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| **SAFETY DATA SHEET**
| according to Regulation (EC) No 1907/2006 (REACH) as amended
| **Potassium hexacyanoferrate(II) trihydrat**
| Creation date 12. September 2019 | Revision date 12. September 2019 | Version 1.0 |
| **SECTION 1: Identification of the substance/mixture and of the company/undertaking**
| **1.1. Product identifier**
| Substance / mixture | Potassium hexacyanoferrate(II) trihydrat |
| Chemical name | Potassium hexacyanoferrate(II) trihydrate |
| CAS number | 14459-95-1 |
| EC (EINECS) number | 237-772-2 |
| Other substance name | Potassium ferrocyanide trihydrate |
| **1.2. Relevant identified uses of the substance or mixture and uses advised against**
| Substance's intended use | Chemical production, analytical chemistry, laboratory synthesis, industrial applications. |
| Substance uses advised against | The product should not be used in ways other then 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**
| National Health Service (NHS) 111 |
| National poisoning information centre Scotland, NHS 24: 111 |
| **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.
| Aquatic Chronic 3, H412
| Full text of all classifications and hazard statements is given in the section 16.
| **Most serious adverse effects on human health and the environment**
| Harmful to aquatic life with long lasting effects.
| **2.2. Label elements**
| **Hazard statements**
| H412 Harmful to aquatic life with long lasting effects. |
| **Precautionary statements**
| P260 Do not breathe dust. |
| P273 Avoid release to the environment. |
| **Supplemental information**
| EUH 032 Contact with acids liberates very toxic gas.
SAFETY DATA SHEET
according to Regulation (EC) No 1907/2006 (REACH) as amended

Potassium hexacyanoferrate(II) trihydrat

2.3. Other hazards
Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

SECTION 3: Composition/information on ingredients
3.1. Substances
Chemical characterization
The substance specified below.

<table>
<thead>
<tr>
<th>Identification numbers</th>
<th>Substance name</th>
<th>Content in % weight</th>
<th>Classification according to Regulation (EC) No 1272/2008</th>
<th>Note.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 14459-95-1</td>
<td>Potassium hexacyanoferrate(II) trihydrate</td>
<td>&gt;99</td>
<td>Aquatic Chronic 3, H412 EUH 032</td>
<td></td>
</tr>
</tbody>
</table>

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 inhaled
Terminate the exposure immediately; move the affected person to fresh air. Protect the person against growing cold. Provide medical treatment if irritation, dyspnoea or other symptoms persist.

If on skin
Remove contaminated clothes. Wash the affected area with plenty of water, lukewarm if possible. Soap, soap solution or shampoo should be used if there is no skin injury. Provide medical treatment if skin irritation persists.

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. Rinsing should continue at least for 10 minutes.

If swallowed
Rinse out the mouth with clean water. In the event of issues, find medical help.

4.2. Most important symptoms and effects, both acute and delayed
If inhaled
Not expected.

If on skin
Not expected.

If in eyes
Not expected.

If swallowed
Not expected.

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.

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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Avoid release to the environment.

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.

Storage class: 13 - Other non-combustible solids

7.3. Specific end use(s)

not available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

none

8.2. Exposure controls

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. Contaminated skin should be washed thoroughly.
**SAFETY DATA SHEET**

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

**Potassium hexacyanoferrate(II) trihydrat**

<table>
<thead>
<tr>
<th>Creation date</th>
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<tr>
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<td></td>
</tr>
<tr>
<td>Version</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Respiratory protection**

It is not needed.

**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

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td></td>
</tr>
<tr>
<td>Physical state</td>
<td>solid at 20°C</td>
</tr>
<tr>
<td>Color</td>
<td>colorless to yellowish</td>
</tr>
<tr>
<td>Odour</td>
<td>without fragrance</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>data not available</td>
</tr>
<tr>
<td>pH</td>
<td>8 - 10 (undiluted)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>70 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>data not available</td>
</tr>
<tr>
<td>Flash point</td>
<td>data not available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>non-applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>data not available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>data not available</td>
</tr>
<tr>
<td>flammability limits</td>
<td>data not available</td>
</tr>
<tr>
<td>explosive limits</td>
<td>data not available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>data not available</td>
</tr>
<tr>
<td>Vapour density</td>
<td>data not available</td>
</tr>
<tr>
<td>Relative density</td>
<td>data not available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>data not available</td>
</tr>
<tr>
<td>solubility in water</td>
<td>data not available</td>
</tr>
<tr>
<td>solubility in fats</td>
<td>data not available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>data not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>data not available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>data not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>data not available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>data not available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>data not available</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>1.85 g/cm³</td>
</tr>
<tr>
<td><strong>Ignition temperature</strong></td>
<td>data not available</td>
</tr>
</tbody>
</table>

#### 9.2. Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Density</strong></td>
<td>1.85 g/cm³</td>
</tr>
</tbody>
</table>

### 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.
SAFETY DATA SHEET
according to Regulation (EC) No 1907/2006 (REACH) as amended

Potassium hexacyanoferrate(II) trihydrat

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 toxicological effects
No toxicological data is available for the substance.

Acute toxicity
Based on available data the classification criteria are not met.

Skin corrosion/irritation
Based on available data the classification criteria are not met.

Serious eye damage/irritation
Based on available data the classification criteria are not met.

Respiratory or skin sensitisation
Based on available data the classification criteria are not met.

Germ cell mutagenicity
Based on available data the classification criteria are not met.

Carcinogenicity
Based on available data the classification criteria are not met.

Reproductive toxicity
Based on available data the classification criteria are not met.

Toxicity for specific target organ - single exposure
Based on available data the classification criteria are not met.

Toxicity for specific target organ - repeated exposure
Based on available data the classification criteria are not met.

Aspiration hazard
Based on available data the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity
Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability
Data not available.

12.3. Bioaccumulative potential
SAFETY DATA SHEET
according to Regulation (EC) No 1907/2006 (REACH) as amended

Potassium hexacyanoferrate(II) trihydrat

Not available.

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. 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

SECTION 14: Transport information

14.1. UN number
Not subject to ADR

14.2. UN proper shipping name
not available

14.3. Transport hazard class(es)
not available

14.4. Packing group
not available

14.5. Environmental hazards
not available

14.6. Special precautions for user
Reference in the Sections 4 to 8.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
not available

SECTION 15: Regulatory information

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

15.2. Chemical safety assessment
not available

SECTION 16: Other information
<table>
<thead>
<tr>
<th><strong>SAFETY DATA SHEET</strong></th>
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</table>

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

- H412 Harmful to aquatic life with long lasting effects.

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

- P273 Avoid release to the environment.
- P260 Do not breathe dust.

**A list of additional standard phrases used in the safety data sheet**

- EUH 032 Contact with acids liberates very toxic gas.

**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
- DNEL Derived no-effect level
- EC Identification code for each substance listed in EINECS
- EC50 Concentration of a substance when it is affected 50% of the population
- EINECS European Inventory of Existing Commercial Chemical Substances
- EmS Emergency plan
- EU European Union
- IATA International Air Transport Association
- IBC International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
- IC50 Concentration causing 50% blockade
- ICAO International Civil Aviation Organization
- IMDG International Maritime Dangerous Goods
- INCI International Nomenclature of Cosmetic Ingredients
- ISO International Organization for Standardization
- IUPAC International Union of Pure and Applied Chemistry
- LC50 Lethal concentration of a substance in which it can be expected death of 50% of the population
- LD50 Lethal dose of a substance in which it can be expected death of 50% of the population
- LOAEC Lowest observed adverse effect concentration
- LOAEL Lowest observed adverse effect level
- log Kow Octanol-water partition coefficient
- MARPOL International Convention for the Prevention of Pollution From Ships
- NOAEC No observed adverse effect concentration
- NOAEL No observed adverse effect level
- NOEC No observed effect concentration
- NOEL No observed effect level
- OEL Occupational Exposure Limits
- PBT Persistent, Bioaccumulative and Toxic
- PNEC Predicted no-effect concentration
- 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
SAFETY DATA SHEET
according to Regulation (EC) No 1907/2006 (REACH) as amended

Potassium hexacyanoferrate(II) trihydrat

VPvB  Very Persistent and very Bioaccumulative

Aquatic Chronic  Hazardous to the aquatic environment

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

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.