



Agilent Technologies

Kit Name: ICH Q3D/USP 232 Elemental Impurities kit

Kit PN: 5190-9771

Kit Components

Component Part Number	Component Name	Volume or mass/ container	No. of component containers/ kit
5190-9766	ICH/USP Oral Target Elements Standard A: Hg @ 30; As @ 15; Cd, Pb @ 5 µg/mL in 2% HNO ₃	100 mL	1
5190-9767	ICH/USP Oral Target Elements Standard B: Ni @ 200; Ag, Se @ 150; V @ 100; Co @ 50; Tl @ 8 µg/mL in 2% HNO ₃	100 mL	1
5190-9768	ICH/USP Oral Target Elements Standard C: Au, Ir, Os, Pd, Pt, Rh, Ru @ 100 µg/mL in 15% HCl	100 mL	1
5190-9769	Calibration Blank Solution for ICP-OES, MP-AES, and AAS	100 mL	1
5190-9770	Pharma Internal Standard 1: Te @ 25; Sc @ 10; Ge, In, Lu, Bi @ 5 µg/mL in 2% HNO ₃ /tr. HF	100 mL	1

SDSs for each component follow this cover sheet.

Transportation Information

DOT	IATA/ICAO	China
UN3316, Chemical kits, 9, II	UN3316, Chemical kits, 9, II	UN3316, Chemical kits, 9, II

Safety Data Sheet
according to WHS Regulations

Printing date 19.02.2020

Version number 1

Revision: 19.02.2020

Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

- **Product identifier**
- **Product name: ICH/USP Oral Target Elements Standard A: Hg @ 30; As @ 15; Cd, Pb @ 5 µg/mL in 2% HNO₃ [100ml bottle]**
- **Part number:** 5190-9766
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Australia Pty Ltd Tel: 1800 802 402
679 Springvale Road
Mulgrave Victoria 3170,
Australia
- **Further information obtainable from:** e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(61)-290372994

2 Hazard(s) Identification

- **Classification of the substance or mixture**



Met. Corr.1 H290 May be corrosive to metals.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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



GHS05

- **Signal word** Warning
- **Hazard statements**
H290 May be corrosive to metals.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

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Product name: ICH/USP Oral Target Elements Standard A: Hg @ 30; As @ 15; Cd, Pb @ 5 µg/mL in 2% HNO₃ [100ml bottle]

(Contd. from page 1)

- **Precautionary statements**

- P280 *Wear protective gloves / eye protection / face protection.*
- P305+P351+P338 *IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
- P321 *Specific treatment (see on this label).*
- P332+P313 *If skin irritation occurs: Get medical advice/attention.*
- P337+P313 *If eye irritation persists: Get medical advice/attention.*
- P406 *Store in corrosive resistant container /container with a corrosion resistant inner liner.*

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition and Information on Ingredients

- **Chemical characterisation: Mixtures**

- **Description:**

*Aqueous solution.
Also contains substances at levels not considered to be hazardous.*

- **Dangerous components:**

CAS: 7697-37-2	Nitric acid	<2%
RTECS: QU5775000	 Ox. Liq. 2, H272;  Met. Corr.1, H290; Skin Corr. 1A, H314	

- **Additional information:**

*The concentration of the acid stated in this SDS is calculated as an absolute mass concentration (%w/v). This is less than the acid concentration stated on the product label and COA, which reflects a percent value of the commercially available concentrated aqueous form of the acid.
For the wording of the listed hazard phrases refer to section 16.*

4 First Aid Measures

- **Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

- **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

- **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- **After swallowing:** Rinse mouth. Do not induce vomiting.

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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**Product name: ICH/USP Oral Target Elements Standard A: Hg @ 30; As @ 15; Cd, Pb @ 5
µg/mL in 2% HNO₃ [100ml bottle]**

(Contd. from page 2)

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable for surrounding conditions.
- **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**
HazChem Code: 2X
Wear self-contained respiratory protective device.

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.
- **Methods and material for containment and cleaning up:**
Use neutralising agent.
Dispose of contaminated material as waste according to item 13.
Absorb liquid components with liquid-binding material.
DO NOT USE 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** Store in cool, dry place in tightly closed receptacles.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Please refer to the manufacturer's certificate for specific storage and transport temperature conditions.
Store only in the original receptacle unless other advice is given on the CoA.
Keep container in a well-ventilated place. Keep away from sources of ignition and heat.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

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Product name: ICH/USP Oral Target Elements Standard A: Hg @ 30; As @ 15; Cd, Pb @ 5 µg/mL in 2% HNO₃ [100ml bottle]

(Contd. from page 3)

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

CAS: 7697-37-2 Nitric acid

NES Short-term value: 10 mg/m³, 4 ppm

Long-term value: 5.2 mg/m³, 2 ppm

WES Short-term value: 10 mg/m³, 4 ppm

Long-term value: 5.2 mg/m³, 2 ppm

· **Additional information:** Lists used were valid at the time of SDS preparation.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

Not required.

Use suitable respiratory protective device in case of insufficient ventilation.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374



Protective gloves

· **Material of gloves**

PVC gloves

Neoprene gloves

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

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**Product name: ICH/USP Oral Target Elements Standard A: Hg @ 30; As @ 15; Cd, Pb @ 5
µg/mL in 2% HNO₃ [100ml bottle]**

(Contd. from page 4)

9 Physical and Chemical Properties

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

· **General Information**

· **Appearance:**

Form:	Liquid
Colour:	Colourless
Odour:	Odourless
Odour threshold:	Not determined.

· **pH-value:** < 2

· **Change in condition**

Melting point/freezing point:	Not determined. Not determined.
Initial boiling point and boiling range:	100 °C

· **Flash point:** Not applicable.

· **Flammability (solid, gas):** Not determined.

· **Ignition temperature:** Not determined

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Not determined.

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

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

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

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

Fully miscible.

· **Partition coefficient: n-octanol/water:** Not determined.

· **Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

· **Other information** No further relevant information available.

10 Stability and Reactivity

· **Reactivity**

Stable under normal conditions.

No further relevant information available.

· **Chemical stability** Stable under normal conditions.

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Product name: ICH/USP Oral Target Elements Standard A: Hg @ 30; As @ 15; Cd, Pb @ 5 µg/mL in 2% HNO₃ [100ml bottle]

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- **Thermal decomposition / conditions to be avoided:**
Formation of toxic gases is possible during heating or in case of fire.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Heat.
- **Incompatible materials:**
Strong oxidizing agents.
Metals.
- **Hazardous decomposition products:** Formation of toxic gases is possible during heating or in case of fire.

