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

1.1 Product identifier

Product name: Calibration Blank Solution for ICP-OES, MP-AES & AAS

Part number: 5190-7001

1.2 Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

Application of the substance / the mixture: Reference material for laboratory use only

Manufacturer/Supplier:
Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia

Further information obtainable from: e-mail: pdl-msds_author@agilent.com

1.4 Emergency telephone number:
CHEMTREC®: +(61) - 290372994

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

**corrosion**

Eye Dam. 1 H318 Causes serious eye damage.

**Skin Irrit. 2 H315 Causes skin irritation.**

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS05

Signal word: Danger

Hazard-determining components of labelling:

Nitric acid

Hazard statements

H315 Causes skin irritation.
H318 Causes serious eye damage.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
Product name: Calibration Blank Solution for ICP-OES, MP-AES & AAS

P264 Wash thoroughly after handling.
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).
P332+P313 If skin irritation occurs: Get medical advice/attention.

6.1 Health hazards
- Skin Corr. 1A, H314 < 5%

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures
- Description: Aqueous solution.
- Dangerous components:
  - CAS: 7697-37-2
  - EINECS: 231-714-2
  - RTECS: QU5775000
  - Nitric acid
  - Ox. Liq. 3, H272; Skin Corr. 1A, H314 < 5%

- Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures
- After inhalation: In case of unconsciousness place patient in recovery position for transport.
- 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.

4.2 Most important symptoms and effects, both acute and delayed: No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed: No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
- Suitable extinguishing agents:
  - CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- 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.
SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures
  Wear protective clothing.
· 6.2 Environmental precautions:
  Dilute with plenty of water.
  Do not allow to enter sewers/surface or ground water.
· 6.3 Methods and material for containment and cleaning up:
  Ensure adequate ventilation.
  Absorb liquid components with liquid-binding material.
  DO NOT USE SAWDUST.
· 6.4 Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling
  Store in cool, dry place in tightly closed receptacles.
· 7.2 Conditions for safe storage, including any incompatibilities
  · Storage:
    · Requirements to be met by storerooms and receptacles:
      Store in a cool location.
      Please refer to the manufacturer's certificate for specific storage and transport temperature conditions.
      Store only in the original receptacle.
      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.
· 7.3 Specific end use(s)
  No further relevant information available.

SECTION 8: Exposure controls/personal protection

· Additional information about design of technical facilities: No further data; see item 7.
· 8.1 Control parameters
  · Ingredients with limit values that require monitoring at the workplace:
    | 7697-37-2 Nitric acid |
    | NES 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.
· 8.2 Exposure controls
  · Personal protective equipment:
  · General protective and hygienic measures:
    Keep away from foodstuffs, beverages and feed.
    Immediately remove all soiled and contaminated clothing
    Wash hands before breaks and at the end of work.
    Avoid contact with the skin.
    Avoid contact with the eyes and skin.
Product name: Calibration Blank Solution for ICP-OES, MP-AES & AAS

- **Respiratory protection:** Not required.
- **Protection of hands:**
  Chemical-resistant, impervious gloves with an approved standards should be worn at all times.
  The selection of the glove material is based on the penetration times, rates of diffusion and its degradation.

![Protective gloves](image)

- **Material of gloves**
  - PVC gloves
  - Neoprene gloves
- **Penetration time of glove material**
  The protection time of the gloves can not be accurately estimated for mixtures consisting of several substances.
  Refer and observe manufacturers break through times of the protective gloves.
- **Eye protection:**
  Tightly sealed goggles

