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

- 1.1 Product identifier
  - Trade name: Tetrakis(acetonitrile)palladium(II) tetrafluoroborate, min. 98%
  - Item number: 46-2145
  - CAS Number: 21797-13-7

- 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

  ![GHS07]

  Skin Irrit. 2 H315 Causes skin irritation.
  Eye Irrit. 2 H319 Causes serious eye irritation.
  STOT SE 3 H335 May cause respiratory irritation.

- 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

  ![GHS07]

- Signal word Warning
  - Hazard-determining components of labelling:
    Tetrakis(acetonitrile)palladium(II) tetrafluoroborate, 99%
  - Hazard statements
    H315 Causes skin irritation.
    H319 Causes serious eye irritation.
    H335 May cause respiratory irritation.
  - 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.

(Contd. on page 2)
Trade name: Tetrakis(acetonitrile)palladium(II) tetrafluoroborate, min. 98%

P231 Handle under inert gas.
P222 Do not allow contact with air.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P410 Protect from sunlight.
P422 Store contents under inert gas.
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
21797-13-7 Tetrakis(acetonitrile)palladium(II) tetrafluoroborate, 99%

SECTION 4: First aid measures

4.1 Description of first aid measures

- After inhalation: 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.
- After swallowing: If symptoms persist consult doctor.

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

No further relevant information available.

5.3 Advice for firefighters

Protective equipment: No special measures required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Not required.

6.2 Environmental precautions

No special measures required.

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.

(Contd. on page 3)
SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Open and handle receptacle with care.
  - **Handling:** Handle under inert gas.
  - **Information about fire - and explosion protection:** No special measures required.

- **7.2 Conditions for safe storage, including any incompatibilities**
  - **Storage:**
    - Keep cool.
    - Store contents under inert gas.
    - Protect from sunlight.
  - **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:** Store at temperatures not exceeding -18 °C.
  - **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **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.
      - Avoid contact with the eyes and skin.
    - **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.
**Trade name:** Tetrakis(acetonitrile)palladium(II) tetrafluoroborate, min. 98%

- **Eye protection:**
  - Tightly sealed goggles

### 9.1 Information on basic physical and chemical properties

- **General Information**
  - **Appearance:** Powder
  - **Colour:** Yellow
  - **Odour:** Odourless
  - **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:** not appli hPa

- **Density:** Not determined.
- **Relative density**
- **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
Based on available data, the classification criteria are not met.

Primary irritant effect:
Skin corrosion/irritation
Causes skin irritation.

Serious eye damage/irritation
Causes serious eye irritation.

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
May cause respiratory irritation.

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, ADN, IMDG, IATA: not regulated

- **14.2 UN proper shipping name**
  - ADR, ADN, IMDG, IATA: not regulated

- **14.3 Transport hazard class(es)**
  - ADR, ADN, IMDG, IATA: not regulated
  - Class: not regulated

- **14.4 Packing group**
  - ADR, IMDG, IATA: not regulated

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

- **14.6 Special precautions for user**
  - Not applicable.

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

- **UN "Model Regulation":**
  - not regulated

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.

- **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
  - Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
  - Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
  - STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3