11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Irritating effect.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 sewage water or drainage ditch undiluted or unneutralised.
- **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 packaging:**
- **Recommendation:** Dispose of in accordance with national regulations.

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Product name: ICH/USP Oral Target Elements Standard A: Hg @ 30; As @ 15; Cd, Pb @ 5 µg/mL in 2% HNO₃ [100ml bottle]

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· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

<ul style="list-style-type: none"> · UN-Number · ADG, IMDG, IATA · ADG · IMDG, IATA 	<p>UN3264 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · ADG, IMDG, IATA 	<p>8 Corrosive substances. 8</p>
<ul style="list-style-type: none"> · Class · Label 	<p>8 Corrosive substances. 8</p>
<ul style="list-style-type: none"> · Packing group · ADG, IMDG, IATA 	<p>III</p>
<ul style="list-style-type: none"> · Environmental hazards: 	<p>Not applicable.</p>
<ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups · Stowage Category · Stowage Code 	<p>Warning: Corrosive substances. 80 F-A,S-B Acids A SW2 Clear of living quarters.</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of Marpol and the IBC Code 	<p>Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: 	<p>-----</p>
<ul style="list-style-type: none"> · ADG · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code · Remarks: 	<p>5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml 3 E HazChem Code: 2X</p>
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p>UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, III</p>

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Product name: ICH/USP Oral Target Elements Standard A: Hg @ 30; As @ 15; Cd, Pb @ 5 µg/mL in 2% HNO₃ [100ml bottle]

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15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

All ingredients are listed.

· **Standard for the Uniform Scheduling of Medicines and Poisons**

CAS: 7697-37-2	Nitric acid	S5, S6
CAS: 7439-97-6	Mercury	S2, S4, S7
CAS: 7440-38-2	Arsenic	S4, S6, S7
CAS: 7439-92-1	Lead	S4

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **Hazard pictograms**



GHS05

· **Signal word** Warning

· **Hazard statements**

H290 May be corrosive to metals.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

· **Precautionary statements**

P280 Wear protective gloves / eye protection / face protection.

P305+P351+P338 **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P406 Store in corrosive resistant container /container with a corrosion resistant inner liner.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** 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.

· **Relevant phrases**

H272 May intensify fire; oxidiser.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

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**Product name: ICH/USP Oral Target Elements Standard A: Hg @ 30; As @ 15; Cd, Pb @ 5
µg/mL in 2% HNO₃ [100ml bottle]**

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· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Ox. Liq. 2: Oxidizing liquids – Category 2

Met. Corr.1: Corrosive to metals – Category 1

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

· Sources

Tables 3.1 and 3.2 from Annex 6 of EC 1272/2008, EC 1907/2006, EH40/2005 as amended 2011, Registry of Toxic Effects of Chemical Substances (RTECS), The Dictionary of Substances and their Effects, 1st Edition, IUCLID.

- Data compared to the previous version altered.** All sections have been updated.

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Safety Data Sheet
according to WHS Regulations

Printing date 19.02.2020

Version number 1

Revision: 19.02.2020

Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

- **Product identifier**
- **Product name: ICH/USP Oral Target Elements Standard B: Ni @ 200; Ag, Se @ 150; V @ 100; Co @ 50; Tl @ 8 µg/mL in 2% HNO₃ [100ml bottle]**
- **Part number:** 5190-9767
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave Victoria 3170,
Australia
Tel: 1800 802 402
- **Further information obtainable from:** e-mail: pdl-msds_author@agilent.com

2 Hazard(s) Identification

- **Classification of the substance or mixture**



Met. Corr.1 H290 May be corrosive to metals.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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



GHS05

- **Signal word** Warning
- **Hazard statements**
H290 May be corrosive to metals.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

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Product name: ICH/USP Oral Target Elements Standard B: Ni @ 200; Ag, Se @ 150; V @ 100; Co @ 50; Tl @ 8 µg/mL in 2% HNO₃ [100ml bottle]

(Contd. from page 1)

- **Precautionary statements**

- P280 Wear protective gloves / eye protection / face protection.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P321 Specific treatment (see on this label).
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P406 Store in corrosive resistant container /container with a corrosion resistant inner liner.

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.



3 Composition and Information on Ingredients

- **Chemical characterisation: Mixtures**

- **Description:**

Aqueous solution.
Also contains substances at levels not considered to be hazardous.

- **Dangerous components:**

CAS: 7697-37-2	Nitric acid	<2%
RTECS: QU5775000	 Ox. Liq. 2, H272;  Met. Corr.1, H290; Skin Corr. 1A, H314	

- **Additional information:**

The concentration of the acid stated in this SDS is calculated as an absolute mass concentration (%w/v). This is less than the acid concentration stated on the product label and COA, which reflects a percent value of the commercially available concentrated aqueous form of the acid.
For the wording of the listed hazard phrases refer to section 16.

4 First Aid Measures

- **Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Rinse mouth. Do not induce vomiting.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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Product name: ICH/USP Oral Target Elements Standard B: Ni @ 200; Ag, Se @ 150; V @ 100; Co @ 50; Tl @ 8 µg/mL in 2% HNO₃ [100ml bottle]

(Contd. from page 2)

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable for surrounding conditions.
- **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
HazChem Code: 2X

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.
- **Methods and material for containment and cleaning up:**
Use neutralising agent.
Dispose of contaminated material as waste according to item 13.
Absorb liquid components with liquid-binding material.
DO NOT USE 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** Store in cool, dry place in tightly closed receptacles.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Please refer to the manufacturer's certificate for specific storage and transport temperature conditions.
Store only in the original receptacle unless other advice is given on the CoA.
Keep container in a well-ventilated place. Keep away from sources of ignition and heat.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

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Product name: ICH/USP Oral Target Elements Standard B: Ni @ 200; Ag, Se @ 150; V @ 100; Co @ 50; Tl @ 8 µg/mL in 2% HNO₃ [100ml bottle]

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· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

CAS: 7697-37-2 Nitric acid

NES	Short-term value: 10 mg/m ³ , 4 ppm Long-term value: 5.2 mg/m ³ , 2 ppm
WES	Short-term value: 10 mg/m ³ , 4 ppm Long-term value: 5.2 mg/m ³ , 2 ppm

· **Additional information:** Lists used were valid at the time of SDS preparation.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

Not required.

Use suitable respiratory protective device in case of insufficient ventilation.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374



Protective gloves

· **Material of gloves**

PVC gloves

Neoprene gloves

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

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Product name: ICH/USP Oral Target Elements Standard B: Ni @ 200; Ag, Se @ 150; V @ 100; Co @ 50; Tl @ 8 µg/mL in 2% HNO₃ [100ml bottle]

(Contd. from page 4)

9 Physical and Chemical Properties

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

· **General Information**

· **Appearance:**

Form:	Liquid
Colour:	Colourless
Odour:	Odourless
Odour threshold:	Not determined.

