1 Identification

· Product name

· Trade name: Potassium hexacyanoplattinate(IV), 99%

· Item number: 78-1963

· CAS Number: 16920-94-8

· EC number: 240-978-8

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier:
  Strem Chemicals, Inc.
  7 Mulliken Way
  NEWBURYPORT, MA 01950
  USA
  info@strem.com

· Information department: Technical Department

· Emergency telephone number:
  EMERGENCY: CHEMTREC: +1 (800) 424-9300
  During normal opening times: +1 (978) 499-1600

2 Hazard(s) identification

· Classification of the substance or mixture

GHS06 Skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.

GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

· Label elements

· GHS label elements
The substance is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms

GHS06  GHS07

· Signal word Danger

· Hazard-determining components of labeling:
  Potassium hexacyanoplattinate(IV), 99%

· Hazard statements
  H302 Harmful if swallowed.
  H331 Toxic if inhaled.
Trade name: Potassium hexacyanoplatinate(IV), 99%

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

· Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system:

· NFPA ratings (scale 0 - 4)

Health = 4
Fire = 0
Reactivity = 0

· HMIS-ratings (scale 0 - 4)

HEALTH
Health = 3
FIRE
Fire = 0
REACTIVITY
Reactivity = 0

· Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Substances

· CAS No. Description
  16920-94-8 Potassium hexacyanoplatinate(IV), 99%
· Identification number(s)
· EC number: 240-978-8

4 First-aid measures

· Description of first aid measures

· General information:
  Immediately remove any clothing soiled by the product.
  Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
  Remove breathing apparatus only after contaminated clothing have been completely removed.
  In case of irregular breathing or respiratory arrest provide artificial respiration.

· After inhalation:
  Supply fresh air or oxygen; call for doctor.
  In case of unconsciousness place patient stably in side position for transportation.

· After skin contact: Immediately wash with water and soap and rinse thoroughly.

· After eye contact:
  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Trade name: Potassium hexacyanoplutinate(IV), 99%

- After swallowing: Immediately call a doctor.
- Information for doctor:
  - Most important symptoms and effects, both acute and delayed: No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents:
  - CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
  - Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions: No special measures required.
- Methods and material for containment and cleaning up:
  - Dispose contaminated material as waste according to item 13.
  - Ensure adequate ventilation.
- Reference to other sections
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

7 Handling and storage

- Handling:
  - Precautions for safe handling
    - Thorough dedusting.
    - Ensure good ventilation/exhaustion at the workplace.
    - Open and handle receptacle with care.
  - Information about protection against explosions and fires: Keep respiratory protective device available.
- Conditions for safe storage, including any incompatibilities
- Storage:
  - Requirements to be met by storerooms and receptacles: No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: Keep receptacle tightly sealed.
  - Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters
  - Components with limit values that require monitoring at the workplace: Not required.
  - Additional information: The lists that were valid during the creation were used as basis.
· Exposure controls
  · Personal protective equipment:
    · General protective and hygienic measures:
      Keep away from foodstuffs, beverages and feed.
      Immediately remove all soiled and contaminated clothing.
      Wash hands before breaks and at the end of work.
      Store protective clothing separately.
      Avoid contact with the eyes and skin.
  · Breathing equipment:
    In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
  · Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

· Material of gloves
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· Penetration time of glove material
  The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:

Tightly sealed goggles

### 9 Physical and chemical properties

· Information on basic physical and chemical properties
  · General Information
    · Appearance:
      Form: Powder
      Color: White
    · Odor:
      Odorless
    · Odor threshold:
      Not determined.
  · pH-value:
    Not applicable.

· Change in condition
  · Melting point/Melting range:
    no data °C
  · Boiling point/Boiling range:
    no data °C

· Flash point:
  Not applicable.

· Flammability (solid, gaseous):
  Not determined.
Trade name: Potassium hexacyanoplatinate(IV), 99%

42.0

· Ignition temperature:
  · Decomposition temperature: Not determined.
· Auto igniting: Not determined.
· Danger of explosion: Product does not present an explosion hazard.
· Explosion limits:
  · Lower: Not determined.
  · Upper: Not determined.
· Vapor pressure: no data hPa
· Density: Not determined.
· Relative density: Not determined.
· Vapor density: Not applicable.
· Evaporation rate: Not applicable.
· Solubility in / Miscibility with Water: Insoluble.
· Partition coefficient (n-octanol/water): Not determined.
· Viscosity:
  · Dynamic: Not applicable.
  · Kinematic: Not applicable.
· Solvent content:
  · Organic solvents: 0.0 %
  · VOC content: 0.0 g/l / 0.00 lb/gl
· Solids content: 100.0 %
· Other information No further relevant information available.

