

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Pentanal® barium chloride 0,05 mol/l

Creation date	23rd August 2023	Version	1.0
Revision date			

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

- 1.1. Product identifier**  
 Substance / mixture: Pentanal® barium chloride 0,05 mol/l  
 Chemical name: substance  
 Barium chloride dihydrate  
 CAS number: 10326-27-9  
 EC (EINECS) number: 600-412-6
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**  
**Substance's intended use**  
 Analytical chemistry. Laboratory synthesis.  
**Substance uses advised against**  
 The product should not be used in ways other than those referred in Section 1.
- 1.3. Details of the supplier of the safety data sheet**  
**Supplier**  
 Name or trade name: Ing. Petr Švec - PENTA s.r.o.  
 Address: Radiová 1122/1, Praha 10, 102 00  
 Czech Republic  
 Identification number (CRN): 02096013  
 VAT Reg No: CZ02096013  
 Phone: +420 226 060 681  
 E-mail: info@pentachemicals.eu  
 Web address: www.pentachemicals.eu
- Competent person responsible for the safety data sheet**  
 Name: Ing. Petr Švec - PENTA s.r.o.  
 E-mail: info@pentachemicals.eu
- 1.4. Emergency telephone number**  
 European emergency number: 112 112

#### SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture**  
**Classification of the substance in accordance with Regulation (EC) No 1272/2008**  
 The substance is classified as dangerous.
- Acute Tox. 3, H301  
 Acute Tox. 4, H332
- Full text of all classifications and hazard statements is given in the section 16.
- Most serious adverse effects on human health and the environment**  
 Toxic if swallowed. Harmful if inhaled.

- 2.2. Label elements**  
**Hazard pictogram**



**Signal word**  
 Danger

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#### Dangerous substance

Barium chloride dihydrate  
(EC: 600-412-6; CAS: 10326-27-9)

#### Hazard statements

H301 Toxic if swallowed.  
H332 Harmful if inhaled.

#### Precautionary statements

P301+P310 IF SWALLOWED: Immediately call a doctor.  
P405 Store locked up.

#### 2.3. Other hazards

The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended. Dust may form explosive mixture with air.

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

##### Chemical characterization

The substance specified below.

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
CAS: 10326-27-9 EC: 600-412-6	<b>substance main component</b> Barium chloride dihydrate		Acute Tox. 3, H301 Acute Tox. 4, H332	

Full text of all classifications and hazard statements is given in the section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

##### If inhaled

Terminate the exposure immediately; move the affected person to fresh air. Take care of your own safety, do not let the affected person walk! Beware of the contaminated clothes. Depending on the situation, call the medical rescue service and ensure medical treatment considering the frequent need of further observation for at least 24 hours.

##### If on skin

Remove contaminated clothes. Take off any rings, watches, bracelets before or during washing if worn in the contaminated areas of the skin. Rinse contaminated areas with a flow of water, lukewarm at best, for 10-30 minutes; do not use any brush, soap or neutralizers. Depending on the situation, call the medical rescue service and always ensure medical treatment.

##### If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. No neutralization should be performed in any case! Rinsing should be continued for 10-30 minutes from the inner to the outer eye corner to make sure that the other eye is not involved. Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible. Everyone must be referred for treatment even if affected only a little.

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according to Regulation (EC) No 1907/2006 (REACH) as amended

### **Pentanal® barium chloride 0,05 mol/l**

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Revision date

Version

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#### **If swallowed**

Vomiting should be induced in the person only if conscious, within 1 hour from ingestion. If in doubt whether vomiting should be induced, contact the Toxicological Information Centre and give information about the substances or composition of the product as provided on the original packaging or in the safety data sheet of the product. FOLLOWING INGESTION OF TOXIC OR HIGHLY TOXIC SUBSTANCES, GIVE 10-20 CRUSHED TABLETS OF ACTIVATED CARBON, MIXED IN WATER, WITHIN NO LATER THAN 5 MINUTES - irrespective of whether vomiting could be induced. Call medical rescue service.

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

##### **If inhaled**

Cough, headache.

##### **If on skin**

Not expected.

##### **If in eyes**

Not expected.

##### **If swallowed**

Irritation, nausea.

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

Symptomatic treatment.

### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

##### **Unsuitable extinguishing media**

Water - full jet.

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

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

#### **5.3. Advice for firefighters**

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

### **SECTION 6: Accidental release measures**

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

Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale dust. Prevent contact with skin and eyes.

#### **6.2. Environmental precautions**

Prevent contamination of the soil and entering surface or ground water.

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

Place the product mechanically in an appropriate manner. Dispose of the collected material according to the instructions in the section 13.

#### **6.4. Reference to other sections**

See the Section 7, 8 and 13.

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Pentanal® barium chloride 0,05 mol/l

Creation date 23rd August 2023

Revision date Version 1.0

#### SECTION 7: Handling and storage

##### 7.1. Precautions for safe handling

Do not inhale dust. Prevent contact with skin and eyes. Wash hands and exposed parts of the body thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection.