· **pH-value:** < 2

· **Change in condition**

Melting point/freezing point:	Not determined. Not determined.
Initial boiling point and boiling range:	100 °C

· **Flash point:** Not applicable.

· **Flammability (solid, gas):** Not determined.

· **Ignition temperature:** Not determined

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Not determined.

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

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

· **Density:** Not determined.

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

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

Fully miscible.

· **Partition coefficient: n-octanol/water:** Not determined.

· **Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

· **Other information** No further relevant information available.

10 Stability and Reactivity

· **Reactivity**

Stable under normal conditions.

No further relevant information available.

· **Chemical stability** Stable under normal conditions.

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Product name: ICH/USP Oral Target Elements Standard B: Ni @ 200; Ag, Se @ 150; V @ 100; Co @ 50; Tl @ 8 µg/mL in 2% HNO₃ [100ml bottle]

(Contd. from page 5)

- **Thermal decomposition / conditions to be avoided:**
Formation of toxic gases is possible during heating or in case of fire.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Heat.
- **Incompatible materials:**
Strong oxidizing agents.
Metals.
- **Hazardous decomposition products:** Formation of toxic gases is possible during heating or in case of fire.

11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity**

- **LD/LC50 values relevant for classification:**

CAS: 7440-22-4 Silver, powder

Oral	LD50	>10,000 mg/kg (mouse)
------	------	-----------------------

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Irritating effect.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological Information

- **Toxicity**

- **Aquatic toxicity:**

CAS: 7440-22-4 Silver, powder

LC50/24	0.015 mg/L (crustacean)
EC50/72h	0.00198 mg/l (Algae)
LC50/96 h	0.00807 mg/l (fish)

- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 sewage water or drainage ditch undiluted or unneutralised.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

-AU-

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

Printing date 19.02.2020

Version number 1

Revision: 19.02.2020

Product name: ICH/USP Oral Target Elements Standard B: Ni @ 200; Ag, Se @ 150; V @ 100; Co @ 50; Tl @ 8 µg/mL in 2% HNO₃ [100ml bottle]

(Contd. from page 6)

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 packaging:**
- **Recommendation:** Dispose of in accordance with national regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

- | | |
|--|--|
| <ul style="list-style-type: none"> · UN-Number · ADG, IMDG, IATA · ADG · IMDG, IATA | <p>UN3264
3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)
CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · ADG, IMDG, IATA | <p>8 Corrosive substances.
8</p> |
| <ul style="list-style-type: none"> · Class · Label | <p>8 Corrosive substances.
8</p> |
| <ul style="list-style-type: none"> · Packing group · ADG, IMDG, IATA | <p>III</p> |
| <ul style="list-style-type: none"> · Environmental hazards: | <p>Not applicable.</p> |
| <ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups · Stowage Category · Stowage Code | <p>Warning: Corrosive substances.
80
F-A,S-B
Acids
A
SW2 Clear of living quarters.</p> |
| <ul style="list-style-type: none"> · Transport in bulk according to Annex II of Marpol and the IBC Code | <p>Not applicable.</p> |
| <ul style="list-style-type: none"> · Transport/Additional information: | <p>Not applicable.</p> |
| <ul style="list-style-type: none"> · ADG · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category | <p>5L
Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
3</p> |

(Contd. on page 8)

Safety Data Sheet

according to WHS Regulations

Printing date 19.02.2020

Version number 1

Revision: 19.02.2020

Product name: ICH/USP Oral Target Elements Standard B: Ni @ 200; Ag, Se @ 150; V @ 100; Co @ 50; Tl @ 8 µg/mL in 2% HNO₃ [100ml bottle]

(Contd. from page 7)

· Tunnel restriction code	E
· Remarks:	HazChem Code: 2X
· 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**

· **Australian Inventory of Chemical Substances**

All ingredients are listed.

· **Standard for the Uniform Scheduling of Medicines and Poisons**

CAS: 7697-37-2	Nitric acid	S5, S6
CAS: 7440-22-4	Silver, powder	S2
CAS: 7782-49-2	Selenium	S2, S4, S6, S7
CAS: 7440-48-4	Cobalt	S4
CAS: 7440-28-0	thallium	S7

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **Hazard pictograms**



GHS05

· **Signal word** Warning

· **Hazard statements**

H290 May be corrosive to metals.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

· **Precautionary statements**

P280 Wear protective gloves / eye protection / face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P406 Store in corrosive resistant container /container with a corrosion resistant inner liner.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

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

AU

(Contd. on page 9)

Safety Data Sheet according to WHS Regulations

Printing date 19.02.2020

Version number 1

Revision: 19.02.2020

Product name: ICH/USP Oral Target Elements Standard B: Ni @ 200; Ag, Se @ 150; V @ 100; Co @ 50; Tl @ 8 µg/mL in 2% HNO₃ [100ml bottle]

(Contd. from page 8)

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.

· **Relevant phrases**

H272 May intensify fire; oxidiser.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Ox. Liq. 2: Oxidizing liquids – Category 2

Met. Corr.1: Corrosive to metals – Category 1

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

· **Sources**

Tables 3.1 and 3.2 from Annex 6 of EC 1272/2008, EC 1907/2006, EH40/2005 as amended 2011, Registry of Toxic Effects of Chemical Substances (RTECS), The Dictionary of Substances and their Effects, 1st Edition, IUCLID.

- **Data compared to the previous version altered.** All sections have been updated.

Safety Data Sheet according to WHS Regulations

Printing date 01.06.2020

Version number 2

Revision: 01.06.2020

Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

- **Product identifier**
- **Product name: ICH/USP Oral Target Elements Standard C: Au, Ir, Os, Pd, Pt, Rh, Ru @ 100 µg/mL in 15% HCl [100ml bottle]**
- **Part number:** 5190-9768
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave Victoria 3170,
Australia
Tel: 1800 802 402
- **Further information obtainable from:** e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(61)-290372994

2 Hazard(s) Identification

- **Classification of the substance or mixture**



Met. Corr.1 H290 May be corrosive to metals.

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



GHS05

- **Signal word** Warning
- **Hazard statements**
H290 May be corrosive to metals.
- **Precautionary statements**
P234 Keep only in original container.
P390 Absorb spillage to prevent material damage.
P406 Store in corrosive resistant container /container with a corrosion resistant inner liner.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 2)

AU

Safety Data Sheet according to WHS Regulations

Printing date 01.06.2020

Version number 2

Revision: 01.06.2020

**Product name: ICH/USP Oral Target Elements Standard C: Au, Ir, Os, Pd, Pt, Rh, Ru @
100 µg/mL in 15% HCl [100ml bottle]**

· **vPvB:** Not applicable.

(Contd. from page 1)

3 Composition and Information on Ingredients

- **Chemical characterisation:** Mixtures
- **Description:**
Aqueous solution.
Also contains substances at levels not considered to be hazardous.

· **Dangerous components:**

CAS: 7647-01-0	Hydrochloric acid	<10%
RTECS: MW 9620000	 Acute Tox. 3, H331;  Skin Corr. 1B, H314;  Eye Dam. 1, H318;  STOT SE 3, H335	

· **Additional information:**

The concentration of the acid stated in this SDS is calculated as an absolute mass concentration (%w/v). This is less than the acid concentration stated on the product label and COA, which reflects a percent value of the commercially available concentrated aqueous form of the acid.
For the wording of the listed hazard phrases refer to section 16.

4 First Aid Measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Rinse mouth. Do not induce vomiting.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable for surrounding conditions.
- **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**
HazChem Code: 2R
Wear self-contained respiratory protective device.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.

(Contd. on page 3)



Safety Data Sheet
according to WHS Regulations

Printing date 01.06.2020

Version number 2

Revision: 01.06.2020

Product name: ICH/USP Oral Target Elements Standard C: Au, Ir, Os, Pd, Pt, Rh, Ru @
100 µg/mL in 15% HCl [100ml bottle]

(Contd. from page 2)

- 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 neutralising agent. Dispose of 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: Store in cool, dry place in tightly closed receptacles.
Information about fire - and explosion protection: No special measures required.
Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles: Please refer to the manufacturer's certificate for specific storage and transport temperature conditions. Store only in the original receptacle unless other advice is given on the CoA. Keep container in a well-ventilated place. Keep away from sources of ignition and heat.
Information about storage in one common storage facility: Store away from foodstuffs.
Further information about storage conditions: Keep container tightly sealed.
Specific end use(s): No further relevant information available.

8 Exposure controls and personal protection

- Additional information about design of technical facilities: No further data; see item 7.
Control parameters

Ingredients with limit values that require monitoring at the workplace:

CAS: 7647-01-0 Hydrochloric acid

NES Peak limitation: 7.5 mg/m³, 5 ppm

WES Peak limitation: 7.5 mg/m³, 5 ppm

- Additional information: Lists used were valid at the time of SDS preparation.
Exposure controls
Personal protective equipment:
General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.
Respiratory protection: Not required. Use suitable respiratory protective device in case of insufficient ventilation.

(Contd. on page 4)

Safety Data Sheet according to WHS Regulations

Printing date 01.06.2020

Version number 2

Revision: 01.06.2020

Product name: ICH/USP Oral Target Elements Standard C: Au, Ir, Os, Pd, Pt, Rh, Ru @ 100 µg/mL in 15% HCl [100ml bottle]

(Contd. from page 3)

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374



Protective gloves

· **Material of gloves**

PVC gloves

Neoprene gloves

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

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

· **General Information**

· **Appearance:**

Form:	Liquid
Colour:	Colourless
Odour:	Odourless
Odour threshold:	Not determined.

· **pH-value:** < 2

· **Change in condition**

Melting point/freezing point: Not determined.
Not determined.

Initial boiling point and boiling range: 100 °C

· **Flash point:** Not applicable.

· **Flammability (solid, gas):** Not determined.

· **Ignition temperature:** Not determined

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Not determined.

(Contd. on page 5)

Safety Data Sheet

according to WHS Regulations

Printing date 01.06.2020

Version number 2

Revision: 01.06.2020

**Product name: ICH/USP Oral Target Elements Standard C: Au, Ir, Os, Pd, Pt, Rh, Ru @
100 µg/mL in 15% HCl [100ml bottle]**

(Contd. from page 4)

<ul style="list-style-type: none"> · Explosion limits: <li style="padding-left: 20px;">Lower: <i>Not determined.</i> <li style="padding-left: 20px;">Upper: <i>Not determined.</i> 	
<ul style="list-style-type: none"> · Vapour pressure at 20 °C: 23 hPa 	
<ul style="list-style-type: none"> · Density: <i>Not determined.</i> · Relative density <i>Not determined.</i> · Vapour density <i>Not determined.</i> · Evaporation rate <i>Not determined.</i> 	
<ul style="list-style-type: none"> · Solubility in / Miscibility with water: <i>Fully miscible.</i> 	
<ul style="list-style-type: none"> · Partition coefficient: n-octanol/water: <i>Not determined.</i> 	
<ul style="list-style-type: none"> · Viscosity: <li style="padding-left: 20px;">Dynamic: <i>Not determined.</i> <li style="padding-left: 20px;">Kinematic: <i>Not determined.</i> · Other information <i>No further relevant information available.</i> 	

10 Stability and Reactivity

- **Reactivity**
Stable under normal conditions.
No further relevant information available.
- **Chemical stability** *Stable under normal conditions.*
- **Thermal decomposition / conditions to be avoided:**
Formation of toxic gases is possible during heating or in case of fire.
- **Possibility of hazardous reactions** *No dangerous reactions known.*
- **Conditions to avoid** *Heat.*
- **Incompatible materials:**
Strong oxidizing agents.
Metals.
- **Hazardous decomposition products:** *Formation of toxic gases is possible during heating or in case of fire.*

11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity**
- **Primary irritant effect:**
- **Skin corrosion/irritation** *Based on available data, the classification criteria are not met.*
- **Serious eye damage/irritation** *Based on available data, the classification criteria are not met.*
- **Respiratory or skin sensitisation** *Based on available data, the classification criteria are not met.*
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

AU

(Contd. on page 6)

Safety Data Sheet

according to WHS Regulations

Printing date 01.06.2020

Version number 2

Revision: 01.06.2020

Product name: ICH/USP Oral Target Elements Standard C: Au, Ir, Os, Pd, Pt, Rh, Ru @ 100 µg/mL in 15% HCl [100ml bottle]

(Contd. from page 5)

12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour 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 (German Regulation) (Self-assessment): slightly hazardous for water
 Do not allow undiluted product to reach ground water, water course or sewage system.
 Must not reach sewage water or drainage ditch undiluted or unneutralised.
- **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 packaging:**
- **Recommendation:** Dispose of in accordance with national regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

- | | |
|---|--|
| <ul style="list-style-type: none"> · UN-Number · ADG, IMDG, IATA · ADG · IMDG, IATA | <p>UN1789
 1789 HYDROCHLORIC ACID solution
 HYDROCHLORIC ACID solution</p> |
|---|--|

- **Transport hazard class(es)**
- **ADG, IMDG, IATA**



- | | |
|--|---|
| <ul style="list-style-type: none"> · Class · Label | <p>8 Corrosive substances.
 8</p> |
|--|---|

- | | |
|--|-----------|
| <ul style="list-style-type: none"> · Packing group · ADG, IMDG, IATA | <p>II</p> |
|--|-----------|

- | | |
|---|------------------------|
| <ul style="list-style-type: none"> · Environmental hazards: | <p>Not applicable.</p> |
|---|------------------------|

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Safety Data Sheet

according to WHS Regulations

Printing date 01.06.2020

Version number 2

Revision: 01.06.2020

**Product name: ICH/USP Oral Target Elements Standard C: Au, Ir, Os, Pd, Pt, Rh, Ru @
100 µg/mL in 15% HCl [100ml bottle]**

(Contd. from page 6)

<ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups · Stowage Category · Stowage Code 	<p>Warning: <i>Corrosive substances.</i></p> <p>80</p> <p>F-A,S-B</p> <p>Acids</p> <p>A</p> <p>SW2 Clear of living quarters.</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of Marpol and the IBC Code 	<p>Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: 	
<ul style="list-style-type: none"> · ADG · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code · Remarks: 	<p>1L</p> <p>Code: E2</p> <p>Maximum net quantity per inner packaging: 30 ml</p> <p>Maximum net quantity per outer packaging: 500 ml</p> <p>2</p> <p>E</p> <p>HazChem Code: 2R</p>
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p>UN 1789 HYDROCHLORIC ACID SOLUTION, 8, II</p>

15 Regulatory information

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

- **Australian Inventory of Chemical Substances**

CAS: 7647-01-0	Hydrochloric acid
----------------	-------------------

CAS: 7440-57-5	Gold
----------------	------

CAS: 12125-08-5	Diammonium hexachloroosmate
-----------------	-----------------------------

CAS: 7440-05-3	Palladium
----------------	-----------

CAS: 7440-06-4	Platinum
----------------	----------

CAS: 7732-18-5	Water
----------------	-------

- **Standard for the Uniform Scheduling of Medicines and Poisons**

CAS: 7647-01-0	Hydrochloric acid		S5, S6
----------------	-------------------	--	--------

- **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

- **Hazard pictograms**



GHS05

- **Signal word** Warning

- **Hazard statements**

H290 May be corrosive to metals.

(Contd. on page 8)

Safety Data Sheet
according to WHS Regulations

Printing date 01.06.2020

Version number 2

Revision: 01.06.2020

**Product name: ICH/USP Oral Target Elements Standard C: Au, Ir, Os, Pd, Pt, Rh, Ru @
100 µg/mL in 15% HCl [100ml bottle]**

(Contd. from page 7)

· Precautionary statements*P234 Keep only in original container.**P390 Absorb spillage to prevent material damage.**P406 Store in corrosive resistant container /container with a corrosion resistant inner liner.***· Directive 2012/18/EU****· Named dangerous substances - ANNEX I** 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.

· Relevant phrases*H314 Causes severe skin burns and eye damage.**H318 Causes serious eye damage.**H331 Toxic if inhaled.**H335 May cause respiratory irritation.***· Abbreviations and acronyms:***ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**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)**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Met. Corr.1: Corrosive to metals – Category 1**Acute Tox. 3: Acute toxicity – Category 3**Skin Corr. 1B: Skin corrosion/irritation – Category 1B**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3***· Sources**

Tables 3.1 and 3.2 from Annex 6 of EC 1272/2008, EC 1907/2006, EH40/2005 as amended 2011, Registry of Toxic Effects of Chemical Substances (RTECS), The Dictionary of Substances and their Effects, 1st Edition, IUCLID.

· Data compared to the previous version altered. All sections have been updated.

Safety Data Sheet
according to WHS Regulations

Printing date 09.03.2020

Version number 2

Revision: 09.03.2020

Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification· **Product identifier**· **Product name: ICH/USP Oral Target Elements Standard D: Cr @ 11,000; Sn @ 6000; Cu, Mo @ 3000; Ba @ 1400; Sb @ 1200; Li @ 550 µg/mL in 5% HNO₃/tr. HF [100ml bottle]**· **Part number:** 5190-9769· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.· **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use· **Details of the supplier of the safety data sheet**· **Manufacturer/Supplier:**Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave Victoria 3170,
Australia

Tel: 1800 802 402

· **Further information obtainable from:** e-mail: pdl-msds_author@agilent.com· **Emergency telephone number:** CHEMTREC®: +(61)-290372994**2 Hazard(s) Identification**· **Classification of the substance or mixture**

Met. Corr.1 H290 May be corrosive to metals.

Eye Dam. 1 H318 Causes serious eye damage.



Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Aquatic Acute 3 H402 Harmful to aquatic life.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· **Label elements**· **GHS label elements**

The product is classified and labelled according to the Globally Harmonised System (GHS).

(Contd. on page 2)

-AU-

Safety Data Sheet

according to WHS Regulations

Printing date 09.03.2020

Version number 2

Revision: 09.03.2020

Product name: ICH/USP Oral Target Elements Standard D: Cr @ 11,000; Sn @ 6000; Cu, Mo @ 3000; Ba @ 1400; Sb @ 1200; Li @ 550 µg/mL in 5% HNO₃/tr. HF [100ml bottle]

(Contd. from page 1)

Hazard pictograms


GHS05 GHS07

Signal word *Danger*
Hazard-determining components of labelling:

 Nitric acid
 hydrofluoric acid

Hazard statements

H290 *May be corrosive to metals.*
 H302 *Harmful if swallowed.*
 H312 *Harmful in contact with skin.*
 H332 *Harmful if inhaled.*
 H315 *Causes skin irritation.*
 H318 *Causes serious eye damage.*
 H412 *Harmful to aquatic life with long lasting effects.*

Precautionary statements

P261 *Avoid breathing dust/fume/gas/mist/vapours/spray.*
 P280 *Wear protective gloves/protective clothing/eye protection/face protection.*
 P305+P351+P338 *IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
 P310 *Immediately call a POISON CENTER/doctor.*
 P321 *Specific treatment (see on this label).*
 P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

Other hazards
Results of PBT and vPvB assessment

PBT: *Not applicable.*
vPvB: *Not applicable.*

3 Composition and Information on Ingredients

Chemical characterisation: Mixtures

Description: *Also contains substances at levels not considered to be hazardous.*

Dangerous components:

