

**Kit Components**

Product code	Description
<b>IMK-109</b>	<b>ICP/MS Calibration Kit</b>

## Components:

IMS-101	ICP-MS Calibration Standard (125 mL)
IMS-102	ICP-MS Calibration Standard (125 mL)
IMS-103	ICP-MS Calibration Standard (125 mL)
IMS-104	ICP-MS Calibration Standard (125 mL)
IMS-105	ICP-MS Calibration Standard no. 5; Mercury at 10 ug/mL

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 3

Reviewed on 03/29/2019

### 1 Identification

- **Product identifier**
- **Trade name:** ICP-MS Calibration Standard (125 mL)
- **Part number:** IMS-101
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **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:**  
Telephone: 800-227-9770  
e-mail: pdl-msds\_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

### 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.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
nitric acid
- **Hazard statements**  
Causes skin irritation.  
Causes serious 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.  
Wash thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If on skin: Wash with plenty of water.

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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.  
 If skin irritation occurs: Get medical advice/attention.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**

HEALTH	3	Health = 3
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

### 3 Composition/Information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

7697-37-2	nitric acid	3.5% w/w
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### 4 First aid measures

· **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:** If symptoms persist consult doctor.
- **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.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** 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.
- **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** No special precautions are necessary if used correctly.
- **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:**
**7697-37-2 nitric acid**

EL	Short-term value: 4 ppm Long-term value: 2 ppm
EV	Short-term value: 10 mg/m <sup>3</sup> , 4 ppm Long-term value: 5 mg/m <sup>3</sup> , 2 ppm

- **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 skin.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not

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needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.

- **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

- **Material of gloves**

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

- **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: >4 hours

- **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

<b>Form:</b>	Fluid
<b>Color:</b>	Colorless
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C

- **Flash point:** Not applicable.

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

- **Decomposition temperature:** Not determined.

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

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

- **Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

- **Vapor pressure at 20 °C:** 23 hPa

- **Density:** Not determined.

- **Relative density** Not determined.

- **Vapor density** Not determined.

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· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic at 20 °C:</b>	0.952 mPas
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	96.5 %
<b>Solids content:</b>	0.0 %
· <b>Other information</b>	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:**

· <b>LD/LC50 values that are relevant for classification:</b>
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<b>ATE (Acute Toxicity Estimate)</b>
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Inhalative	LC50/4 h	1,914 mg/L (rat)
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<b>7697-37-2 nitric acid</b>
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Inhalative	LC50/4 h	67 mg/L (rat)
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- **Primary irritant effect:**
- **on the skin:** 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**

· <b>IARC (International Agency for Research on Cancer)</b>
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None of the ingredients is listed.
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**· 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.
- **Other adverse effects** No further relevant information available.

### 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.

### 14 Transport information

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, TDG, IMDG, IATA</b></li> </ul>                    | UN3264   |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>TDG</b></li> </ul> | Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid)<br>3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.<br>(NITRIC ACID) |
| <ul style="list-style-type: none"> <li>· <b>IMDG, IATA</b></li> </ul>  | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)  |

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- **Transport hazard class(es)**

- **DOT, TDG, IMDG, IATA**



- **Class** 8 Corrosive substances
- **Label** 8

- **Packing group**

- **DOT, TDG, IMDG, IATA** III

- **Environmental hazards:** Not applicable.

- **Special precautions for user** Warning: Corrosive substances

- **Danger code (Kemler):** 80

- **EMS Number:** F-A,S-B

- **Segregation groups** Acids

- **Stowage Category** A

- **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:**

- **DOT**

- **Quantity limitations** On passenger aircraft/rail: 5 L  
On cargo aircraft only: 60 L

- **TDG**

- **Excepted quantities (EQ)** Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml

- **IMDG**

- **Limited quantities (LQ)** 5L

- **Excepted quantities (EQ)** 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), 8, III

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **Sara**

- **Section 355 (extremely hazardous substances):**

7697-37-2	nitric acid
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- **Section 313 (Specific toxic chemical listings):**