### SECTION 9: Physical and chemical properties

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>9.1 Information on basic physical and chemical properties</strong></td>
<td></td>
</tr>
<tr>
<td><strong>General Information</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Appearance:</strong></td>
<td></td>
</tr>
<tr>
<td>Form:</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour:</td>
<td>Colourless</td>
</tr>
<tr>
<td>Odour:</td>
<td>Odourless</td>
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<tr>
<td>Odour threshold:</td>
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</tr>
<tr>
<td><strong>pH-value at 20 °C:</strong></td>
<td>&lt; 2</td>
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<tr>
<td><strong>Change in condition</strong></td>
<td></td>
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<tr>
<td>Melting point/Melting range:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Boiling point/Boiling range:</td>
<td>100 °C</td>
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<tr>
<td><strong>Flash point:</strong></td>
<td>Not applicable.</td>
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<tr>
<td><strong>Flammability (solid, gaseous):</strong></td>
<td>Not determined.</td>
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<tr>
<td><strong>Ignition temperature:</strong></td>
<td></td>
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<tr>
<td>Decomposition temperature:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Self-igniting:</strong></td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td><strong>Danger of explosion:</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Explosion limits:</strong></td>
<td></td>
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<tr>
<td>Lower:</td>
<td>Not determined.</td>
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<tr>
<td>Upper:</td>
<td>Not determined.</td>
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</tbody>
</table>

(Contd. on page 5)
Product name: Calibration Blank Solution for ICP-OES, MP-AES & AAS

- Vapour pressure at 20 °C: 23 hPa
- Density at 20 °C: 1 g/cm³
- 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.
- 9.2 Other information: No further relevant information available.

SECTION 10: Stability and reactivity

- 10.1 Reactivity: Stable under normal conditions.
- 10.2 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.
- 10.3 Possibility of hazardous reactions: No dangerous reactions known.
- 10.4 Conditions to avoid: Heat.
- 10.5 Incompatible materials:
  - Bases.
  - Strong oxidizing agents.
- 10.6 Hazardous decomposition products: Formation of toxic gases is possible during heating or in case of fire.

SECTION 11: Toxicological information

- 11.1 Information on toxicological effects
- Acute toxicity: Based on available data, the classification criteria are not met.

- LD/LC50 values relevant for classification:
  7697-37-2 Nitric acid
  - Oral LD₅₀: 430 mg/kg (Human)
  - Inhalative LC₅₀/4 h: 130 mg/l (rat)
- Primary irritant effect:
- Skin corrosion/irritation: Causes skin irritation.
- Serious eye damage/irritation: Causes serious eye damage.
- Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.
- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):
- Germ cell mutagenicity: Based on available data, the classification criteria are not met.
- Carcinogenicity: Based on available data, the classification criteria are not met.
- Reproductive toxicity: Based on available data, the classification criteria are not met.
- STOT-single exposure: Based on available data, the classification criteria are not met.
42. STOT-repeated exposure
Based on available data, the classification criteria are not met.

43. Aspiration hazard
Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:
- 7697-37-2 Nitric acid
  LC50/48 180 mg/l (crustacean)

12.2 Persistence and degradability
No further relevant information available.

12.3 Bioaccumulative potential
No further relevant information available.

12.4 Mobility in soil
No further relevant information available.

Additional ecological information:
- General notes:
  Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
  Do not allow undiluted product to reach ground water, water course or sewage system.

12.5 Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

12.6 Other adverse effects
No further relevant information available.

SECTION 13: Disposal considerations

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

European waste catalogue
- Waste disposal key numbers from EWC have to be assigned depending on origin and processing.

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

SECTION 14: Transport information

14.1 UN-Number
- ADG, IMDG, IATA: UN2031
- ADG: 2031 NITRIC ACID solution
- IMDG: NITRIC ACID solution
- IATA: Nitric acid solution

(Contd. on page 7)
Product name: Calibration Blank Solution for ICP-OES, MP-AES & AAS

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

14.4 Packing group
- ADG, IMDG, IATA

14.5 Environmental hazards:
- Marine pollutant: No

14.6 Special precautions for user
- Warning: Corrosive substances.
- Danger code (Kemler): 80
- EMS Number: F-A.S-Q
- Segregation groups: Acids

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
- Not applicable.

Transport/Additional information:
- ADG
  - Exected quantities (EQ): E1
  - Limited quantities (LQ): 1L
- UN "Model Regulation": UN 2031 NITRIC ACID SOLUTION, 8, II

SECTION 15: Regulatory information
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Philippines Inventory of Chemicals and Chemical Substances
  - All ingredients are listed.
- Australian Inventory of Chemical Substances
  - All ingredients are listed.
- Standard for the Uniform Scheduling of Medicines and Poisons
  - 7697-37-2 Nitric acid S5, S6
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.

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

SECTION 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.
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
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 3: Oxidising Liquids, Hazard Category 3
Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Sources: