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

- **Product Name:** Multi-element Calibration Standard 1, Part Number 8500-6944
- **Part Number:** 8500-6944
- **Application of the substance / the mixture**
  
  Reagents and Standards for Analytical Chemistry Laboratory Use
  
  A 100mL Solution
- **Details of the supplier of the safety data sheet**
  
  **Manufacturer/Supplier:**
  
  Agilent Technologies Manufacturing GmbH & Co. KG
  
  Hewlett-Packard-Str. 8
  
  76337 Waldbronn
  
  Germany
- **Further information obtainable from:** product safety department
- **Emergency telephone number:** CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

- **Classification of the substance or mixture**
  
  Classification according to Regulation (EC) No 1272/2008
  
  **GHS05 corrosion**
  
  - **Skin Corr. 1B H314** Causes severe skin burns and eye damage.
  - **Eye Dam. 1 H318** Causes serious eye damage.
- **Labelling according to Regulation (EC) No 1272/2008** The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**
  
  **GHS05**
- **Signal word** Danger
- **Hazard-determining components of labelling:**
  
  - nitric acid
- **Hazard statements**
  
  Causes severe skin burns and eye damage.
- **Precautionary statements**
  
  If medical advice is needed, have product container or label at hand.
  Keep out of reach of children.
  Read label before use.
  IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  Immediately call a POISON CENTER/doctor.
  Specific treatment (see on this label).
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Other hazards**
- **Results of PBT and vPvB assessment**
  
  - PBT: Not applicable.
  - vPvB: Not applicable.

(Contd. on page 2)
SECTION 3: Composition/information on ingredients

- 3.2 Chemical characterisation: Mixtures
- Description: Mixtures of substances listed below with nonhazardous additions.

- Dangerous components:

<table>
<thead>
<tr>
<th>CAS</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2</td>
<td>nitric acid</td>
</tr>
<tr>
<td>231-714-2</td>
<td>Ox. Liq. 2, H272; Skin Corr. 1A, H314</td>
</tr>
</tbody>
</table>

CHEMICAL IDENTIFICATION OF THE SUBSTANCE/PREPARATION

- Dysprosium from Dysprosium trioxide 0.001%
- Lanthanum from Lanthanum(III) nitrate hexahydrate 0.001%
- Lutetium from Lutetium (III) Oxide 0.001%
- Neodymium from Neodymium Oxide 0.001%
- Praseodymium from Praseodymium(III,IV) oxide 0.001%
- Samarium from Samarium (III) oxide 0.001%
- Scandium from Scandium oxide 0.001%
- Terbium from Terbium (III,IV) oxide 0.001%
- Thorium from Thorium nitrate hydrate 0.001%
- Thorium from Thorium nitrate hydrate 0.001%
- Ytterbium from Ytterbium (III) oxide 0.001%
- Yttrium 0.001%
- water, distilled, conductivity or of similar purity 94.983%

- Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- 4.1 Description of first aid measures
  - General information: Immediately remove any clothing soiled by the product.
  - 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. Then consult a doctor.
  - After swallowing: Do not give anything to eat or drink - Do not induce vomiting

- 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
SECTION 5: Firefighting measures

· 5.1 Extinguishing media
  · Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.

· 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 Wear protective equipment. Keep unprotected persons away.

· 6.2 Environmental precautions: Do not allow to enter sewers/surface or ground water.

· 6.3 Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Use neutralising agent.
  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
  Ensure good ventilation/exhaustion at the workplace.
  Prevent formation of aerosols.
  · Information about fire - and explosion protection: No special measures required.

· 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

· 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:
  7697-37-2 nitric acid
  WEL: Short-term value: 2.6 mg/m³, 1 ppm

· 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.
47.0.8

- 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**
    - Nitrile Glove
    - Thickness: ≥ 0.11 mm
    - Breakthrough time: > 480 minutes

  - **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

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**SECTION 9: Physical and chemical properties**

- **9.1 Information on basic physical and chemical properties**

- **General Information**

  - **Appearance:**
    - Form: Liquid
    - Colour: Colourless
    - Odour: Odourless
    - Odour threshold: Not applicable.
  
  - **pH-value:**
    - <1

- **Change in condition**

  - **Melting point/freezing point:** 0°C (32°F)
  
  - **Initial boiling point and boiling range:** 100°C (212°F)

- **Flash point:** Not applicable.

- **Flammability (solid, gas):** Not applicable.

- **Decomposition temperature:** Not applicable.

- **Auto-ignition temperature:** Product is not self-igniting.

- **Explosive properties:** Product does not present an explosion hazard.

- **Explosion limits:***
  
  - **Lower:** Not applicable.
  - **Upper:** Not applicable.

- **Vapour pressure at 20 °C:** 23 hPa

- **Density:**
  
  - **1.0 g/mL, @ 20°C**

- **Relative density**

  - Not applicable.

- **Vapour density**

  - Not applicable.

- **Evaporation rate**

  - Not applicable.

- **Solubility in / Miscibility with water:**

  - Miscible

- **Partition coefficient: n-octanol/water:** Not applicable.

- **Viscosity:**

  - **Dynamic:** Not applicable.
Kinematic: Not applicable.

- Solvent content:
  - Water: 95.0 %
  - VOC (EC): 0.00 %

- Solids content: 0.0 %

9.2 Other information
No further relevant information available.

SECTION 10: Stability and reactivity

- 10.1 Reactivity
No further relevant information available.

- 10.2 Chemical stability

- 10.3 Possibility of hazardous reactions
No dangerous reactions known.

- 10.4 Conditions to avoid
No further relevant information available.

- 10.5 Incompatible materials
No further relevant information available.

- 10.6 Hazardous decomposition products
No dangerous decomposition products known.

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 severe skin burns and eye damage.

- Serious eye damage/irritation
Causes serious eye damage.

- 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:
  Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
  Do not allow product to reach ground water, water course or sewage system.
  Must not reach sewage water or drainage ditch undiluted or unneutralised.
  Danger to drinking water if even small quantities leak into the ground.

- 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: UN3264

- **14.2 UN proper shipping name**
  - ADR: 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID SOLUTION)
  - IMDG, IATA: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID SOLUTION)

- **14.3 Transport hazard class(es)**
  - ADR, IMDG, IATA:
    - **Class:** 8
    - **Label:** Corrosive substances.

- **14.4 Packing group**
  - ADR, IMDG, IATA: III

- **14.5 Environmental hazards:**
  - **Not applicable.**

- **14.6 Special precautions for user**
  - **Warning:** Corrosive substances.
  - **Danger code (Kemler):** 8
  - **EMS Number:** F-A,S-B
  - **Segregation groups:** Acids
  - **Stowage Category:** A
  - **Stowage Code:** SW2 Clear of living quarters.

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

- **Transport/Additional information:**
  - **ADR**
    - **Limited quantities (LQ):** 5L
    - **Code:** E1
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml
    - **Transport category:** E
    - **Tunnel restriction code:** E

  - **IMDG**
    - **Limited quantities (LQ):** 5L
    - **Code:** E1
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml

  - **UN "Model Regulation":**
    - UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID SOLUTION), 8, III

(Contd. on page 7)
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 None of the ingredients is listed.
  - REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

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

SECTION 16: Other information

Disclaimer: The information contained in this document is based on Agilent’s state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

- Relevant phrases
  H272 May intensify fire; oxidiser.
  H302 Harmful if swallowed.
  H314 Causes severe skin burns and eye damage.
  H315 Causes skin irrtation.
  H318 Causes serious eye damage.
  H319 Causes serious eye irritation.
  H335 May cause respiratory irritation.
  H373 May cause damage to organs through prolonged or repeated exposure.

- Department issuing SDS: product safety department
- Contact:
  Agilent Technologies Manufacturing GmbH & Co. KG
  0800 603 1000
  pdl-msds_author@agilent.com

- 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
  EINECS: European Inventory of Existing Commercial Chemical Substances
  ELINCS: European List of Notified Chemical Substances
  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
  Ox. Liq. 2: Oxidizing liquids – Category 2
  Skin Corr. 1A: Skin corrosion/irritation – Category 1A
  Skin Corr. 1B: Skin corrosion/irritation – Category 1B
  Eye Dam. 1: Serious eye damage/eye irritation – Category 1