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

1.1 Product identifier

- Trade name: Barium tetracyanoplatinate(II) tetrahydrate, 99%
- Item number: 78-0083
- CAS Number: 13755-32-3

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

No further relevant information available.

1.3 Details of the supplier of the safety data sheet

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

- Further information obtainable from: Technical Department

1.4 Emergency telephone number:

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

- GHS06 skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.
Acute Tox. 2 H310 Fatal in contact with skin.
Acute Tox. 2 H330 Fatal if inhaled.

2.2 Label elements

- Labelling according to Regulation (EC) No 1272/2008
  The substance is classified and labelled according to the CLP regulation.
- Hazard pictograms

- GHS06

- Signal word Danger

Hazard-determining components of labelling:
Barium tetracyanoplatinate(II) tetrahydrate, 99%

- Hazard statements
  H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.
- Precautionary statements
  P101 If medical advice is needed, have product container or label at hand.
  P102 Keep out of reach of children.
  P103 Read label before use.
  P260 Do not breathe dust/fume/gas/mist/vapours/spray.
  P262 Do not get in eyes, on skin, or on clothing.

(Contd. on page 2)
Trade name: Barium tetracyanoplmatinate(II) tetrahydrate, 99%

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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.

2.3 Other hazards
Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation: Substances
CAS No. Description
13755-32-3 Barium tetracyanoplmatinate(II) tetrahydrate, 99%

SECTION 4: First aid measures

4.1 Description of first aid measures
General information:
Immediately remove any clothing soiled by the product. Remove breathing equipment 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:
Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing:
Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed
No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents:
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture
During heating or in case of fire poisonous gases are produced.

5.3 Advice for firefighters
Protective equipment: Mouth respiratory protective device.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Mount respiratory protective device.

6.2 Environmental precautions:
Do not allow product to reach sewage system or any water course. Inform respective authorities in case of seepage into water course or sewage system.
Trade name: Barium tetracyanoplatinate(II) tetrahydrate, 99%

6.3 Methods and material for containment and cleaning up:
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

6.4 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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Thorough dedusting.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.

Information about fire - and explosion protection: Keep respiratory protective device available.

7.2 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 container tightly sealed.

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace: Not required.
Additional information: The lists valid during the making were used as basis.

8.2 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.

Respiratory protection:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

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: Safety glasses

· 9.1 Information on basic physical and chemical properties
  · General Information
  · Appearance:
    - Form: Powder
    - Colour: Yellow
  · Odour: Undistinguishable.
  · Odour 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.

· Ignition temperature:
  · Decomposition temperature: Not determined.
  · Self-igniting: Not determined.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:
  · Lower: Not determined.
  · Upper: Not determined.

· Vapour pressure: no data hPa

· Density at 20 ºC: 2.076 g/cm³
  · Relative density: Not determined.
  · Vapour 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 (EC): 0.00 %

· Solids content: 100.0 %

· 9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

· 10.1 Reactivity No further relevant information available.
 SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Fatal if swallowed, in contact with skin or if inhaled.

Primary irritant effect:

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT-single exposure Based on available data, the classification criteria are not met.

STOT-repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

 SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

Additional ecological information:

General notes: Not known to be hazardous to water.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects No further relevant information available.

 SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.
# SECTION 14: Transport information

- **14.1 UN-Number**
  - ADR, IMDG, IATA
  - UN3288

- **14.2 UN proper shipping name**
  - ADR
    - 3288 TOXIC SOLID, INORGANIC, N.O.S.
  - IMDG
    - TOXIC SOLID, INORGANIC, N.O.S.
  - IATA
    - Toxic solid, inorganic, n.o.s.

- **14.3 Transport hazard class(es)**
  - ADR
    - Class 6
    - Label 6.1
  - IMDG, IATA
    - Class 6.1 Toxic substances.
    - Label 6.1

- **14.4 Packing group**
  - ADR, IMDG, IATA
  - II

- **14.5 Environmental hazards:**
  - Marine pollutant: No

- **14.6 Special precautions for user**
  - Not applicable.
  - EMS Number: F-A,S-A
  - Stowage Category: B

- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**
  - Not applicable.

- **Transport/Additional information:**
  - **ADR**
    - Limited quantities (LQ): .5kg
    - Excepted quantities (EQ): Code: E4
      - Maximum net quantity per inner packaging: 1 g
      - Maximum net quantity per outer packaging: 500 g
  - **IMDG**
    - Limited quantities (LQ): .5kg
    - Excepted quantities (EQ): Code: E4
      - Maximum net quantity per inner packaging: 1 g
      - Maximum net quantity per outer packaging: 500 g
  - **UN "Model Regulation":**
    - UN 3288 TOXIC SOLID, INORGANIC, N.O.S., 6.1, II

(Contd. on page 7)
Trade name: Barium tetracyanoplatinate(II) tetrahydrate, 99%

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Directive 2012/18/EU
  - Named dangerous substances - ANNEX I Substance is not listed.
  - Seveso category H2 ACUTE TOXIC
  - Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t
  - Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

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

SECTION 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 MSDS: Technical Department.
- Contact: Technical Director
- 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
  - IATA: International Air Transport Association
  - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - VOC: Volatile Organic Compounds (USA, EU)
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - Acute Tox. 2: Acute toxicity, Hazard Category 2