



ISO 9001 Quality System Certified Organization

MANUFACTURER & EXPORTER OF LABORATORY CHEMICALS AND OILS

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MATERIAL SAFETY DATA SHEET (MSDS) SDS/MSDS

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

1.1. Product identifier

Product form

Trade name : POTASSIUM FERROCYANIDE

EC-No. : 237-722-2

CAS-No. : 14459-95-1

Type of product : Inorganic compound

Formula : $K_4[Fe(CN)_6] \cdot 3H_2O$

Chemical structure

Synonyms : Potassium hexacyanoferrate (III) Trihydrate, Yellow prussiate of Potash,

Tetrapotassium ferrocyanide Trihydrate

: Substance

:

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

Relevant identified uses

Use of the substance/mixture

: Laboratory chemicals

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type

Name

: Mono-constituent

Product identifier

POTASSIUM FERROCYANIDE TRIHYDRATE

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CAS-No.: 14459-95-1

EC-No.: 237-722-2

%

99

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

First-aid measures after inhalation

First-aid measures after skin contact

First-aid measures after eye contact

First-aid measures after ingestion

First-aid measures for first aider

: If you feel unwell, seek medical advice.

: Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.

: Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash skin with plenty of water.

: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.

: Rinse mouth out with water. If you feel unwell, seek medical advice. Call a poison center or a doctor if you feel unwell.

: First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects after inhalation

Symptoms/effects after skin contact

Symptoms/effects after eye contact

Symptoms/effects after ingestion

: Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure. Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.

: None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.

: None under normal conditions. Dust from this product may cause eye irritation.

: None under normal conditions.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Unsuitable extinguishing media

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: dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂). Water spray. Dry powder. Foam.

: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard

Explosion hazard

Hazardous decomposition products in case of fire

5.3. Advice for firefighters

: No fire hazard.

: No direct explosion hazard.

: Toxic fumes may be released.

Firefighting instructions

Protection during firefighting

: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures

For non-emergency personnel

Protective equipment

Emergency procedures

For emergency responders

Protective equipment

Emergency procedures

6.2. Environmental precautions

: Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

: Wear recommended personal protective equipment.

: Ventilate spillage area. Evacuate unnecessary personnel.

: Do not attempt to take action without suitable protective equipment. Use personal protective equipment as required. For further information refer to section 8: "Exposure controls/personal protection".

: Stop release. Evacuate unnecessary personnel.

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment

Methods for cleaning up

Other information

6.4. Reference to other sections

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- : Using a clean shovel, put the material in a dry container and cover without compressing it.
 - : Mechanically recover the product. Clear up rapidly by scoop or vacuum.
 - : Dispose of materials or solid residues at an authorized site.
- For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed

Precautions for safe handling

Hygiene measures

- : Not expected to present a significant hazard under anticipated conditions of normal use.
- : Ensure good ventilation of the work station. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing.
- : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures

Storage conditions

Packaging materials

7.3. Specific end use(s)

- : Keep in a cool, well-ventilated place away from heat.
 - : Store in original container. Keep container tightly closed. Store in a dry place. Protect from moisture.
 - : Store always product in container of same material as original container.
- No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):

Eye and face protection

Eye protection:

Chemical goggles or safety glasses



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Skin protection

Skin and body protection:

Wear a mask

Hand protection:

Protective gloves

Respiratory protection

Respiratory protection:

Wear appropriate mask

Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Colour : Pale yellow.

Appearance : Crystalline powder.

Molecular mass : 422.39 g/mol

Odour : Odourless.

Odour threshold : Not available

Melting point : 70 °C

Freezing point : Not applicable

Boiling point : Decomposes

Flammability : Non flammable.

Lower explosion limit : Not applicable

Upper explosion limit : Not applicable

Flash point : Not applicable

Auto-ignition temperature : Not applicable

Decomposition temperature : > 70 °C

pH : 8 – 10 (211 g/l at 25 °C)

pH solution : Not available

Viscosity, kinematic : Not applicable

Solubility : Water: 211 g/l at 20 °C - Soluble

Ethanol: Insoluble

Ether: Insoluble

Partition coefficient n-octanol/water (Log Kow) : Not available

Vapour pressure : Negligible

Vapour pressure at 50°C : Not available

Density : 1.85 g/cm³ at 20 °C

Relative density : Not available

Relative vapour density at 20°C : Not applicable

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Particle size : Not available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Highly reactive material. Contact with acids liberates very toxic gas.

