

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878

Version 7.2
Revision Date 23.12.2025
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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 hexacyanoferate(II) trihydrate
Product Number	: P3289
Brand	: SIGALD
REACH No.	: A registration number is not available for this substance as the substance or its uses are exempted from registration or the annual tonnage does not require a registration.
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
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1.3 Details of the supplier of the safety data sheet

Company	: Sigma-Aldrich Chemie GmbH Eschenstrasse 5 D-82024 TAUFKIRCHEN
Telephone	: +49 (0)89 6513-1130
Fax	: +49 (0)89 6513-1161
E-mail address	: technischerservice@merckgroup.com

1.4 Emergency telephone number

Emergency Phone #	: 0800 181 7059 (CHEMTREC Deutschland) +49 (0)696 43508409 (CHEMTREC weltweit)
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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.



2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name : Yellow prussiate

EC-No. : 237-722-2

Components

Remarks : No hazardous ingredients

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled : After inhalation: fresh air.

In case of skin contact : In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact : After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed : After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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



SECTION 5: Firefighting measures

5.1 Extinguishing media

- | | |
|--------------------------------|--|
| Suitable extinguishing media | : Water
Foam
Carbon dioxide (CO ₂)
Dry powder |
| Unsuitable extinguishing media | : For this substance/mixture no limitations of extinguishing agents are given. |

5.2 Special hazards arising from the substance or mixture

- | | |
|---------------------------------------|---|
| Specific hazards during fire fighting | : Combustible.

Development of hazardous combustion gases or vapours possible in the event of fire. |
| Hazardous combustion products | : Carbon oxides

Nitrogen oxides (NO _x)
Potassium oxides
Iron oxides
Hydrogen cyanide (hydrocyanic acid) |

5.3 Advice for firefighters

- | | |
|--|--|
| Special protective equipment for fire-fighters | : In the event of fire, wear self-contained breathing apparatus. |
| Further information | : Suppress (knock down) gases/vapours/mists with a water spray jet.
Prevent fire extinguishing water from contaminating surface water or the ground water system. |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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|----------------------|---|
| Personal precautions | : Advice for non-emergency personnel:
Avoid inhalation of dusts.
Evacuate the danger area, observe emergency procedures, consult an expert. |
|----------------------|---|

For personal protection see section 8.

6.2 Environmental precautions

- | | |
|---------------------------|------------------------------------|
| Environmental precautions | : Do not let product enter drains. |
|---------------------------|------------------------------------|

6.3 Methods and material for containment and cleaning up

- | | |
|-------------------------|---|
| Methods for cleaning up | : Cover drains. Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7 |
|-------------------------|---|



and 10).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Hygiene measures : Change contaminated clothing. Wash hands after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Further information on storage conditions : Tightly closed. Dry.

Storage class (TRGS 510) : 11, Combustible Solids

7.3 Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

8.2 Exposure controls

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).
Safety glasses

Hand protection

Material	: Nitrile rubber
Break through time	: 480 min
Glove thickness	: 0,11 mm
Protective index	: Full contact
Manufacturer	: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Material	: Nitrile rubber
Break through time	: 480 min
Glove thickness	: 0,11 mm
Protective index	: Splash contact
Manufacturer	: Dermatril® (KCL 740 / Aldrich Z677272, Size M)



Manufacturer	: data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
Remarks	: 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 Regulation (EU) 2016/425 and the standard EN 374 derived from it. 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.
Respiratory protection	: required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
Recommended Filter type:	: Filter type P1
The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.	

Environmental exposure controls

Advice	: 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

Physical state	: solid
Form	: crystalline
Color	: light yellow
Odor	: odourless



Odor Threshold	: Not applicable
Melting point/ range	: 70 °C Method: lit.
Boiling point	: No data available
Flammability	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Flash point	: Not applicable
Autoignition temperature	: No data available
Decomposition temperature	: > 70 °C
pH	: 8,0 - 10 (25 °C) Concentration: 211 g/l
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Flow time	: No data available
Solubility(ies)	
Water solubility	: 211 g/l (20 °C)
Partition coefficient: n-octanol/water	: Not applicable for inorganic substances
Vapor pressure	: No data available
Relative density	: No data available
Density	: 1,85 g/cm ³ (20 °C) (anhydrous substance)
Relative vapour density	: No data available



9.2 Other information

Explosives	: Not classified as explosive.
Oxidizing properties	: none
Burning rate	: No data available
Evaporation rate	: No data available
Molecular weight	: 422,39 g/mol

SECTION 10: Stability and reactivity

10.1 Reactivity

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

Contact with acids liberates very toxic gas.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Hazardous reactions	: A risk of explosion and/or of toxic gas formation exists with the following substances: Strong acids Oxidizing agents Hydrogen chloride gas nitrites
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10.4 Conditions to avoid

Conditions to avoid	: Avoid temperatures above 60°C, direct sunlight and contact with sources of heat. Contact with acids liberates very toxic gas.
	no information available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5



SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - > 5.110 mg/kg

(OECD Test Guideline 401)

Remarks: The value is given in analogy to the following substances: Potassium hexacyanoferrate (II)

Inhalation: No data available

LD50 Dermal - Rat - male and female - > 2.000 mg/kg

(OECD Test Guideline 402)

Remarks: The value is given in analogy to the following substances: Potassium hexacyanoferrate (II)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Remarks: The value is given in analogy to the following substances: Potassium hexacyanoferrate (II)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

(OECD Test Guideline 405)

Remarks: The value is given in analogy to the following substances: Potassium hexacyanoferrate (II)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

Remarks: The value is given in analogy to the following substances: Potassium hexacyanoferrate (II)

Germ cell mutagenicity

Test Type: Ames test

Test system: Bacillus subtilis

Result: negative

Remarks: (IUCLID)

The value is given in analogy to the following substances: Potassium hexacyanoferrate

(II)Carcinogenicity

No data available

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



11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Repeated dose toxicity - Rat - male and female - Oral - 2 yr - No observed adverse effect level - 450 - 630 mg/kg

Remarks: The value is given in analogy to the following substances: Potassium hexacyanoferrate (II)

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After swallowing of large amounts:

Dizziness

Vomiting

Diarrhoea

The substance has a laxative effect.

Lower toxicity in comparison with similar substances due to greater stability of product.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

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

Product:

Assessment

: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.



12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

No data available

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

14.1 UN number or ID number

ADR : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA_P : Not regulated as a dangerous good

14.2 UN proper shipping name

ADR : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA_P : Not regulated as a dangerous good

14.3 Transport hazard class(es)

ADR : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA_P : Not regulated as a dangerous good

14.4 Packing group

ADR : Not regulated as a dangerous good
IMDG : Not regulated as a dangerous good
IATA (Cargo) : Not regulated as a dangerous good



IATA_P (Passenger) : Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing : Not applicable on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EU) No 2024/590 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. Not applicable

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or



Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Other information

: The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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