1 Identification

- Product identifier
- Product name: Gold AA Standard: 1000 µg/mL Au in 20% HCl [100ml bottle]
- Part number: 5190-8282
- Application of the substance / the mixture: Reference material for laboratory use only
- Manufacturer/Supplier:
  Agilent Technologies, Inc.
  5301 Stevens Creek Blvd.
  Santa Clara, CA 95051 USA
- Information department: e-mail: pdl-msds_author@agilent.com
- Emergency telephone number: CHEMTREC®: 1-800-424-9300

2 Hazard(s) identification

- Classification of the substance or mixture
  GHS05 Corrosion
  Met. Corr. 1 H290 May be corrosive to metals.

- Label elements
  - GHS label elements
    The product is classified and labeled according to the Globally Harmonized 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 with a resistant inner liner.
- Classification system:
- NFPA ratings (scale 0 - 4)

- Health = 0
- Fire = 0
- Reactivity = 0

- HMIS-ratings (scale 0 - 4)

- Health = 0
- Fire = 0
- Reactivity = 0

- Other hazards
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.

(Contd. on page 2)
3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description:
  Aqueous solution.
  Also contains substances at levels not considered to be hazardous.
- Dangerous components:

<table>
<thead>
<tr>
<th>CAS: 7647-01-0</th>
<th>hydrochloric acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTECS: MW 9620000</td>
<td>Skin Corr. 1B, H314;</td>
</tr>
</tbody>
</table>

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:
  CO2, extinguishing 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.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  Wear protective clothing.
- 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).
- 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 protection against explosions and fires
  No special measures required.
Product name: Gold AA Standard: 1000 µg/mL Au in 20% HCl [100ml bottle]

- 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 manufacturers 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.
- Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

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

Components with limit values that require monitoring at the workplace:

- 7647-01-0 hydrochloric acid
  - PEL Ceiling limit value: 7 mg/m³, 5 ppm
  - REL Ceiling limit value: 7 mg/m³, 5 ppm
  - TLV Ceiling limit value: 2.98 mg/m³, 2 ppm

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

- Exposure controls
  - Personal protective equipment:
    - General protective and hygienic measures: Wash hands before breaks and at the end of work.
    - Breathing equipment: 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

- 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: Safety glasses

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
  - Appearance:
    - Form: Liquid
    - Color: Colorless
    - Odor: Odorless
10 Stability and reactivity

- Reactivity: Stable under normal conditions.
- 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.
- 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:
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.
- Sensitization: No sensitizing effects known.
Product name: Gold AA Standard: 1000 µg/mL Au in 20% HCl [100ml bottle]

- Additional toxicological information:
  - Carcinogenic categories
    - IARC (International Agency for Research on Cancer)
      7647-01-0 hydrochloric acid
      3
    - NTP (National Toxicology Program)
      None of the ingredients is listed.
    - OSHA-Ca (Occupational Safety & Health Administration)
      None of the ingredients is listed.

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
- Behavior in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes:
    Water hazard class 1 (Self-assessment): slightly hazardous for water
    Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
  - Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
  - Recommendation:
    Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
  - Recommendation: Dispose in accordance with national regulations.
  - Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- UN-Number
  - DOT, ADR, IMDG, IATA: UN1789
  - DOT: Hydrochloric acid solution
  - ADR: 1789 Hydrochloric acid solution
  - IMDG, IATA: HYDROCHLORIC ACID solution

(Contd. on page 6)
Product name: Gold AA Standard: 1000 µg/mL Au in 20% HCl [100ml bottle]

- Transport hazard class(es)
  - DOT
  - Class 8 Corrosive substances
  - Label 8
- ADR, IMDG, IATA
  - Class 8 Corrosive substances
  - Label 8
- Packing group
  - DOT, ADR, IMDG, IATA II
- Environmental hazards:
  - Marine pollutant: No
- Special precautions for user
  - Warning: Corrosive substances
  - Danger code (Kemler): 80
  - EMS Number: F-A,S-B
  - Segregation groups Acids
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.
- UN "Model Regulation": UN1789, Hydrochloric acid solution, 8, II

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Sara
    - Section 355 (extremely hazardous substances):
      7647-01-0 hydrochloric acid
    - Section 313 (Specific toxic chemical listings):
      7647-01-0 hydrochloric acid
  - TSCA (Toxic Substances Control Act):
    All ingredients are listed.
  - Proposition 65
    - Chemicals known to cause cancer:
      None of the ingredients is listed.
    - Chemicals known to cause reproductive toxicity for females:
      None of the ingredients is listed.
    - Chemicals known to cause reproductive toxicity for males:
      None of the ingredients is listed.
40.0.7

- Chemicals known to cause developmental toxicity:
  None of the ingredients is listed.

- Carcinogenic categories

  - EPA (Environmental Protection Agency)
    None of the ingredients is listed.

  - TLV (Threshold Limit Value established by ACGIH)
    7647-01-0 hydrochloric acid
    A4

  - NIOSH-Ca (National Institute for Occupational Safety and Health)
    None of the ingredients is listed.

- GHS label elements
  The product is classified and labeled according to the Globally Harmonized 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 with a resistant inner liner.

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

16 Other information

The information contained in this document is based on Agilent’s state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

- Date of preparation / last revision 05/21/2015

- 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
  DOT: US Department of Transportation
  IATA: International Air Transport Association
  ACGIH: American Conference of Governmental Industrial Hygienists
  EINECS: European Inventory of Existing Commercial Chemical Substances
  ELINCS: European List of Notified Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  NFPA: National Fire Protection Association (USA)
  HMIS: Hazardous Materials Identification System (USA)
  Met. Corr. 1: Corrosive to metals, Hazard Category 1
  Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
  STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

- Sources