7697-37-2	nitric acid
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**Trade name: ICP-MS Calibration Standard (125 mL)**

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13759-83-6	samarium nitrate
13823-29-5	thorium nitrate hydrate
<b>· TSCA (Toxic Substances Control Act):</b>	
7697-37-2	nitric acid
13823-29-5	thorium nitrate hydrate
12060-08-1	scandium oxide
1314-36-9	yttrium oxide
1308-96-9	europium(III) oxide
12064-62-9	digadolinium trioxide
12037-01-3	terbium oxide
12037-29-5	praseodymium oxide
1313-97-9	neodymium oxide
1312-81-8	lanthanum oxide
12036-44-1	thulium oxide
1314-37-0	ytterbium (III) oxide
12032-20-1	lutetium oxide
1308-87-8	didysprosium trioxide
12055-62-8	Rare Earth
12061-16-4	erbium (III) oxide
7732-18-5	water

**· Canadian substance listings:**
**· Canadian Domestic Substances List (DSL)**

7697-37-2	nitric acid
13823-29-5	thorium nitrate hydrate
12060-08-1	scandium oxide
1314-36-9	yttrium oxide
1308-96-9	europium(III) oxide
12064-62-9	digadolinium trioxide
12037-29-5	praseodymium oxide
1313-97-9	neodymium oxide
1312-81-8	lanthanum oxide
12036-44-1	thulium oxide
1314-37-0	ytterbium (III) oxide
12032-20-1	lutetium oxide
12061-16-4	erbium (III) oxide
7732-18-5	water

**· Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients is listed.

**· Canadian Ingredient Disclosure list (limit 1%)**

7697-37-2	nitric acid
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## Safety Data Sheet according to HPR, Schedule 1

Printing date 03/31/2019

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**Trade name: ICP-MS Calibration Standard (125 mL)**· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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### 16 Other information

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:** Document Control / Regulatory
- **Contact:** regulatory@ultrasci.com
- **Date of the latest revision of the safety data sheet** 03/31/2019 / 2
- **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)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
- **\* Data compared to the previous version altered.**

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

### 1 Identification

- **Product identifier**
- **Trade name:** ICP-MS Calibration Standard (125 mL)
- **Part number:** IMS-102
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **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:**  
Telephone: 800-227-9770  
e-mail: pdl-msds\_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

### 2 Hazard identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corrosion - Category 1B H314 Causes severe skin burns and eye damage.  
Serious Eye Damage - Category 1 H318 Causes serious eye damage.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
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.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Wash thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
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.

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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Specific treatment (see on this label).  
 Wash contaminated clothing before reuse.  
 Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



### 3 Composition/Information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

7697-37-2	nitric acid	5% w/w
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### 4 First aid measures

· **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:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **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**  
 During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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**6 Accidental release measures**
**· Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

**· Environmental precautions:** 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:** Keep respiratory protective device available.

**· 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:**
**7697-37-2 nitric acid**

EL Short-term value: 4 ppm

Long-term value: 2 ppm

 EV Short-term value: 10 mg/m<sup>3</sup>, 4 ppm

 Long-term value: 5 mg/m<sup>3</sup>, 2 ppm

**· 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.

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.

· **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

· **Material of gloves**

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

· **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: >4 hours

· **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

<b>Form:</b>	Fluid
<b>Color:</b>	According to product specification
<b>Odor:</b>	Characteristic
<b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	83 °C

· **Flash point:** Not applicable.

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

· **Decomposition temperature:** Not determined.

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

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

· **Explosion limits:**

**Lower:** Not determined.

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<b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20 °C:</b>	23 hPa
· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	94.9 %
<b>Solids content:</b>	0.0 %
· <b>Other information</b>	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:**

#### · **LD/LC50 values that are relevant for classification:**

##### ATE (Acute Toxicity Estimate)

Oral	LD50	1,276,000 mg/kg (rat)
Dermal	LD50	5,000 mg/kg
Inhalative	LC50/4 h	364 mg/L

##### 7697-37-2 nitric acid

Inhalative	LC50/4 h	67 mg/L (rat)
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##### 7664-39-3 hydrogen fluoride

Oral	LD50	1,276 mg/kg (rat)
------	------	-------------------

- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.

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## Safety Data Sheet

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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- **on the eye:**

- Strong caustic effect.

- 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:

- Corrosive

- Irritant

- Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

10026-22-9	cobalt (II) nitrate hexahydrate	2B
13478-00-7	Nitric acid, nickel(2+) salt, hexahydrate	1
1327-53-3	diarsenic trioxide	1
7446-08-4	selenium dioxide	3
10022-68-1	Nitric acid, cadmium salt, tetrahydrate	1
10099-74-8	lead dinitrate	2A
543-81-7	acetic acid beryllium salt	1

- **NTP (National Toxicology Program)**

13478-00-7	Nitric acid, nickel(2+) salt, hexahydrate	K
1327-53-3	diarsenic trioxide	K
10022-68-1	Nitric acid, cadmium salt, tetrahydrate	K
10099-74-8	lead dinitrate	R
543-81-7	acetic acid beryllium salt	K

## 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 2 (Self-assessment): hazardous for water

- Do not allow product to reach ground water, water course or sewage system.

- Must not reach bodies of water or drainage ditch undiluted or unneutralized.

- Danger to drinking water if even small quantities leak into the ground.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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### 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.

### \* 14 Transport information

- |  |   |
|--|---|
| · <b>UN-Number</b>   |   |
| · <b>DOT, TDG, IMDG, IATA</b>  | UN3264  |
| · <b>UN proper shipping name</b>   |   |
| · <b>DOT</b>   | Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid)                           |
| · <b>TDG</b>   | 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)                      |
| · <b>IMDG, IATA</b>  | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)                           |
| · <b>Transport hazard class(es)</b>  |   |
| · <b>DOT, TDG, IMDG, IATA</b>  |   |
|  |  |
| · <b>Class</b>   | 8 Corrosive substances  |
| · <b>Label</b>   | 8   |
| · <b>Packing group</b>   |   |
| · <b>DOT, TDG, IMDG, IATA</b>  | II  |
| · <b>Environmental hazards:</b>  | Not applicable.   |
| · <b>Special precautions for user</b>  | Warning: Corrosive substances   |
| · <b>Danger code (Kemler):</b>   | 80  |
| · <b>EMS Number:</b>   | F-A,S-B   |
| · <b>Segregation groups</b>  | Acids   |
| · <b>Stowage Category</b>  | B   |
| · <b>Stowage Code</b>  | SW2 Clear of living quarters.   |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.   |
| · <b>Transport/Additional information:</b>                                       |   |
| · <b>DOT</b>   |   |
| · <b>Quantity limitations</b>  | On passenger aircraft/rail: 1 L<br>On cargo aircraft only: 30 L                     |

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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<ul style="list-style-type: none"> <li>· <b>TDG</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, II

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

- **Section 355 (extremely hazardous substances):**

7697-37-2	nitric acid
7664-39-3	hydrogen fluoride
1327-53-3	diarsenic trioxide

- **Section 313 (Specific toxic chemical listings):**

7697-37-2	nitric acid
7664-39-3	hydrogen fluoride
7784-27-2	aluminium nitrate
7803-55-6	ammonium trioxovanadate
7789-02-8	chromium (III) nitrate nonahydrate
10377-66-9	manganese dinitrate
7782-61-8	iron (III) nitrate nonahydrate
10026-22-9	cobalt (II) nitrate hexahydrate
13478-00-7	Nitric acid, nickel(2+) salt, hexahydrate
3251-23-8	copper dinitrate
10196-18-6	zinc(II) nitrate hexahydrate
1327-53-3	diarsenic trioxide
7446-08-4	selenium dioxide
13126-12-0	rubidium nitrate
10042-76-9	strontium nitrate
7761-88-8	silver nitrate
10022-68-1	Nitric acid, cadmium salt, tetrahydrate
7789-18-6	cesium nitrate
10022-31-8	barium nitrate
10102-45-1	thallium nitrate
10099-74-8	lead dinitrate

