# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
HPR, Schedule 1

**Revision date** 07-May-2024 **Revision Number** 1

## 1. Identification

**Product identifier**

**Product Name** Palladium AA Standard: 1000 µg/mL Pd in 20% HCl [500ml bottle]

**Other means of identification**

**Product Code(s)** 5190-8301

**Recommended use of the chemical and restrictions on use**

**Recommended use** Reagents and Standards for Analytical Chemical Laboratory Use

**Restrictions on use** No information available

**Details of the supplier of the safety data sheet**

**Initial supplier identifier**

Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA

800-227-9770

**E-mail** pdl-msds_author@agilent.com

**Emergency telephone number**

**Emergency Telephone**
CHEMTREC®: 1-800-424-9300

## 2. Hazard identification

**Classification**
Classification according to WHIMIS

| | |
|---|---|
| Skin corrosion/irritation | Category 1 Sub-category B |
| Serious eye damage/eye irritation | Category 1 |
| Corrosive to metals | Category 1 |

**Label elements**

**Danger**

**Hazard statements**

Classification according to WHIMIS
Causes severe skin burns and eye damage
May be corrosive to metals



**Precautionary Statements - Prevention**
Do not breathe dust, fume, gas, mist, vapors and spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves, protective clothing, eye protection and face protection
Keep only in original packaging

**Precautionary Statements - Response**
Immediately call a POISON CENTRE or doctor
**Eyes**
Immediately call a POISON CENTRE or doctor
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
**Skin**
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]
Wash contaminated clothing before reuse
**Inhalation**
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Immediately call a POISON CENTRE or doctor
**Ingestion**
IF SWALLOWED: rinse mouth. Do NOT induce vomiting
**Spill**
Absorb spillage to prevent material damage

**Precautionary Statements - Storage**
Store locked up
Store in corrosion resistant container with a resistant inner liner

**Precautionary Statements - Disposal**
Dispose of contents and container to an approved waste disposal plant

**Other information**
No information available.

## 3. Composition/information on ingredients

**Substance**

Not applicable.

**Mixture**

**Chemical nature** aqueous solution.

| Chemical name | CAS No. | Weight-% | Hazardous Material Information Review Act registry number (HMIRA registry #) | Date HMIRA filed and date exemption granted (if applicable) |
|---|---|---|---|---|
| Hydrochloric acid | 7647-01-0 | 0 - 10% | - | |

## 4. First-aid measures

**Description of first aid measures**

**General advice** Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Inhalation** Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical attention.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical attention.

**Skin contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention.

**Ingestion** Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical attention.

**Self-protection of the first aider** Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Burning sensation.

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

| | |
|---|---|
| **Note to doctors** | Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. |

## 5. Fire-fighting measures

| | |
|---|---|
| **Suitable Extinguishing Media** | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| **Large Fire** | CAUTION: Use of water spray when fighting fire may be inefficient. |
| **Unsuitable extinguishing media** | Do not scatter spilled material with high pressure water streams. |
| **Specific hazards arising from the chemical** | The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours. |
| **Explosion data** | |
| **Sensitivity to mechanical impact** | None. |
| **Sensitivity to static discharge** | None. |
| **Special protective equipment and precautions for fire-fighters** | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| | |
|---|---|
| **Personal precautions** | Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. |
| **Other information** | Refer to protective measures listed in Sections 7 and 8. |

**Methods and material for containment and cleaning up**

| | |
|---|---|
| **Methods for containment** | Prevent further leakage or spillage if safe to do so. |
| **Methods for cleaning up** | Pick up and transfer to properly labelled containers. |

## 7. Handling and storage

**Precautions for safe handling**

**Advice on safe handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**

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 containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

## 8. Exposure controls/personal protection

**Control parameters**

**Exposure Limits**

| Chemical name | Alberta | British Columbia | Ontario | Quebec |
|---|---|---|---|---|
| Hydrochloric acid<br>7647-01-0 | Ceiling: 2 ppm<br>Ceiling: 3 mg/m$^3$ | Ceiling: 2 ppm | CEV: 2 ppm | Ceiling: 2 ppm |

**Appropriate engineering controls**

**Engineering controls**

Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Avoid contact with eyes. Wear safety glasses with side shields (or goggles). Tight sealing safety goggles. Face protection shield.

**Hand protection**

Wear protective Neoprene™ gloves. The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374. Wear suitable gloves. Impervious gloves.

**Skin and body protection**

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

| | |
|---|---|
| **Respiratory protection** | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| **Environmental exposure controls** | Do not allow into any sewer, on the ground or into any body of water. |
| **General hygiene considerations** | Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product. |

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Appearance** | Liquid |
| **Colour** | colourless |
| **Odour** | Odourless |
| **Odour threshold** | No information available |

| **Property** | **Values** | **Remarks • Method** |
|---|---|---|
| **pH** | No data available | None known |
| **Melting point / freezing point** | No data available | None known |
| **Initial boiling point and boiling range** | No data available | None known |
| **Flash point** | No data available | None known |
| **Evaporation rate** | No data available | None known |
| **Flammability** | No data available | None known |
| **Flammability Limit in Air** | | None known |
| **Upper flammability or explosive limits** | No data available | |
| **Lower flammability or explosive limits** | No data available | |
| **Vapour pressure** | No data available | None known |
| **Relative vapour density** | No data available | None known |
| **Relative density** | No data available | None known |
| **Water solubility** | No data available | None known |
| **Solubility in other solvents** | No data available | None known |
| **Partition coefficient** | No data available | None known |
| **Autoignition temperature** | No data available | None known |
| **Decomposition temperature** | | None known |
| **Kinematic viscosity** | No data available | None known |
| **Dynamic viscosity** | No data available | None known |

