance Control Act

#### 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

## Adenine for biochemistry

Version number: GHS 1.0

Date of compilation: 2023-04-18

### SECTION 16: Other information

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> )
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

## Adenine for biochemistry

Version number: GHS 1.0

Date of compilation: 2023-04-18

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H301	Toxic if swallowed.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product. The information is intended to give you guidelines for the safe handling of the product mentioned in this safety data sheet during storage, processing, transport and disposal. The information is not transferable to other products. Insofar as the product is mixed, blended or processed with other materials or is subjected to processing, the information in this safety data sheet cannot be transferred to the new material produced in this way, unless expressly stated otherwise.