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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554-13-2	lithium carbonate
543-81-7	acetic acid beryllium salt
7757-79-1	potassium nitrate
13446-18-9	magnesium nitrate hexahydrate

**· TSCA (Toxic Substances Control Act):**

7697-37-2	nitric acid
7664-39-3	hydrogen fluoride
7803-55-6	ammonium trioxovanadate
10377-66-9	manganese dinitrate
3251-23-8	copper dinitrate
7440-55-3	gallium
1327-53-3	diarsenic trioxide
7446-08-4	selenium dioxide
13126-12-0	rubidium nitrate
10042-76-9	strontium nitrate
7761-88-8	silver nitrate
1312-43-2	diindium trioxide
7789-18-6	cesium nitrate
10022-31-8	barium nitrate
10102-45-1	thallium nitrate
10099-74-8	lead dinitrate
554-13-2	lithium carbonate
471-34-1	calcium carbonate
7440-69-9	bismuth
7757-79-1	potassium nitrate
7631-99-4	sodium nitrate
7732-18-5	water

**· Canadian substance listings:**
**· Canadian Domestic Substances List (DSL)**

7697-37-2	nitric acid
7664-39-3	hydrogen fluoride
7803-55-6	ammonium trioxovanadate
10377-66-9	manganese dinitrate
3251-23-8	copper dinitrate
7440-55-3	gallium
1327-53-3	diarsenic trioxide
7446-08-4	selenium dioxide
10042-76-9	strontium nitrate
7761-88-8	silver nitrate
1312-43-2	diindium trioxide
7789-18-6	cesium nitrate

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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10022-31-8	barium nitrate
10099-74-8	lead dinitrate
554-13-2	lithium carbonate
471-34-1	calcium carbonate
7440-69-9	bismuth
7757-79-1	potassium nitrate
7631-99-4	sodium nitrate
7732-18-5	water

**· Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients is listed.

**· Canadian Ingredient Disclosure list (limit 1%)**

7697-37-2 | nitric acid

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

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:** Document Control / Regulatory
- **Contact:** regulatory@ultrasci.com
- **Date of the latest revision of the safety data sheet** 03/31/2019 / 3
- **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)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative
- **\* Data compared to the previous version altered.**

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

### 1 Identification

- **Product identifier**
- **Trade name:** ICP-MS Calibration Standard (125 mL)
- **Part number:** IMS-103
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **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:**  
Telephone: 800-227-9770  
e-mail: pdl-msds\_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

### 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.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05

- **Signal word** Danger

- **Hazard-determining components of labeling:**

hydrochloric acid  
nitric acid

- **Hazard statements**

Causes skin irritation.  
Causes serious 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.  
Wash thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.

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## Safety Data Sheet

### according to HPR, Schedule 1

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**Trade name: ICP-MS Calibration Standard (125 mL)**

(Contd. of page 1)

If on skin: Wash with plenty of water.  
 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.  
 If skin irritation occurs: Get medical advice/attention.

**· Classification system:**
**· NFPA ratings (scale 0 - 4)**

**· HMIS-ratings (scale 0 - 4)**


### \* 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	4.38% w/w
7697-37-2	nitric acid	1.98% w/w

### \* 4 First aid measures

**· 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:** If symptoms persist consult doctor.
- **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.

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** 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.
- **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** No special precautions are necessary if used correctly.
- **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:**

**7647-01-0 hydrochloric acid**

EL Ceiling limit value: 2 ppm

EV Ceiling limit value: 2 ppm

**7697-37-2 nitric acid**

EL Short-term value: 4 ppm

Long-term value: 2 ppm

 EV Short-term value: 10 mg/m<sup>3</sup>, 4 ppm

 Long-term value: 5 mg/m<sup>3</sup>, 2 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.

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## Safety Data Sheet according to HPR, Schedule 1

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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- **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 skin.
  - Avoid contact with the eyes and skin.
- **Breathing equipment:**
  - When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
  - Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
  - Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
- **Material of gloves**
  - For normal use: nitrile rubber, 11-13 mil thickness
  - For direct contact with the chemical: butyl rubber, 12-15 mil thickness
- **Penetration time of glove material**
  - For normal use: nitrile rubber: 1 hour
  - For direct contact with the chemical: butyl rubber: >4 hours
- **Eye protection:**



Tightly sealed goggles

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Fluid
<b>Color:</b>	According to product specification
- **Odor:** Characteristic
- **Odor threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not applicable.

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20 °C:</b>	23 hPa
· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	93.3 %
<b>Solids content:</b>	0.2 %
· <b>Other information</b>	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:**

**LD/LC50 values that are relevant for classification:**
**ATE (Acute Toxicity Estimate)**

Oral	LD50	20,222 mg/kg
Dermal	LD50	5,000 mg/kg
Inhalative	LC50/4 h	436 mg/L

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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**7647-01-0 hydrochloric acid**

Oral	LD50	900 mg/kg (rabbit)
------	------	--------------------

**7697-37-2 nitric acid**

Inhalative	LC50/4 h	67 mg/L (rat)
------------	----------	---------------

**7664-39-3 hydrogen fluoride**

Oral	LD50	1,276 mg/kg (rat)
------	------	-------------------

**· Primary irritant effect:**

- **on the skin:** 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	3
-----------	-------------------	---

**· 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.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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## Safety Data Sheet

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

<ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, TDG, IMDG, IATA</b></li> </ul>	UN3264
<ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>TDG</b></li> <li>· <b>IMDG, IATA</b></li> </ul>	Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid, Hydrochloric acid) 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROCHLORIC ACID) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROCHLORIC ACID)
<ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT, TDG, IMDG, IATA</b></li> </ul>	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	8 Corrosive substances 8
<ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT, TDG, IMDG, IATA</b></li> </ul>	III
<ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>Special precautions for user</b></li> <li>· <b>Danger code (Kemler):</b></li> <li>· <b>EMS Number:</b></li> <li>· <b>Segregation groups</b></li> <li>· <b>Stowage Category</b></li> <li>· <b>Stowage Code</b></li> </ul>	Warning: Corrosive substances 80 F-A,S-B Acids A SW2 Clear of living quarters.
<ul style="list-style-type: none"> <li>· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>Transport/Additional information:</b></li> <li>· <b>DOT</b></li> <li>· <b>Quantity limitations</b></li> </ul>	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
<ul style="list-style-type: none"> <li>· <b>TDG</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

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CA

## Safety Data Sheet

### according to HPR, Schedule 1

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**Trade name: ICP-MS Calibration Standard (125 mL)**

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<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROCHLORIC ACID), 8, III

### 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

- **Section 355 (extremely hazardous substances):**

7647-01-0	hydrochloric acid
7697-37-2	nitric acid
7664-39-3	hydrogen fluoride

- **Section 313 (Specific toxic chemical listings):**

7647-01-0	hydrochloric acid
7697-37-2	nitric acid
7664-39-3	hydrogen fluoride
7440-36-0	antimony

- **TSCA (Toxic Substances Control Act):**

7647-01-0	hydrochloric acid
7697-37-2	nitric acid
87-69-4	(+)-tartaric acid
7664-39-3	hydrogen fluoride
7446-07-3	tellurium dioxide
12055-23-1	hafnium dioxide
7440-57-5	gold, soluble compounds as Au
7440-06-4	platinum
7440-36-0	antimony
7732-18-5	water

- **Canadian substance listings:**

- **Canadian Domestic Substances List (DSL)**

7647-01-0	hydrochloric acid
7697-37-2	nitric acid
87-69-4	(+)-tartaric acid
7664-39-3	hydrogen fluoride
7446-07-3	tellurium dioxide
12055-23-1	hafnium dioxide
7440-57-5	gold, soluble compounds as Au

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## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

**Trade name: ICP-MS Calibration Standard (125 mL)**

(Contd. of page 8)

7440-06-4	platinum
7440-36-0	antimony
7732-18-5	water

**· 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

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

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:** Document Control / Regulatory
- **Contact:** regulatory@ultrasci.com
- **Date of the latest revision of the safety data sheet** 03/31/2019 / 3
- **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)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
- **\* Data compared to the previous version altered.**

CA

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

#### 1 Identification

- **Product identifier**
- **Trade name:** ICP-MS Calibration Standard (125 mL)
- **Part number:** IMS-104
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **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:**  
Telephone: 800-227-9770  
e-mail: pdl-msds\_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

#### 2 Hazard identification

- **Classification of the substance or mixture**  
The product is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

#### 3 Composition/Information on ingredients

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

#### 4 First aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.

(Contd. on page 2)

CA

## Safety Data Sheet according to HPR, Schedule 1

Printing date 03/31/2019

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Reviewed on 03/29/2019

**Trade name: ICP-MS Calibration Standard (125 mL)**

(Contd. of page 1)

- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **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.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **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** No special measures required.
- **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:** None.
- **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:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.

(Contd. on page 3)

## Safety Data Sheet according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

**Trade name: ICP-MS Calibration Standard (125 mL)**

(Contd. of page 2)

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

- **Breathing equipment:**

When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.

- **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

- **Material of gloves**

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

- **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: >4 hours

- **Eye protection:** Goggles recommended during refilling.

### 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

**Form:** Fluid

**Color:** Colorless

- **Odor:** Odorless

- **Odor threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** 100 °C

- **Flash point:** Not applicable.

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

- **Decomposition temperature:** Not determined.

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

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

- **Explosion limits:**

**Lower:** Not determined.

**Upper:** Not determined.

- **Vapor pressure at 20 °C:** 23 hPa

(Contd. on page 4)

CA



## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

**Trade name: ICP-MS Calibration Standard (125 mL)**

(Contd. of page 3)

· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic at 20 °C:</b>	0.952 mPas
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	99.8 %
<b>Solids content:</b>	0.0 %
· <b>Other information</b>	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:**

· **LD/LC50 values that are relevant for classification:**

#### ATE (Acute Toxicity Estimate)

Oral	LD50	1,276,000 mg/kg (rat)
Dermal	LD50	5,000 mg/kg
Inhalative	LC50/4 h	500 mg/L

#### 7664-39-3 hydrogen fluoride

Oral	LD50	1,276 mg/kg (rat)
------	------	-------------------

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

(Contd. on page 5)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

**Trade name: ICP-MS Calibration Standard (125 mL)**

(Contd. of page 4)

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **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:** Not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |  |                 |
|--|-----------------|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> </ul>   | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>DOT, TDG, ADN, IMDG, IATA</b></li> </ul>                         | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> </ul>                           | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>DOT, TDG, ADN, IMDG, IATA</b></li> </ul>                         | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> </ul>                        | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>DOT, TDG, ADN, IMDG, IATA</b></li> <li>· <b>Class</b></li> </ul> | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>Packing group</b></li> </ul>                                     | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>DOT, TDG, IMDG, IATA</b></li> </ul>                              | not regulated   |
| <ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> </ul>                            | Not applicable. |

(Contd. on page 6)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

**Trade name: ICP-MS Calibration Standard (125 mL)**

(Contd. of page 5)

· <b>Special precautions for user</b>	Not applicable.
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· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
--	-----------------

· <b>UN "Model Regulation":</b>	not regulated
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### 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Sara**

· **Section 355 (extremely hazardous substances):**

7697-37-2	nitric acid
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7664-39-3	hydrogen fluoride
-----------	-------------------

· **Section 313 (Specific toxic chemical listings):**

7697-37-2	nitric acid
-----------	-------------

7664-39-3	hydrogen fluoride
-----------	-------------------

7783-20-2	ammonium sulfate
-----------	------------------

1313-27-5	molybdenum trioxide
-----------	---------------------

· **TSCA (Toxic Substances Control Act):**

7697-37-2	nitric acid
-----------	-------------

7664-39-3	hydrogen fluoride
-----------	-------------------

16919-19-0	alkali fluorosilicates (NH <sub>4</sub> )
------------	---

10043-35-3	boric acid
------------	------------

7783-20-2	ammonium sulfate
-----------	------------------

16962-40-6	ammonium hexafluorotitanate
------------	-----------------------------

7722-76-1	ammonium dihydrogenorthophosphate
-----------	-----------------------------------

1313-27-5	molybdenum trioxide
-----------	---------------------

1313-96-8	niobium (V) oxide
-----------	-------------------

1310-53-8	germanium dioxide
-----------	-------------------

7440-25-7	tantalum
-----------	----------

7440-15-5	rhenium
-----------	---------

7732-18-5	water
-----------	-------

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

7697-37-2	nitric acid
-----------	-------------

7664-39-3	hydrogen fluoride
-----------	-------------------

16919-19-0	alkali fluorosilicates (NH <sub>4</sub> )
------------	---

10043-35-3	boric acid
------------	------------

7783-20-2	ammonium sulfate
-----------	------------------

7722-76-1	ammonium dihydrogenorthophosphate
-----------	-----------------------------------

1313-27-5	molybdenum trioxide
-----------	---------------------

(Contd. on page 7)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

**Trade name: ICP-MS Calibration Standard (125 mL)**

(Contd. of page 6)

1313-96-8	niobium (V) oxide
7440-25-7	tantalum
7440-15-5	rhenium
7732-18-5	water

**· Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients is listed.

**· Canadian Ingredient Disclosure list (limit 1%)**

None of the ingredients is listed.

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

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:** Document Control / Regulatory
- **Contact:** regulatory@ultrasci.com
- **Date of the latest revision of the safety data sheet** 03/31/2019 / 3
- **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)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
- **\* Data compared to the previous version altered.**

CA

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

### 1 Identification

- **Product identifier**
- **Trade name:** ICP-MS Calibration Standard no. 5; Mercury at 10 ug/mL
- **Part number:** IMS-105, IMS-105-5
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **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:**  
Telephone: 800-227-9770  
e-mail: pdl-msds\_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

### 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.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05

- **Signal word** Danger

- **Hazard-determining components of labeling:**

nitric acid

- **Hazard statements**

Causes skin irritation.

Causes serious 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.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin: Wash with plenty of water.

(Contd. on page 2)

CA

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

**Trade name: ICP-MS Calibration Standard no. 5; Mercury at 10 ug/mL**

(Contd. of page 1)

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.  
 If skin irritation occurs: Get medical advice/attention.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**

HEALTH	3	Health = 3
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

### 3 Composition/Information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

7697-37-2	nitric acid	4.95% w/w
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### 4 First aid measures

· **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:** If symptoms persist consult doctor.
- **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.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## Safety Data Sheet according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

**Trade name: ICP-MS Calibration Standard no. 5; Mercury at 10 ug/mL**

(Contd. of page 2)

**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.
- **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** No special precautions are necessary if used correctly.
- **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:**

**7697-37-2 nitric acid**

EL	Short-term value: 4 ppm Long-term value: 2 ppm
EV	Short-term value: 10 mg/m <sup>3</sup> , 4 ppm Long-term value: 5 mg/m <sup>3</sup> , 2 ppm

- **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 skin.  
Avoid contact with the eyes and skin.

(Contd. on page 4)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

**Trade name: ICP-MS Calibration Standard no. 5; Mercury at 10 ug/mL**

(Contd. of page 3)

- **Breathing equipment:**

When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.

Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.

- **Protection of hands:**

Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.

- **Material of gloves**

For normal use: nitrile rubber, 11-13 mil thickness

For direct contact with the chemical: butyl rubber, 12-15 mil thickness

- **Penetration time of glove material**

For normal use: nitrile rubber: 1 hour

For direct contact with the chemical: butyl rubber: >4 hours

- **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

**Form:** Fluid

**Color:** Colorless

- **Odor:** Odorless

- **Odor threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** 100 °C

- **Flash point:** Not applicable.

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

- **Decomposition temperature:** Not determined.

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

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

- **Explosion limits:**

**Lower:** Not determined.

**Upper:** Not determined.

- **Vapor pressure at 20 °C:** 23 hPa

(Contd. on page 5)



## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

**Trade name: ICP-MS Calibration Standard no. 5; Mercury at 10 ug/mL**

(Contd. of page 4)

· <b>Density at 20 °C:</b>	1.0159 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic at 20 °C:</b>	0.952 mPas
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	95.0 %
<b>Solids content:</b>	0.0 %
· <b>Other information</b>	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:**

<b>LD/LC50 values that are relevant for classification:</b>		
<b>ATE (Acute Toxicity Estimate)</b>		
Inhalative	LC50/4 h	1,354 mg/L (rat)
<b>7697-37-2 nitric acid</b>		
Inhalative	LC50/4 h	67 mg/L (rat)

- **Primary irritant effect:**
- **on the skin:** 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

(Contd. on page 6)

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

**Trade name: ICP-MS Calibration Standard no. 5; Mercury at 10 ug/mL**

(Contd. of page 5)

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

7783-34-8	mercuric nitrate monohydrate	3
-----------	------------------------------	---

- **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.

- **Other adverse effects:** No further relevant information available.

## 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**

- **TDG**

Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid)

3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)

- **IMDG, IATA**

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)

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CA

## Safety Data Sheet

### according to HPR, Schedule 1

Printing date 03/31/2019

Version Number 4

Reviewed on 03/29/2019

**Trade name: ICP-MS Calibration Standard no. 5; Mercury at 10 ug/mL**

(Contd. of page 6)

- **Transport hazard class(es)**

- **DOT, TDG, IMDG, IATA**



- **Class** 8 Corrosive substances
- **Label** 8

- **Packing group** III
- **DOT, TDG, IMDG, IATA**

- **Environmental hazards:** Not applicable.

- **Special precautions for user** Warning: Corrosive substances
- **Danger code (Kemler):** 80
- **EMS Number:** F-A,S-B
- **Segregation groups** Acids
- **Stowage Category** A
- **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:**

- **DOT**
- **Quantity limitations** On passenger aircraft/rail: 5 L  
On cargo aircraft only: 60 L

- **TDG**
- **Excepted quantities (EQ)** Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml

- **IMDG**
- **Limited quantities (LQ)** 5L
- **Excepted quantities (EQ)** 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), 8, III

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **Sara**

- **Section 355 (extremely hazardous substances):**

7697-37-2	nitric acid
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- **Section 313 (Specific toxic chemical listings):**

7697-37-2	nitric acid
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## Safety Data Sheet

### according to HPR, Schedule 1

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<b>Trade name: ICP-MS Calibration Standard no. 5; Mercury at 10 ug/mL</b>
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7783-34-8	mercuric nitrate monohydrate
<b>· TSCA (Toxic Substances Control Act):</b>	
7697-37-2	nitric acid
7732-18-5	water
<b>· Canadian substance listings:</b>	
<b>· Canadian Domestic Substances List (DSL)</b>	
7697-37-2	nitric acid
7732-18-5	water
<b>· Canadian Ingredient Disclosure list (limit 0.1%)</b>	
None of the ingredients is listed.	
<b>· Canadian Ingredient Disclosure list (limit 1%)</b>	
7697-37-2	nitric acid
<b>· Chemical safety assessment:</b> A Chemical Safety Assessment has not been carried out.	

### 16 Other information

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:** Document Control / Regulatory
- **Contact:** regulatory@ultrasci.com
- **Date of the latest revision of the safety data sheet** 03/31/2019 / 3
- **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)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
- **\* Data compared to the previous version altered.**