CAS: 7697-37-2 RTECS: QU5775000	Nitric acid Ox. Liq. 2, H272; Met. Corr. 1, H290; Skin Corr. 1A, H314	<5%
CAS: 7789-02-8 RTECS: GB6300000	Chromium (III) nitrate nonahydrate Ox. Sol. 2, H272; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	<2%
CAS: 7664-39-3 RTECS: MW7875000	hydrofluoric acid Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; Skin Corr. 1A, H314	<1%

(Contd. on page 3)

Safety Data Sheet

according to WHS Regulations

Printing date 09.03.2020

Version number 2


Revision: 09.03.2020

Product name: ICH/USP Oral Target Elements Standard D: Cr @ 11,000; Sn @ 6000; Cu, Mo @ 3000; Ba @ 1400; Sb @ 1200; Li @ 550 µg/mL in 5% HNO₃/tr. HF [100ml bottle]

CAS: 7440-50-8

RTECS: GL 5325000

Copper

 Aquatic Acute 1, H400; Aquatic Chronic 1, H410

(Contd. from page 2)

<1%

· **Additional information:**

The concentration of the acid stated in this SDS is calculated as an absolute mass concentration (%w/v). This is less than the acid concentration stated on the product label and COA, which reflects a percent value of the commercially available concentrated aqueous form of the acid.

For the wording of the listed hazard phrases refer to section 16.

4 First Aid Measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may occur even after several hours; therefore medical observation for at least 48 hours after the accident is recommended.

· **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient in recovery position for transport.

Seek medical treatment.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

Seek medical treatment.

If skin irritation continues, consult a doctor.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Rinse mouth. Do not induce vomiting.

Seek medical treatment.

· **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 Fire Fighting Measures

· **Extinguishing media**

· **Suitable extinguishing agents:** Use fire extinguishing methods suitable for surrounding conditions.

· **Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

· **Advice for firefighters**

· **Protective equipment:**

HazChem Code: 2X

Mouth respiratory protective device.

Wear self-contained respiratory protective device.

AU

(Contd. on page 4)

Safety Data Sheet according to WHS Regulations

Printing date 09.03.2020

Version number 2

Revision: 09.03.2020

Product name: ICH/USP Oral Target Elements Standard D: Cr @ 11,000; Sn @ 6000; Cu, Mo @ 3000; Ba @ 1400; Sb @ 1200; Li @ 550 µg/mL in 5% HNO₃/tr. HF [100ml bottle]

(Contd. from page 3)

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Use neutralising agent.
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
Absorb liquid components with liquid-binding material.
DO NOT USE 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**
Ensure good ventilation/extraction at the workplace.
Store in cool, dry place in tightly closed receptacles.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Please refer to the manufacturer's certificate for specific storage and transport temperature conditions.
Store only in the original receptacle unless other advice is given on the CoA.
Keep container in a well-ventilated place. Keep away from sources of ignition and heat.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

(Contd. on page 5)

AU

Safety Data Sheet

according to WHS Regulations

Printing date 09.03.2020

Version number 2

Revision: 09.03.2020

Product name: ICH/USP Oral Target Elements Standard D: Cr @ 11,000; Sn @ 6000; Cu, Mo @ 3000; Ba @ 1400; Sb @ 1200; Li @ 550 µg/mL in 5% HNO₃/tr. HF [100ml bottle]

(Contd. from page 4)

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

CAS: 7697-37-2 Nitric acid

NES Short-term value: 10 mg/m³, 4 ppm

Long-term value: 5.2 mg/m³, 2 ppm

WES Short-term value: 10 mg/m³, 4 ppm

Long-term value: 5.2 mg/m³, 2 ppm

CAS: 7664-39-3 hydrofluoric acid

NES Peak limitation: 2.6 mg/m³, 3 ppm

WES Peak limitation: 2.6 mg/m³, 3 ppm

CAS: 7440-50-8 Copper

NES Long-term value: 1 0.2 mg/m³
dust & mists (as Cu) fume

WES Long-term value: 1 0.2 mg/m³
dust&mists fume

· **Additional information:** Lists used were valid at the time of SDS preparation.

· **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.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374



Protective gloves

· **Material of gloves**

PVC gloves

Neoprene gloves

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 6)

Safety Data Sheet

according to WHS Regulations

Printing date 09.03.2020

Version number 2

Revision: 09.03.2020

Product name: ICH/USP Oral Target Elements Standard D: Cr @ 11,000; Sn @ 6000; Cu, Mo @ 3000; Ba @ 1400; Sb @ 1200; Li @ 550 µg/mL in 5% HNO₃/tr. HF [100ml bottle]

(Contd. from page 5)

· **Eye protection:**

Tightly sealed goggles

9 Physical and Chemical Properties

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

Form:	Liquid
Colour:	Colourless
Odour:	Odourless
Odour threshold:	Not determined.

· **pH-value:** <2· **Change in condition**

Melting point/freezing point:	Not determined.
Initial boiling point and boiling range:	100 °C

· **Flash point:** Not applicable.· **Flammability (solid, gas):** Not determined.· **Ignition temperature:** Not determined· **Decomposition temperature:** Not determined.· **Auto-ignition temperature:** Product is not selfigniting.· **Explosive properties:** Not determined.· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

· **Vapour pressure at 20 °C:** 23 hPa· **Density:** Not determined.· **Relative density** Not determined.· **Vapour density** Not determined.· **Evaporation rate** Not determined.· **Solubility in / Miscibility with water:**

Fully miscible.

· **Partition coefficient: n-octanol/water:** Not determined.· **Viscosity:**

Dynamic:	Not determined.
Kinematic:	Not determined.

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

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Product name: ICH/USP Oral Target Elements Standard D: Cr @ 11,000; Sn @ 6000; Cu, Mo @ 3000; Ba @ 1400; Sb @ 1200; Li @ 550 µg/mL in 5% HNO₃/tr. HF [100ml bottle]

(Contd. from page 6)

· **Other information**

No further relevant information available.

10 Stability and Reactivity

· **Reactivity**

Stable under normal conditions.

No further relevant information available.

· **Chemical stability** Stable under normal conditions.

· **Thermal decomposition / conditions to be avoided:**

Formation of toxic gases is possible during heating or in case of fire.

· **Possibility of hazardous reactions** No dangerous reactions known.

· **Conditions to avoid** Heat.

· **Incompatible materials:**

Strong oxidizing agents.

Metals.

· **Hazardous decomposition products:** Formation of toxic gases is possible during heating or in case of fire.

11 Toxicological Information

· **Information on toxicological effects**

· **Acute toxicity**

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

CAS: 7697-37-2 Nitric acid

Inhalative	LC50/4 h	130 mg/l (rat)
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· **Primary irritant effect:**

· **Skin corrosion/irritation** Irritant to skin and mucous membranes.

