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

- 1.1 Product identifier
- Product Name: Multi-Element Calibration Standard-3, Part Number 8500-6948
- Part Number: 8500-6948

- 1.2 Relevant identified uses of the substance or mixture and uses advised against No further relevant information available.
- Application of the substance / the mixture
Reagents and Standards for Analytical Chemistry Laboratory Use
A 100mL Solution

- 1.3 Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany

- 1.4 Emergency telephone number:
CHEMTREC®: +44-870-8200418

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008

GHS05 corrosion
Eye Dam. 1 H318 Causes serious eye damage.

GHS07
Skin Irrit. 2 H315 Causes skin irritation.
STOT SE 3 H335 May cause respiratory irritation.

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

GHS05  GHS07

- Signal word Danger

- Hazard-determining components of labelling:
  hydrochloric acid
  nitric acid
- Hazard statements
  Causes skin irritation.
  Causes serious eye damage.
  May cause respiratory irritation.

- 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 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).
  Take off contaminated clothing and wash it before reuse.
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.
SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

- Description: Mixture of substances listed below with nonhazardous additions.

| CAS: 7647-01-0 EINECS: 231-595-7 | hydrochloric acid | Skin Corr. 1B, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; STOT SE 3, H335 | 10.0% |
| CAS: 7697-37-2 EINECS: 231-714-2 | nitric acid | Ox. Liq. 2, H272; Skin Corr. 1A, H314 | 1.0% |

- CHEMICAL IDENTIFICATION OF THE SUBSTANCE/PREPARATION

| CAS: 13494-80-9 EINECS: 236-813-4 | tellurium | Acute Tox. 3, H301; Eye Irrit. 2, H319; STOT SE 3, H335 | 0.001% |
| CAS: 7439-88-5 | Iridium from Iridium(III) chloride hydrate | Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | 0.001% |
| CAS: 7440-05-3 EINECS: 231-115-6 | palladium | Self-heat. 2, H252; Ox. Sol. 2, H272 | 0.001% |
| CAS: 7440-06-4 EINECS: 231-116-1 | platinum | Ox. Sol. 2, H272 | 0.001% |
| CAS: 7440-16-6 | rhodium | Eye Dam. 1, H318; Acute Tox. 4, H302 | 0.001% |
| CAS: 7440-18-8 | Ruthenium from Ruthenium (III) chloride trihydrate | Skin Corr. 1B, H314 | 0.001% |
| CAS: 7440-31-5 EINECS: 231-141-8 | tin | | 0.001% |
| CAS: 7440-36-0 EINECS: 231-146-5 | antimony | | 0.001% |
| CAS: 7440-57-5 EINECS: 231-165-9 | gold | | 0.001% |
| CAS: 7440-58-6 | Hafnium from Hafnium(IV) oxychloride hydrate | Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332 | 0.001% |
| CAS: 7732-18-5 EINECS: 231-791-2 | water, distilled, conductivity or of similar purity | | 88.99% |

- 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: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Immediately rinse with water.
- 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.

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: 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
  Dilute with plenty of water.
  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.
- 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:
    7647-01-0 hydrochloric acid
    WEL Short-term value: 8 mg/m³, 5 ppm
    Long-term value: 2 mg/m³, 1 ppm
    (gas and aerosol mists)
    7697-37-2 nitric acid
    WEL Short-term value: 2.6 mg/m³, 1 ppm
- 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.
      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.

(Contd. on page 4)
### SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>- 9.1 Information on basic physical and chemical properties</strong></td>
<td></td>
</tr>
<tr>
<td><strong>- General Information</strong></td>
<td></td>
</tr>
<tr>
<td><strong>- Appearance</strong></td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Orange</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>pH-value</td>
<td>&lt;1</td>
</tr>
<tr>
<td><strong>- Change in condition</strong></td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>0°C (32°F)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>100°C (212°F)</td>
</tr>
<tr>
<td><strong>- Flash point</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>- Flammability (solid, gas)</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>- Decomposition temperature</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>- Auto-ignition temperature</strong></td>
<td>Product is not self-igniting.</td>
</tr>
<tr>
<td><strong>- Explosive properties</strong></td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td><strong>- Explosion limits</strong></td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Upper</td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>- Vapour pressure at 20 °C</strong></td>
<td>23 hPa</td>
</tr>
<tr>
<td><strong>- Density</strong></td>
<td>1.0 g/mL @ 20°C</td>
</tr>
<tr>
<td><strong>- Relative density</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>- Vapour density</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>- Evaporation rate</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>- Solubility in / Miscibility with water</strong></td>
<td>Fully miscible.</td>
</tr>
<tr>
<td><strong>- Partition coefficient: n-octanol/water</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>- Viscosity</strong></td>
<td>Dynamic: Not applicable.</td>
</tr>
</tbody>
</table>
Kinematic: Not applicable.

- Solvent content:
  - Water: 89.0%
  - VOC (EC): 0.0%
- 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
- 11.2 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 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: 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: No further relevant information available.
- 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 I (German Regulation) (Self-assessment): slightly hazardous for water
    Do not allow undiluted product or large quantities of it to reach ground water, water coarse or sewage system.
    Must not reach sewage water or drainage ditch undiluted or unneutralised.
- 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.
    - Recommended cleansing agents: Water, if necessary together with cleansing agents.

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. (HYDROCHLORIC ACID, NITRIC ACID SOLUTION)
  - IMDG, IATA: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID, NITRIC ACID SOLUTION)

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

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

- 14.5 Environmental hazards:
  - Not applicable.

- 14.6 Special precautions for user
  - Danger code (Kemler): 80
  - EMS Number: F-A,S-B
  - Segregation groups: Acids
  - Stowage Category: B
  - 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): 1L
    - Exempted quantities (EQ): Code: E2
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 500 ml
  - Transport category: 2
  - Tunnel restriction code: E

  - IMDG
    - Limited quantities (LQ): 1L
    - Exempted quantities (EQ): Code: E2
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 500 ml
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

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
  H252 Self-heating in large quantities; may catch fire.
  H272 May intensify fire; oxidiser.
  H301 Toxic if swallowed.
  H302 Harmful if swallowed.
  H312 Harmful in contact with skin.
  H314 Causes severe skin burns and eye damage.
  H315 Causes skin irritation.
  H318 Causes serious eye damage.
  H319 Causes serious eye irritation.
  H332 Harmful if inhaled.
  H335 May cause respiratory irritation.

- 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
  Os. Liq. 2: Oxidizing liquids – Category 2
  Acute Tox. 4: Acute toxicity – Category 4
  Skin Corr. 1A: Skin corrosion/irritation – Category 1A
  Skin Corr. 1B: Skin corrosion/irritation – Category 1B
  Skin Irrit. 2: Skin corrosion/irritation – Category 2
  Eye Dam. 1: Serious eye damage/eye irritation – Category 1
  STOT SE 3: Specific target organ toxicity (single exposure) – Category 3