

1 - Product and Company Information

ProductName POTASSIUM TETRACYANONICKELATE(II)
HYDRATE

2 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

May cause cancer by inhalation. Contact with water liberates toxic, extremely flammable gas. Harmful if swallowed. May cause sensitization by inhalation and skin contact.

3 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I
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POTASSIUM TETRACYANONICKELATE(II) HYDRATE	14220-17-8	238-082-7	None
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Formula	K ₂ Ni(CN) ₄ .xH ₂ O
Molecular Weight	240.96 AMU
Synonyms	Dipotassium nickel tetracyanide * Dipotassium tetracyanonicelate * Nickelate, tetracyano-, dipotassium * Nickelate(2-), tetracyano-, dipotassium (8Cl) * Nickelate(2-), tetrakis(cyano-C)-, dipotassium, (SP-4-1)- * Potassium tetracyanonicelate * Potassium tetracyanonicelate(II)

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious amounts of water.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Dry chemical powder.
Unsuitable: Do not use water.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed. Store in a cool dry place. Store under argon.

SPECIAL REQUIREMENTS: Moisture sensitive.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

EXPOSURE LIMITS - DENMARK

Source	Type	Value
OEL	TWA	1 mg/m ³

EXPOSURE LIMITS - UNITED KINGDOM

Source	Type	Value
OEL	TWA	0.5MG(NI)/M ³

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). 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.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Solid Form: Fine Crystalline
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Property	Value	At Temperature or Pressure
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pH	N/A
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BP/BP Range	N/A
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MP/MP Range	N/A
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Flash Point	N/A
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Flammability	N/A
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Autoignition Temp	N/A
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Oxidizing Properties	N/A
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Explosive Properties	N/A
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Explosion Limits	N/A
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Vapor Pressure	N/A
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Partition Coefficient	N/A
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Viscosity	N/A
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Vapor Density	N/A
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Saturated Vapor Conc.	N/A
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Evaporation Rate	N/A
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Bulk Density	N/A
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Decomposition Temp.	N/A
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Solvent Content	N/A
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Water Content	30 %
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Surface Tension	N/A
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Conductivity	N/A
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Miscellaneous Data	N/A
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Solubility	N/A
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10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Carbon dioxide, Bases, Oxidizing agents,

Emits hydrogen cyanide gas in contact with acids

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Hydrogen cyanide, Potassium oxides, Nickel/nickel oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: QR8650000

ACUTE TOXICITY

LD₅₀

Oral

275 mg/kg

SENSITIZATION

Sensitization: May cause allergic respiratory and skin reactions

SIGNS AND SYMPTOMS OF EXPOSURE

May be partially metabolized to cyanide in the body.

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation. May be harmful if absorbed through the skin.

Air Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: Harmful if swallowed.

TARGET ORGAN INFORMATION

Cardiovascular system, Lungs, Blood, Central nervous system.

Thyroid.

CHRONIC EXPOSURE - CARCINOGEN

Result: May cause cancer by inhalation.

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). 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.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/UN#: 1588

Class: 6.1

PG: II

Proper Shipping Name: Cyanides, inorganic, solid,

n.o.s.

UN#: 1588

Class: 6.1

PG: II

Proper Shipping Name: Cyanides, inorganic, solid,

n.o.s.

Marine Pollutant: Yes

Severe Marine Pollutant: No

Technical Name: Required

IATA UN#: 1588

Class: 6.1

PG: II

Proper Shipping Name: Cyanides, inorganic, solid,

n.o.s.

Technical Name: Required

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

Toxic

R-Phrases: 49-19-29-42/43

May cause cancer by inhalation. Harmful if swallowed. May cause sensitization by inhalation and skin contact.

S-Phrases: 53-22-36/37-43-45

Avoid dust exposure - obtain special instructions before use. Do not breathe dust. Wear suitable protective clothing and gloves. In case of fire, use dry powder. Never use water. In case of

accident or if you feel unwell, seek medical advice immediately (show the label where possible).

COUNTRY-SPECIFIC INFORMATION

Germany

Self-Classification

16 - Other Information

For R&D use only. Not for drug, household or other uses.

WARRANTY: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent

any guarantee of the properties of the product. Lookchem shall not be held liable for any damage or

harm resulting from handling or from contact with the product. Lookchem shall not be held liable for any damage or

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