· **Serious eye damage/irritation** Strong irritant with the danger of severe eye injury.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful

Irritant

12 Ecological Information

· **Toxicity**

· **Aquatic toxicity:**

CAS: 7697-37-2 Nitric acid

LC50/48	180 mg/l (crustacean)
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CAS: 7440-50-8 Copper

LC50/48	0.044 mg/l (crustacean)
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EC50/48 h	0.02 mg/l (crustacean)
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(Contd. on page 8)



Safety Data Sheet
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Version number 2

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Product name: ICH/USP Oral Target Elements Standard D: Cr @ 11,000; Sn @ 6000; Cu, Mo @ 3000; Ba @ 1400; Sb @ 1200; Li @ 550 µg/mL in 5% HNO3/tr. HF [100ml bottle]

(Contd. from page 7)

EC50/72h 0.57 mg/l (Algae)

LC50/96 h 0.665 mg/l (fish)

- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Harmful to aquatic organisms
- **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 packaging:**
- **Recommendation:** Dispose of in accordance with national regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

- **UN-Number**
 - **ADG, IMDG, IATA**
 - **ADG**
 - **IMDG, IATA**
- UN3264
3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROFLUORIC ACID)
CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROFLUORIC ACID)

- **Transport hazard class(es)**
- **ADG, IMDG, IATA**



- **Class** 8 Corrosive substances.

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Version number 2

Revision: 09.03.2020

Product name: ICH/USP Oral Target Elements Standard D: Cr @ 11,000; Sn @ 6000; Cu, Mo @ 3000; Ba @ 1400; Sb @ 1200; Li @ 550 µg/mL in 5% HNO₃/tr. HF [100ml bottle]

(Contd. from page 8)

· Label	8
· Packing group · ADG, IMDG, IATA	III
· Environmental hazards:	Not applicable.
· Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups	Warning: Corrosive substances. 80 F-A,S-B Acids
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category · Tunnel restriction code · Remarks:	3 E HazChem Code: 2X
· UN "Model Regulation":	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROFLUORIC ACID), 8, III

15 Regulatory information

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

· Australian Inventory of Chemical Substances

All ingredients are listed.

· Standard for the Uniform Scheduling of Medicines and Poisons

CAS: 7697-37-2	Nitric acid	S5, S6
CAS: 7664-39-3	hydrofluoric acid	S5, S6, S7
CAS: 7440-36-0	Antimony	S4

· Australia: Priority Existing Chemicals

CAS: 7664-39-3	hydrofluoric acid
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· Hazard pictograms



GHS05 GHS07

(Contd. on page 10)

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Product name: ICH/USP Oral Target Elements Standard D: Cr @ 11,000; Sn @ 6000; Cu, Mo @ 3000; Ba @ 1400; Sb @ 1200; Li @ 550 µg/mL in 5% HNO₃/tr. HF [100ml bottle]

(Contd. from page 9)

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

Nitric acid

hydrofluoric acid

· **Hazard statements**

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P321 Specific treatment (see on this label).

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** *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.

· **Relevant phrases**

H272 May intensify fire; oxidiser.

H290 May be corrosive to metals.

H300 Fatal if swallowed.

H310 Fatal in contact with skin.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H330 Fatal if inhaled.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

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)

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Safety Data Sheet
according to WHS Regulations

Printing date 09.03.2020

Version number 2

Revision: 09.03.2020

Product name: ICH/USP Oral Target Elements Standard D: Cr @ 11,000; Sn @ 6000; Cu, Mo @ 3000; Ba @ 1400; Sb @ 1200; Li @ 550 µg/mL in 5% HNO₃/tr. HF [100ml bottle]

(Contd. from page 10)

*LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Ox. Liq. 2: Oxidizing liquids – Category 2**Ox. Sol. 2: Oxidizing solids – Category 2**Met. Corr.1: Corrosive to metals – Category 1**Acute Tox. 2: Acute toxicity – Category 2**Acute Tox. 4: Acute toxicity – Category 4**Acute Tox. 1: Acute toxicity – Category 1**Skin Corr. 1A: Skin corrosion/irritation – Category 1A**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A**Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1**Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3**Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1**Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3***• Sources**

Tables 3.1 and 3.2 from Annex 6 of EC 1272/2008, EC 1907/2006, EH40/2005 as amended 2011, Registry of Toxic Effects of Chemical Substances (RTECS), The Dictionary of Substances and their Effects, 1st Edition, IUCLID.

- Data compared to the previous version altered. All sections have been updated.**

AU

Safety Data Sheet according to WHS Regulations

Printing date 01.06.2020

Version number 1

Revision: 01.06.2020

Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification

- **Product identifier**
- **Product name: Pharma Internal Standard 1**
- **Part number:** 5190-9770
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies Australia Pty Ltd Tel: 1800 802 402
679 Springvale Road
Mulgrave Victoria 3170,
Australia
- **Further information obtainable from:** e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: +(61)-290372994

2 Hazard(s) Identification

- **Classification of the substance or mixture**



Met. Corr.1 H290 May be corrosive to metals.



Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin.
Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.

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



GHS05 GHS07

- **Signal word** Warning

(Contd. on page 2)

AU

Safety Data Sheet according to WHS Regulations

Printing date 01.06.2020

Version number 1

Revision: 01.06.2020

Product name: Pharma Internal Standard 1

(Contd. from page 1)

- **Hazard-determining components of labelling:**

hydrofluoric acid

- **Hazard statements**

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

- **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P406 Store in corrosive resistant container /container with a corrosion resistant inner liner.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

3 Composition and Information on Ingredients





- **Chemical characterisation: Mixtures**

- **Description:**

Aqueous solution.

Also contains substances at levels not considered to be hazardous.

- **Dangerous components:**

CAS: 7697-37-2	Nitric acid	<2%
RTECS: QU5775000	 Ox. Liq. 2, H272;  Met. Corr.1, H290; Skin Corr. 1A, H314	
CAS: 7664-39-3	hydrofluoric acid	<1%
RTECS: MW 7875000	 Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330;  Skin Corr. 1A, H314	

- **Additional information:**

The concentration of the acid stated in this SDS is calculated as an absolute mass concentration (%w/v). This is less than the acid concentration stated on the product label and COA, which reflects a percent value of the commercially available concentrated aqueous form of the acid.

For the wording of the listed hazard phrases refer to section 16.

4 First Aid Measures

- **Description of first aid measures**

- **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may occur even after several hours; therefore medical observation for at least 48 hours after the accident is recommended.