10 Stability and reactivity
· Reactivity: No further relevant information available.
· Chemical stability
  · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
· Possibility of hazardous reactions: No dangerous reactions known.
· Conditions to avoid: No further relevant information available.
· Incompatible materials: No further relevant information available.
· Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information
· Information on toxicological effects
  · Acute toxicity:
  · Primary irritant effect:
    · on the skin: Irritant to skin and mucous membranes.
    · on the eye: Irritating effect.
  · Sensitization: No sensitizing effects known.
12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
- Behavior in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes: Not known to be hazardous to water.
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.
  - Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
- Recommendation:
  Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - DOT, IMDG, IATA: UN1588
- UN proper shipping name
  - DOT, IATA: Cyanides, inorganic, solid, n.o.s.
  - IMDG: CYANIDES, INORGANIC, SOLID, N.O.S.
- Transport hazard class(es)
  - DOT
    - Class: 6.1 Toxic substances
## Trade name: Potassium hexacyanoplattinate(IV), 99%

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<th>6.1 Label</th>
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### IMDG, IATA

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<tr>
<th>6.1 Toxic substances</th>
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| Class | 6.1 Toxic substances |
| --- |

| Packing group | 6.1 Toxic substances |
| --- |

| DOT, IMDG, IATA | 6.1 Toxic substances |
| --- |

### Environmental hazards:

| Marine pollutant | 6.1 Toxic substances |
| --- |

| Special precautions for user | Not applicable. |
| --- |

| EMS Number | F-A.S-A |
| --- |

| Segregation groups | Cyanides |
| --- |

| Stowage Category | A |
| --- |

| Segregation Code | SG35 Stow "separated from" acids. |
| --- |

### Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

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<th>6.1 Toxic substances</th>
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### Transport/Additional information:

| DOT | 6.1 Toxic substances |
| --- |

| Quantity limitations | On passenger aircraft/rail: 100 kg On cargo aircraft only: 200 kg |
| --- |

### IMDG

<table>
<thead>
<tr>
<th>Limited quantities (LQ)</th>
<th>5 kg Code: E1</th>
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<tr>
<th>Exempted quantities (EQ)</th>
<th>Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g</th>
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### UN "Model Regulation":

<table>
<thead>
<tr>
<th>UN 1588 CYANIDES, INORGANIC, SOLID, N.O.S., 6.1, III</th>
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## 15 Regulatory information

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

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| Section 355 (extremely hazardous substances): |
| Substance is not listed. |

### Section 313 (Specific toxic chemical listings):

| Substance is not listed. |

### TSCA (Toxic Substances Control Act):

| Substance is not listed. |

### Proposition 65

| Chemicals known to cause cancer: |
| Substance is not listed. |
Trade name: Potassium hexacyanoplattinate(IV), 99%

- Chemicals known to cause reproductive toxicity for females:
  Substance is not listed.

- Chemicals known to cause reproductive toxicity for males:
  Substance is not listed.

- Chemicals known to cause developmental toxicity:
  Substance is not listed.

- Carcinogenic categories
  EPA (Environmental Protection Agency)
  Substance is not listed.

- TLV (Threshold Limit Value established by ACGIH)
  Substance is not listed.

- NIOSH-Ca (National Institute for Occupational Safety and Health)
  Substance is not listed.

- GHS label elements
  The substance is classified and labeled according to the Globally Harmonized System (GHS).

- Hazard pictograms

  GHS06  GHS07

- Signal word Danger

- Hazard-determining components of labeling:
  Potassium hexacyanoplattinate(IV), 99%

- Hazard statements
  H302 Harmful if swallowed.
  H331 Toxic if inhaled.
  H315 Causes skin irritation.
  H319 Causes serious eye irritation.
  H335 May cause respiratory irritation.

- Precautionary statements
  P280 Wear protective gloves/protective clothing/eye protection/face protection.
  P261 Avoid breathing dust/fume/gas/mist/vapors/spray
  P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
  P403+P233 Store in a well-ventilated place. Keep container tightly closed.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: Technical Department.
- Contact: Technical Director
- Date of preparation / last revision 07/31/2016 / -
Trade name: Potassium hexacyanoplattinate(IV), 99%

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
OSHA: Occupational Safety & Health
NIOSH: National Institute for Occupational Safety
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 4: Acute toxicity, Hazard Category 4
Acute Tox. 3: Acute toxicity, Hazard Category 3
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3