

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.1 Revision Date 20.09.2013

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

#### 1.1 Product identifiers

Product name : Potassium hexacyanoferrate(II) trihydrate

Product Number : 455989

Brand : Aldrich

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No. : 14459-95-1

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

Identified uses : Laboratory chemicals, Manufacture of substances

#### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Chemie GmbH  
Riedstrasse 2  
D-89555 STEINHEIM

Telephone : +49 89-6513-1444

Fax : +49 7329-97-2319

E-mail address : [eurtechserv@sial.com](mailto:eurtechserv@sial.com)

#### 1.4 Emergency telephone number

Emergency Phone # : 0800 181 7059 (CHEMTREC Deutschland)  
+49 (0)696 43508409 (CHEMTREC weltweit)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008

Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

##### Classification according to EU Directives 67/548/EEC or 1999/45/EC

R32, R52/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

#### 2.2 Label elements

##### Labelling according Regulation (EC) No 1272/2008

Pictogram : none

Signal word : none

Hazard statement(s)  
H412 : Harmful to aquatic life with long lasting effects.

Precautionary statement(s)  
P273 : Avoid release to the environment.

Supplemental Hazard information (EU)  
EUH032 : Contact with acids liberates very toxic gas.

## 2.3 Other hazards - none

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### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Formula :  $\text{C}_6\text{FeK}_4\text{N}_6 \cdot 3\text{H}_2\text{O}$   
Molecular Weight : 422,39 g/mol  
CAS-No. : 14459-95-1  
EC-No. : 237-722-2

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
<b>Tetrapotassium hexacyanoferrate</b>		
CAS-No. 14459-95-1 EC-No. 237-722-2	Aquatic Chronic 3; H412, EUH032	<= 100 %

#### Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
<b>Tetrapotassium hexacyanoferrate</b>		
CAS-No. 14459-95-1 EC-No. 237-722-2	R32 - R52/53	<= 100 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

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### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

##### In case of skin contact

Wash off with soap and plenty of water.

##### In case of eye contact

Flush eyes with water as a precaution.

##### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

no data available

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Dry powder

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

Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Potassium oxides, Iron oxides, Hydrogen cyanide (hydrocyanic acid)

#### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### 5.4 Further information

no data available

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

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

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas.  
For personal protection see section 8.

### **6.2 Environmental precautions**

Do not let product enter drains.

### **6.3 Methods and materials for containment and cleaning up**

Sweep up and shovel. Do not flush with water. Keep in suitable, closed containers for disposal.

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

For disposal see section 13.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

Provide appropriate exhaust ventilation at places where dust is formed.  
For precautions see section 2.2.

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

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.  
Never allow product to get in contact with water during storage. Do not store near acids.

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

A part from the uses mentioned in section 1.2 no other specific uses are stipulated

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

### **8.1 Control parameters**

**Components with workplace control parameters**

### **8.2 Exposure controls**

#### **Appropriate engineering controls**

General industrial hygiene practice.

#### **Personal protective equipment**

##### **Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de,  
test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### **Body Protection**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **Control of environmental exposure**

Do not let product enter drains.

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## **SECTION 9: Physical and chemical properties**

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

a) Appearance	Form: crystalline Colour: light yellow
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	8,0 - 10 at 211 g/l at 25 °C
e) Melting point/freezing point	70 °C
f) Initial boiling point and boiling range	no data available
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	1,850 g/cm <sup>3</sup>
n) Water solubility	211 g/l at 20 °C
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties	no data available
t) Oxidizing properties	no data available

### **9.2 Other safety information**

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**SECTION 10: Stability and reactivity****10.1 Reactivity**

no data available

**10.2 Chemical stability**

Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

no data available

**10.4 Conditions to avoid**

Avoid temperatures above 60°C, direct sunlight and contact with sources of heat. Contact with acids liberates very toxic gas.

**10.5 Incompatible materials**

Acids, Strong oxidizing agents

**10.6 Hazardous decomposition products**

Other decomposition products - no data available

In the event of fire: see section 5

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**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

LD50 Oral - rat - 3.613 mg/kg

**Skin corrosion/irritation**

Skin - rabbit

Result: No skin irritation

(OECD Test Guideline 404)

**Serious eye damage/eye irritation**

Eyes - rabbit

Result: Mild eye irritation

(OECD Test Guideline 405)

**Respiratory or skin sensitisation**

- guinea pig

Result: Did not cause sensitisation on laboratory animals.

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

Did not show carcinogenic effects in animal experiments.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**

no data available

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

no data available

**Aspiration hazard**

no data available

**Additional Information**

RTECS: Not available

May cause cyanosis.

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## SECTION 12: Ecological information

### 12.1 Toxicity

no data available

Toxicity to daphnia and other aquatic invertebrates      EC50 - Daphnia - 32 mg/l - 48 h  
Remarks: anhydrous

### 12.2 Persistence and degradability

Biodegradability      Result: - Not readily biodegradable.  
no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

no data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

#### Contaminated packaging

Dispose of as unused product.

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: -      IMDG: -      IATA: -

### 14.2 UN proper shipping name

ADR/RID: Not dangerous goods  
IMDG: Not dangerous goods  
IATA: Not dangerous goods

### 14.3 Transport hazard class(es)

ADR/RID: -      IMDG: -      IATA: -

### 14.4 Packaging group

ADR/RID: -      IMDG: -      IATA: -

### 14.5 Environmental hazards

ADR/RID: no      IMDG Marine pollutant: no      IATA: no

### 14.6 Special precautions for user

no data available

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## SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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**SECTION 16: Other information****Full text of H-Statements referred to under sections 2 and 3.**

Aquatic Chronic	Chronic aquatic toxicity
EUH032	Contact with acids liberates very toxic gas.
H412	Harmful to aquatic life with long lasting effects.

**Full text of R-phrases referred to under sections 2 and 3**

R32	Contact with acids liberates very toxic gas.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Further information**

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