1 Identification

- Product identifier
- **Product Name:** Multi-Element Calibration Standard-3, Part Number 8500-6948
- **Part Number:** 8500-6948
- **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, Inc.
  5301 Stevens Creek Blvd.
  Santa Clara, CA 95051 USA
- **Information department:** product safety department
- **Emergency telephone number:**
  Emergency Phone Number (24 hours)
  CHEMTREC (800-424-9300)
  Outside US: 703-527-3887

2 Hazard identification

- **Classification of the substance or mixture**
  - **GHS05 Corrosion**
    - Serious Eye Damage - Category 1
      - **H318** Causes serious eye damage.
  - **GHS07**
    - Skin Irritation - Category 2
      - **H315** Causes skin irritation.
    - Specific Target Organ Toxicity - Single Exposure - Category 3
      - **H335** May cause respiratory irritation.
- **Label elements**
  - **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**
  - GHS05
  - GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**
  - hydrochloric acid
  - nitric acid
- **Hazard statements**
  - H315 Causes skin irritation.
  - H318 Causes serious eye damage.
  - H335 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.

(Contd. on page 2)
3 Composition/Information on ingredients

- Chemical characterization: Mixtures
  - Description: Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:
  - 7647-01-0 hydrochloric acid 10.0% w/w
  - 7697-37-2 nitric acid 1.0% w/w

- Chemical identification of the substance/preparation
  - 13494-80-9 tellurium 0.001% w/w
  - 7439-88-5 Iridium from Iridium(III) chloride hydrate 0.001% w/w
  - 7440-05-3 palladium 0.001% w/w
  - 7440-06-4 platinum 0.001% w/w
  - 7440-16-6 rhodium 0.001% w/w
  - 7440-18-8 Ruthenium from Ruthenium (III) chloride trihydrate 0.001% w/w
  - 7440-31-5 tin 0.001% w/w
  - 7440-36-0 antimony 0.001% w/w
  - 7440-57-5 Gold 0.001% w/w
  - 7440-58-6 Hafnium from Hafnium(IV) oxychloride hydrate 0.001% w/w
  - 7732-18-5 water, distilled, conductivity or of similar purity 88.99% w/w

4 First aid measures

- 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
  - 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 Firefighting measures

- Extinguishing media
  - Suitable extinguishing agents: Use fire fighting measures that suit the environment.
  - Special hazards arising from the substance or mixture: No further relevant information available.
### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures:** Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
  - Dilute with plenty of water.
  - Do not allow to enter sewers/surface or ground water.
- **Methods and material for containment and cleaning up:**
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  - Use neutralizing agent.
  - 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:**
    - Ensure good ventilation/exhaustion at the workplace.
    - Prevent formation of aerosols.
  - **Information about protection against explosions and fires:**
    - No special measures required.
  - **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:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>EL Short-term Value</th>
<th>EV Short-term Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydrochloric acid</td>
<td>4 ppm</td>
<td>4 ppm</td>
</tr>
<tr>
<td>nitric acid</td>
<td>10 mg/m³, 4 ppm</td>
<td>5 mg/m³, 2 ppm</td>
</tr>
</tbody>
</table>

- **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.
      - Avoid contact with the eyes.
      - Avoid contact with the eyes and skin.
**Safety Data Sheet**  
according to HPR, Schedule 1

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

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### Respiratory protection:
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**

- **Nitrile Glove**
  - Thickness: $\geq 0.11$ 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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## Physical and chemical properties

### Information on basic physical and chemical properties

**General Information**

- **Appearance:** Liquid
- **Color:** Orange
- **Odor:** Odorless
- **Odour Threshold:** Not applicable.
- **pH-value:** < 1

- **Change in condition**
  - Melting point/Melting range: 0°C (32°F)
  - Boiling point/Boiling range: 100°C (212°F)

- **Flash point:** Not applicable.