10.4. Conditions to avoid

Direct sunlight. Air contact. Moisture.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity (oral)

Acute toxicity (dermal)

Acute toxicity (inhalation)

Skin corrosion/irritation

Serious eye damage/irritation

Respiratory or skin sensitisation

Germ cell mutagenicity

Carcinogenicity

Reproductive toxicity

STOT-single exposure

STOT-repeated exposure

Aspiration hazard

: Not classified

: Not classified

: Not classified

: Not classified

pH: 8 – 10 (211 g/l at 25 °C)

: Not classified

pH: 8 – 10 (211 g/l at 25 °C)

: Not classified

: Not classified



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: Not classified

: Not classified

: Not classified

: Not classified

: Not classified

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Viscosity, kinematic

11.2. Information on other hazards

Not applicable

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general

Ecology - water

: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

: Harmful to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short-term (acute)

Hazardous to the aquatic environment, long-term (chronic)

12.2. Persistence and degradability

: Not classified

: Not classified

POTASSIUM FERROCYANIDE TRIHYDRATE EXTRA PURE (14459-95-1)

Persistence and degradability

12.3. Bioaccumulative potential

Rapidly degradable

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation



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Waste treatment methods
Sewage disposal recommendations
Product/Packaging disposal recommendations
Additional information

SECTION 14: Transport information

- : Disposal must be done according to official regulations.
- : Dispose of contents/container in accordance with licensed collector's sorting instructions.
- : Disposal must be done according to official regulations.
- : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Disposal must be done according to official regulations.
- : Do not re-use empty containers.

In accordance with ADR / IMDG / IATA / ADN / RID 

14.1. UN number or ID number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (ADR)

Proper Shipping Name (IMDG)

Proper Shipping Name (IATA)

Proper Shipping Name (ADN)

Proper Shipping Name (RID)

14.3. Transport hazard class(es)

: Not regulated

: Not regulated

: Not regulated

: Not regulated

: Not regulated

ADR

Transport hazard class(es) (ADR)

IMDG

Transport hazard class(es) (IMDG)

: Not regulated

: Not regulated

IATA

Transport hazard class(es) (IATA)

ADN

Transport hazard class(es) (ADN)

RID

Transport hazard class(es) (RID)

14.4. Packing group

: Not regulated

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: Not regulated

: Not regulated

Packing group (ADR)

Packing group (IMDG)

Packing group (IATA)

Packing group (ADN)

Packing group (RID)

14.5. Environmental hazards

: Not regulated

: Not regulated

: Not regulated

: Not regulated

: Not regulated

Other information

14.6. Special precautions for user

: No supplementary information available

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EU-Regulations

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

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Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

National regulations

Germany

Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject to the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen –

Vruchtbaarheid

: The substance is not listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ADR European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE Acute Toxicity Estimate

BCF Bioconcentration factor

BLV Biological limit value

BOD Biochemical oxygen demand (BOD)

COD Chemical oxygen demand (COD)

DMEL Derived Minimal Effect level

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DNEL Derived-No Effect Level

EC-No. European Community number

EC50 Median effective concentration

EN European Standard

IARC International Agency for Research on Cancer

IATA International Air Transport Association

IMDG International Maritime Dangerous Goods

LC50 Median lethal concentration

LD50 Median lethal dose

Abbreviations and acronyms:

LOAEL Lowest Observed Adverse Effect Level

NOAEC No-Observed Adverse Effect Concentration

NOAEL No-Observed Adverse Effect Level

NOEC No-Observed Effect Concentration

OECD Organisation for Economic Co-operation and Development

OEL Occupational Exposure Limit

PBT Persistent Bioaccumulative Toxic

PNEC Predicted No-Effect Concentration

RID Regulations concerning the International Carriage of Dangerous Goods by Rail

SDS Safety Data Sheet

STP Sewage treatment plant

ThOD Theoretical oxygen demand (ThOD)

TLM Median Tolerance Limit

VOC Volatile Organic Compounds

CAS-No. Chemical Abstract Service number

N.O.S. Not Otherwise Specified

vPvB Very Persistent and Very Bioaccumulative

ED Endocrine disruptor

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.