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

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Store locked up. Keep container tightly closed.

##### 7.3. Specific end use(s)

not available

#### SECTION 8: Exposure controls/personal protection

##### 8.1. Control parameters

##### 8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

##### Eye/face protection

It is not needed.

##### Skin protection

Hand protection: Protective gloves resistant to the product (nitrile rubber). Contaminated skin should be washed thoroughly.

##### Respiratory protection

Use a mask with anti-dust filter when the exposition limits of the substances are exceeded or at the place with insufficient ventilation.

##### Thermal hazard

Not available.

##### Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

#### SECTION 9: Physical and chemical properties

##### 9.1. Information on basic physical and chemical properties

Physical state	solid
Colour	white
Odour	data not available
Melting point/freezing point	data not available
Boiling point or initial boiling point and boiling range	data not available
Flammability	data not available
Lower and upper explosion limit	data not available
Flash point	data not available
Auto-ignition temperature	data not available
Decomposition temperature	data not available
pH	data not available
Kinematic viscosity	data not available
Solubility in water	data not available
Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	data not available
Density and/or relative density	data not available
Relative vapour density	data not available
Particle characteristics	data not available

##### 9.2. Other information

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Pentanal® barium chloride 0,05 mol/l

Creation date

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Revision date

Version

1.0

not available

#### SECTION 10: Stability and reactivity

##### 10.1. Reactivity

The substance is non-flammable.

##### 10.2. Chemical stability

The product is stable under normal conditions.

##### 10.3. Possibility of hazardous reactions

Unknown.

##### 10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

##### 10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents.

##### 10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

#### SECTION 11: Toxicological information

##### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

No toxicological data is available for the substance.

##### Acute toxicity

Toxic if swallowed. Harmful if inhaled.

##### Skin corrosion/irritation

No data available for the substance. Based on available data the classification criteria are not met.

##### Serious eye damage/irritation

No data available for the substance. Based on available data the classification criteria are not met.

##### Respiratory or skin sensitisation

No data available for the substance. Based on available data the classification criteria are not met.

##### Germ cell mutagenicity

No data available for the substance. Based on available data the classification criteria are not met.

##### Carcinogenicity

No data available for the substance. Based on available data the classification criteria are not met.

##### Reproductive toxicity

No data available for the substance. Based on available data the classification criteria are not met.

##### Toxicity for specific target organ - single exposure

No data available for the substance. Based on available data the classification criteria are not met.

##### Toxicity for specific target organ - repeated exposure

No data available for the substance. Based on available data the classification criteria are not met.

##### Aspiration hazard

No data available for the substance. Based on available data the classification criteria are not met.

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Pentanal® barium chloride 0,05 mol/l

Creation date	23rd August 2023	Version	1.0
Revision date			

#### 11.2. Information on other hazards

The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No data available for the substance. Based on available data the classification criteria are not met.

#### 12.2. Persistence and degradability

No data available for the substance.

#### 12.3. Bioaccumulative potential

No data available for the substance.

#### 12.4. Mobility in soil

No data available for the substance.

#### 12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

#### 12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms as it does not meet the criteria set out in section B of Regulation (EU) No 2017/2100.

#### 12.7. Other adverse effects

Not available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

#### Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

### SECTION 14: Transport information

#### 14.1. UN number or ID number

UN 1564

#### 14.2. UN proper shipping name

BARIUM COMPOUND, N.O.S.

#### 14.3. Transport hazard class(es)

6.1 Toxic substances

#### 14.4. Packing group

III - substances presenting low danger

#### 14.5. Environmental hazards

not relevant

#### 14.6. Special precautions for user

Reference in the Sections 4 to 8.

#### 14.7. Maritime transport in bulk according to IMO instruments

not relevant

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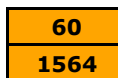
#### Additional information

Hazard identification No.

UN number

Classification code

Safety signs



T5

6.1



#### Air transport - ICAO/IATA

Packaging instructions passenger

670

Cargo packaging instructions

677

#### Marine transport - IMDG

EmS (emergency plan)

F-A, S-A

### SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

#### 15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

### SECTION 16: Other information

#### A list of standard risk phrases used in the safety data sheet

H301 Toxic if swallowed.

H332 Harmful if inhaled.

#### Guidelines for safe handling used in the safety data sheet

P301+P310 IF SWALLOWED: Immediately call a doctor.

P405 Store locked up.

#### Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

#### Key to abbreviations and acronyms used in the safety data sheet

ADR European agreement concerning the international carriage of dangerous goods by road

BCF Bioconcentration Factor

CAS Chemical Abstracts Service

CLP Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures

EC Identification code for each substance listed in EINECS

EINECS European Inventory of Existing Commercial Chemical Substances

EmS Emergency plan

EU European Union

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EuPCS	European Product Categorisation System
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
log Kow	Octanol-water partition coefficient
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative

Acute Tox. Acute toxicity

#### Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

#### Recommended restrictions of use

not available

#### Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended.  
REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

#### More information

Classification procedure - calculation method.

#### Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.