Safety data sheet
to 1907/2006/EC, Article 31

Hazardous according to criteria of Australian Safety and Compensation Council

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

1.1 Product identifier

Product name: Copper AA Standard: 1000 µg/mL Cu in 5% HNO3 [100ml bottle]

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 Tel: 1800 802 402
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

Corrosion

Eye Dam. 1 H318 Causes serious eye damage.

Skin Irrit. 2 H315 Causes skin irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xi: Irritant

R38-41: Irritating to skin. Risk of serious damage to eyes.

Information concerning particular hazards for human and environment:
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

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
Product name: Copper AA Standard: 1000 µg/mL Cu in 5% HNO₃ [100ml bottle]

- **Hazard statements**
  - H315 Causes skin irritation.
  - H318 Causes serious eye damage.

- **Precautionary statements**
  - 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).
  - P362 Take off contaminated clothing and wash before reuse.
  - P332+P313 If skin irritation occurs: Get medical advice/attention.

- **Information concerning particular hazards for human and environment:**
  - **Safety phrases:**
    - 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
    - 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
    - 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
    - 60 This material and its container must be disposed of as hazardous waste.
  - **2.3 Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.
    - **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
  - **Description:** Aqueous solution.
  - **Dangerous components:**
      - C R35; O R8
      - Ox. Liq. 3, H272; Skin Corr. IA, H314
      - < 5%
    - Copper: CAS: 7440-50-8, EINECS: 231-159-6, RTECS: GL 5325000
      - N R50/53
      - < 0.1%
  - **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. Then 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.

- **5.2 Special hazards arising from the substance or mixture**
  - Formation of toxic gases is possible during heating or in case of fire.

- **5.3 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**
  - 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.

- **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:**
  - None.

- **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:**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Short-term value</th>
<th>Long-term value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7697-37-2 Nitric acid</td>
<td>10 mg/m³, 4 ppm</td>
<td>5.2 mg/m³, 2 ppm</td>
</tr>
</tbody>
</table>

(Contd. on page 4)
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.

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:
- 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.

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 to and observe manufacturers break through times of the protective gloves.

Eye protection:
- Tightly sealed goggles

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information
- Appearance:
  - Form: Liquid
  - Colour: Colourless
  - Odour: Odourless
  - Odour threshold: Not determined.
- pH-value at 20 °C: < 2
- Change in condition
  - Melting point/Melting range: Not determined.
  - Boiling point/Boiling range: 100 °C
- Flash point: Not applicable.
- Flammability (solid, gaseous): Not determined.
- Ignition temperature: Not determined.
- Decomposition temperature: Not determined.
Product name: Copper AA Standard: 1000 µg/mL Cu in 5% HNO3 [100ml bottle]

- **Self-igniting:** Product is not self-igniting.
- **Danger of explosion:** Not determined.
- **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.
- **Vapour pressure at 20 °C:** 23 hPa
- **Density at 20 °C:** 1.03059 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:** 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:**
  - **LD/LC50 values relevant for classification:**
    7697-37-2 Nitric acid
    Oral LD0 430 mg/kg (Human)
    Inhalative LC50/4 h 130 mg/l (rat)
- **Primary irritant effect:**
  - on the skin: Irritant to skin and mucous membranes.
  - on the eye: Strong irritant with the danger of severe eye injury.
  - Sensitisation: No sensitising effects known.
- **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:

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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.

13.2 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, IATA: NITRIC ACID solution

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

- Class: 8 Corrosive substances.
- Label: 8

14.4 Packing group
- ADG, IMDG, IATA: II

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Product name: Copper AA Standard: 1000 µg/mL Cu in 5% HNO3 [100ml bottle]

(Contd. from page 6)

14.5 Environmental hazards:
- Marine pollutant: No

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

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
- Transport/Additional information:
  - ADG
  - Limited quantities (LQ): 1L
  - Transport category: 2
  - Tunnel restriction code: E
- UN "Model Regulation": UN2031, 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
- 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.
  R35 Causes severe burns.
  R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
  R8 Contact with combustible material may cause fire.

- 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
  Ox. Liq. 3: Oxidising Liquids, Hazard Category 3
  Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

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Product name: Copper AA Standard: 1000 µg/mL Cu in 5% HNO3 [100ml bottle]

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Sources