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

- **Decomposition temperature:** Not applicable.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

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

- **Vapor pressure at 20 °C:** 23 kPa

- **Density:** 1.0 g/mL @ 20°C
- **Relative density:** Not applicable.
- **Vapor density:** Not applicable.
- **Evaporation rate:** Not applicable.

- **Solubility in / Miscibility with**
  - Water: Fully miscible.

- **Partition coefficient (n-octanol/water):** Not applicable.
Product Name: Multi-Element Calibration Standard-3, Part Number 8500-6948

48.1.17.1

- Viscosity:
  - Dynamic: Not applicable.
  - Kinematic: Not applicable.

- Solvent content:
  - Water: 89.0 %

- Solids content: 0.0 %

- 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: Caustic effect on skin and mucous membranes.
    - Irritant to skin and mucous membranes.
    - on the eye: Strong irritant with the danger of severe eye injury.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:
  - The product shows the following dangers according to internally approved calculation methods for preparations:
    - Irritant
- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    - 7647-01-0 hydrochloric acid
  - NTP (National Toxicology Program)
    - None of the ingredients is listed.

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:
    - Water hazard class 1 (Self-assessment): slightly hazardous for water
    - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
    - Must not reach bodies of water or drainage ditch undiluted or unneutralized.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
### 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.
  - **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- **UN-Number**
  - **DOT, TDG, IMDG, IATA**
  - **UN3264**

- **UN proper shipping name**
  - **DOT**
  - Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric acid, Nitric acid solution)
  - **TDG**
  - 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)

- **Transport hazard class(es)**
  - **DOT, TDG, IMDG, IATA**
  - **Class**
  - 8 Corrosive substances
  - **Label**
  - 8
  - **Packing group**
  - **DOT, TDG, IMDG, IATA**
  - II

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

- **Special precautions for user**
  - **Danger code (Kemler):**
  - Warning: Corrosive substances
  - 80
  - **EMS Number:**
  - F-A-S-B
  - **Segregation groups**
  - Acids
  - **Stowage Category**
  - 8
  - **Stowage Code**
  - SW2 Clear of living quarters.

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
  - Not applicable.

- **Transport/Additional information:**
  - **TDG**
    - **Excepted quantities (EQ)**
    - **Code:** E2
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 500 ml
  - **IMDG**
    - **Limited quantities (LQ)**
    - 1L
    - **Code:** E2
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 500 ml
Product Name: Multi-Element Calibration Standard-3, Part Number 8500-6948

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sara
    - Section 313 (Specific toxic chemical listings):
      - 7647-01-0 hydrochloric acid
      - 7697-37-2 nitric acid
      - 7440-36-0 antimony
    - TSCA (Toxic Substances Control Act):
      - All ingredients are listed.
  - Canadian substance listings:
    - Canadian Domestic Substances List (DSL)
      - 7647-01-0 hydrochloric acid
      - 7697-37-2 nitric acid
      - 13494-80-9 tellurium
      - 7440-05-3 palladium
      - 7440-06-4 platinum
      - 7440-31-5 tin
      - 7440-36-0 antimony
      - 7440-57-5 Gold
      - 7732-18-5 water, distilled, conductivity or of similar purity
    - Canadian Ingredient Disclosure list (limit 0.1%)
      - None of the ingredients is listed.
    - Canadian Ingredient Disclosure list (limit 1%)
      - 7647-01-0 hydrochloric acid
      - 7697-37-2 nitric acid
  - GHS label elements
    - The product is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms
    - GHS05
    - GHS07
  - Signal word
    - Danger
  - Hazard-determining components of labeling:
    - hydrochloric acid
    - nitric acid
  - Hazard statements
    - H315 Causes skin irritation.
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    - 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.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 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.

- **Department issuing SDS:** product safety department
- **Contact:**
  Agilent Technologies, Inc.
  800-227-9770
- **Date of the latest revision of the safety data sheet** 03/26/2019 / -
- **Abbreviations and acronyms:**
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - 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)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative