

Safety Data Sheet

according to HPR, Schedule 1

Printing date 04/10/2019

Version Number 2

Reviewed on 04/10/2019

1 Identification

- **Product identifier**
- **Trade name:** Beryllium 10µg/L Custom Standard (100 mL)
- **Part number:** ICUS-5200-2
- **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:**
ammonium bifluoride
- **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.

(Contd. on page 2)

CA

Safety Data Sheet according to HPR, Schedule 1

Printing date 04/10/2019

Version Number 2

Reviewed on 04/10/2019

Trade name: Beryllium 10µg/L Custom Standard (100 mL)

(Contd. of page 1)

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:**

| | | |
|-----------|---------------------|--------|
| 1341-49-7 | ammonium bifluoride | 1% 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:** 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.

CA

(Contd. on page 3)

Safety Data Sheet according to HPR, Schedule 1

Printing date 04/10/2019

Version Number 2

Reviewed on 04/10/2019

Trade name: Beryllium 10µg/L Custom Standard (100 mL)

(Contd. of page 2)

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

· 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).

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:**

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.**· 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.

· 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

(Contd. on page 4)

Safety Data Sheet according to HPR, Schedule 1

Printing date 04/10/2019

Version Number 2

Reviewed on 04/10/2019

Trade name: Beryllium 10µg/L Custom Standard (100 mL)

(Contd. of page 3)

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

| | |
|-------------------------|-----------------|
| Density: | Not determined. |
| Relative density | Not determined. |
| Vapor density | Not determined. |

(Contd. on page 5)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 04/10/2019

Version Number 2

Reviewed on 04/10/2019

Trade name: Beryllium 10µg/L Custom Standard (100 mL)

(Contd. of page 4)

| | |
|---|--|
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with Water: | Not miscible or difficult to mix. |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| Dynamic at 20 °C: | 0.952 mPas |
| Kinematic: | Not determined. |
| · Solvent content: | |
| Water: | 98.8 % |
| Solids content: | 1.0 % |
| · 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:**

| | | |
|---|------|--------------------|
| · LD/LC50 values that are relevant for classification: | | |
| ATE (Acute Toxicity Estimate) | | |
| Oral | LD50 | 13,000 mg/kg (rat) |
| 1341-49-7 ammonium bifluoride | | |
| Oral | LD50 | 130 mg/kg (rat) |

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

(Contd. on page 6)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 04/10/2019

Version Number 2

Reviewed on 04/10/2019

Trade name: Beryllium 10µg/L Custom Standard (100 mL)

(Contd. of page 5)

- **Carcinogenic categories**

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

| | | |
|-----------|----------------------------|---|
| 1341-49-7 | ammonium bifluoride | 3 |
| 543-81-7 | acetic acid beryllium salt | 1 |

- **NTP (National Toxicology Program)**

| | | |
|----------|----------------------------|---|
| 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:**
 - Not hazardous for water.
 - 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

| | |
|----------------------------------|---|
| · UN-Number | |
| · DOT, TDG, IMDG, IATA | UN3264 |
| · UN proper shipping name | |
| · DOT | Corrosive liquid, acidic, inorganic, n.o.s. (Ammonium hydrogendifluoride, Nitric acid) |
| · TDG | 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (AMMONIUM HYDROGENDIFLUORIDE, NITRIC ACID) |
| · IMDG, IATA | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (AMMONIUM HYDROGENDIFLUORIDE, NITRIC ACID) |

(Contd. on page 7)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 04/10/2019

Version Number 2

Reviewed on 04/10/2019

Trade name: Beryllium 10µg/L Custom Standard (100 mL)

(Contd. of page 6)

- **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. (AMMONIUM HYDROGENDIFLUORIDE, 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 |
|-----------|-------------|

(Contd. on page 8)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 04/10/2019

Version Number 2

Reviewed on 04/10/2019

Trade name: Beryllium 10µg/L Custom Standard (100 mL)

(Contd. of page 7)

· Section 313 (Specific toxic chemical listings):

| | |
|-----------|----------------------------|
| 7697-37-2 | nitric acid |
| 543-81-7 | acetic acid beryllium salt |

· TSCA (Toxic Substances Control Act):

| | |
|-----------|---------------------|
| 1341-49-7 | ammonium bifluoride |
| 7697-37-2 | nitric acid |
| 7732-18-5 | water |

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

| | |
|-----------|---------------------|
| 1341-49-7 | ammonium bifluoride |
| 7697-37-2 | nitric acid |
| 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.

· Date of the latest revision of the safety data sheet 04/10/2019 / 1

· 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