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Safety Data Sheet according to WHS Regulations

Printing date 01.06.2020

Version number 1

Revision: 01.06.2020

Product name: Pharma Internal Standard 1

(Contd. from page 2)

- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient in recovery position for transport.
Seek medical treatment.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Seek medical treatment.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse mouth. Do not induce vomiting.
Seek medical treatment.
- **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 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable for surrounding conditions.
- **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**
HazChem Code: 2X
Mouth respiratory protective device.
Wear self-contained respiratory protective device.

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:**
Use neutralising agent.
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
Absorb liquid components with liquid-binding material.
DO NOT USE 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.

AU

(Contd. on page 4)

Safety Data Sheet according to WHS Regulations

Printing date 01.06.2020

Version number 1

Revision: 01.06.2020

Product name: Pharma Internal Standard 1

(Contd. from page 3)

7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/extraction at the workplace.
Store in cool, dry place in tightly closed receptacles.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Please refer to the manufacturer's certificate for specific storage and transport temperature conditions.
Store only in the original receptacle unless other advice is given on the CoA.
Keep container in a well-ventilated place. Keep away from sources of ignition and heat.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

CAS: 7697-37-2 Nitric acid

NES	Short-term value: 10 mg/m ³ , 4 ppm Long-term value: 5.2 mg/m ³ , 2 ppm
-----	--

WES	Short-term value: 10 mg/m ³ , 4 ppm Long-term value: 5.2 mg/m ³ , 2 ppm
-----	--

CAS: 7664-39-3 hydrofluoric acid

NES	Peak limitation: 2.6 mg/m ³ , 3 ppm
-----	--

WES	Peak limitation: 2.6 mg/m ³ , 3 ppm
-----	--

- **Additional information:** Lists used were valid at the time of SDS preparation.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

(Contd. on page 5)

Safety Data Sheet according to WHS Regulations

Printing date 01.06.2020

Version number 1

Revision: 01.06.2020

Product name: Pharma Internal Standard 1

(Contd. from page 4)

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374



Protective gloves

- **Material of gloves**

PVC gloves

Neoprene gloves

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

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

- **General Information**

- **Appearance:**

Form: Liquid

Colour: Colourless

- **Odour:** Odourless

- **Odour threshold:** Not determined.

- **pH-value:** <2

- **Change in condition**

Melting point/freezing point: Not determined.
Not determined.

Initial boiling point and boiling range: 100 °C

- **Flash point:** Not applicable.

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

- **Ignition temperature:** Not determined

- **Decomposition temperature:** Not determined.

- **Auto-ignition temperature:** Product is not selfigniting.

- **Explosive properties:** Not determined.

- **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

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

- **Density at 20 °C:** 1.00756 g/cm³

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· Relative density	<i>Not determined.</i>
· Vapour density	<i>Not determined.</i>
· Evaporation rate	<i>Not determined.</i>
· Solubility in / Miscibility with water:	<i>Fully miscible.</i>
· Partition coefficient: n-octanol/water:	<i>Not determined.</i>
· Viscosity:	
· Dynamic:	<i>Not determined.</i>
· Kinematic:	<i>Not determined.</i>
· Other information	<i>No further relevant information available.</i>

10 Stability and Reactivity

- **Reactivity**
Stable under normal conditions.
No further relevant information available.
- **Chemical stability** *Stable under normal conditions.*
- **Thermal decomposition / conditions to be avoided:**
Formation of toxic gases is possible during heating or in case of fire.
- **Possibility of hazardous reactions** *No dangerous reactions known.*
- **Conditions to avoid** *Heat.*
- **Incompatible materials:**
Strong oxidizing agents.
Metals.
- **Hazardous decomposition products:** *Formation of toxic gases is possible during heating or in case of fire.*

11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity**
- **Primary irritant effect:**
- **Skin corrosion/irritation** *Irritant to skin and mucous membranes.*
- **Serious eye damage/irritation** *Irritating effect.*
- **Respiratory or skin sensitisation** *Based on available data, the classification criteria are not met.*
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
Irritant

12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** *No further relevant information available.*
- **Persistence and degradability** *No further relevant information available.*
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** *No further relevant information available.*

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- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
- **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 packaging:**
- **Recommendation:** Dispose of in accordance with national regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

- | | |
|--|---|
| <ul style="list-style-type: none"> · UN-Number · ADG, IMDG, IATA · ADG · IMDG, IATA | UN3264
3264 CORROSIVE LIQUID, ACIDIC, INORGANIC,
N.O.S. (NITRIC ACID, HYDROFLUORIC ACID)
CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
(NITRIC ACID, HYDROFLUORIC ACID) |
| <ul style="list-style-type: none"> · Transport hazard class(es) · ADG, IMDG, IATA |  |
| <ul style="list-style-type: none"> · Class · Label | 8 Corrosive substances.
8 |
| <ul style="list-style-type: none"> · Packing group · ADG, IMDG, IATA | III |
| <ul style="list-style-type: none"> · Environmental hazards: | Not applicable. |
| <ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups | Warning: Corrosive substances.
80
F-A,S-B
Acids |
| <ul style="list-style-type: none"> · Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |

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· Transport/Additional information:

· ADG	
· 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
· Transport category	3
· Tunnel restriction code	E
· Remarks:	HazChem Code: 2X
· UN "Model Regulation":	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID, HYDROFLUORIC ACID), 8, III

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture
· Australian Inventory of Chemical Substances

All ingredients are listed.

· Standard for the Uniform Scheduling of Medicines and Poisons

CAS: 7697-37-2	Nitric acid	S5, S6
CAS: 7664-39-3	hydrofluoric acid	S5, S6, S7

· Australia: Priority Existing Chemicals

CAS: 7664-39-3 hydrofluoric acid

· Hazard pictograms


GHS05 GHS07

· Signal word Warning
· Hazard-determining components of labelling:

hydrofluoric acid

· Hazard statements

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

· Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

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P406 Store in corrosive resistant container /container with a corrosion resistant inner liner.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** 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.

· **Relevant phrases**

H272 May intensify fire; oxidiser.
H290 May be corrosive to metals.
H300 Fatal if swallowed.
H310 Fatal in contact with skin.
H314 Causes severe skin burns and eye damage.
H330 Fatal if inhaled.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 2: Oxidizing liquids – Category 2
Met. Corr.1: Corrosive to metals – Category 1
Acute Tox. 2: Acute toxicity – Category 2
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 1: Acute toxicity – Category 1
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

· **Sources**

Tables 3.1 and 3.2 from Annex 6 of EC 1272/2008, EC 1907/2006, EH40/2005 as amended 2011, Registry of Toxic Effects of Chemical Substances (RTECS), The Dictionary of Substances and their Effects, 1st Edition, IUCLID.

- **Data compared to the previous version altered.** All sections have been updated.