**Other information**

| | |
|---|---|
| **Explosive properties** | No information available. |

| | |
|---|---|
| **Oxidising properties** | No information available. |
| **Softening point** | No information available |
| **Molecular weight** | No information available |
| **VOC content** | No information available |
| **Liquid Density** | No information available |
| **Bulk density** | No information available |

## 10. Stability and reactivity

**Reactivity**

No information available.
**Chemical stability**

Stable under normal conditions.
**Possibility of hazardous reactions**

None under normal processing.
**Conditions to avoid**

Exposure to air or moisture over prolonged periods.
**Incompatible materials**

Oxidising agent. Acids. Bases.
**Hazardous decomposition products** None known based on information supplied.

## 11. Toxicological information

**Information on likely routes of exposure**

**Product Information**

| | |
|---|---|
| **Inhalation** | Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. |
| **Eye contact** | Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes. |
| **Skin contact** | Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. |
| **Ingestion** | Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May |

cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** Redness. Burning. May cause blindness. Coughing and/ or wheezing.

**Acute toxicity**

**Numerical measures of toxicity**

**The following values are calculated based on chapter 3.1 of the GHS document**

| | |
|---|---|
| **ATEmix (oral)** | 99,999.00 mg/kg |
| **ATEmix (dermal)** | 99,999.00 mg/kg |
| **ATEmix (inhalation-gas)** | 99,999.00 ppm |
| **ATEmix (inhalation-dust/mist)** | 99,999.00 mg/l |
| **ATEmix (inhalation-vapour)** | 99,999.00 mg/l |

**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Hydrochloric acid<br>7647-01-0 | 238 - 277 mg/kg ( Rat ) | > 5010 mg/kg ( Rabbit ) | = 1.68 mg/L ( Rat ) 1 h |

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** Classification based on data available for ingredients. Causes severe skin burns and eye damage.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye damage. Causes burns.

**Respiratory or skin sensitisation** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

| | |
|---|---|
| **STOT - single exposure** | No information available. |
| **STOT - repeated exposure** | No information available. |
| **Target organ effects** | Respiratory system, Eyes, Skin. |
| **Aspiration hazard** | No information available. |

## 12. Ecological information

| | |
|---|---|
| **Ecotoxicity** | The environmental impact of this product has not been fully investigated. |
| **Persistence and degradability** | No information available. |
| **Bioaccumulation** | No information available. |
| **Other adverse effects** | No information available. |

## 13. Disposal considerations

**Disposal methods**

| | |
|---|---|
| **Waste from residues/unused products** | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| **Contaminated packaging** | Do not reuse empty containers. |

## 14. Transport information

**TDG**

| | |
|---|---|
| **UN number or ID number** | UN1789 |
| **UN proper shipping name** | Hydrochloric acid mixture |
| **Transport hazard class(es)** | 8 |
| **Packing group** | II |
| **Marine pollutant** | NP. |
| **Description** | UN1789, Hydrochloric acid mixture, 8, II |

**DOT**

| | |
|---|---|
| **UN number or ID number** | UN1789 |
| **Extended proper shipping name** | Hydrochloric acid mixture |
| **Transport hazard class(es)** | 8 |
| **Packing group** | II |
| **DOT Marine Pollutant** | NP. |
| **Description** | UN1789, Hydrochloric acid mixture, 8, II |
| **Special Provisions** | 386, A3, B3, B15, B133, IB2, N41, T8, TP2 |
| **Emergency Response Guide Number** | 157 |

**MEX**

| | |
|---|---|
| **UN number or ID number** | UN1789 |
| **UN proper shipping name** | Hydrochloric acid mixture |
| **Transport hazard class(es)** | 8 |
| **Packing group** | II |
| **Description** | UN1789, Hydrochloric acid mixture, 8, II |

**IATA**

| | |
|---|---|
| **UN number** | UN1789 |
| **UN proper shipping name** | Hydrochloric acid mixture |
| **Transport hazard class(es)** | 8 |
| **Packing group** | II |
| **ERG Code** | 8L |
| **Special Provisions** | A3, A803 |
| **Description** | UN1789, Hydrochloric acid mixture, 8, II |

**IMDG**

| | |
|---|---|
| **UN number** | UN1789 |
| **UN proper shipping name** | Hydrochloric acid mixture |
| **Transport hazard class(es)** | 8 |
| **Packing group** | II |
| **EmS-No.** | F-A, S-B |
| **Marine pollutant** | NP |
| **Description** | UN1789, Hydrochloric acid mixture, 8, II |

## 15. Regulatory information

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

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**International Inventories**

| | |
|---|---|
| **TSCA** | LGC, to the best of its ability, has confirmed that the chemical substances in this product are listed as “Active” in the EPA (Environmental Protection Agency) “TSCA Inventory Notification (Active-Inactive) Requirements Rule” (“the Final Rule”) of Feb 2019, as amended Feb 2021.”. |
| **DSL/NDSL** | Contact supplier for inventory compliance status. |
| **EINECS/ELINCS** | Contact supplier for inventory compliance status. |
| **ENCS** | Contact supplier for inventory compliance status. |
| **IECSC** | Contact supplier for inventory compliance status. |
| **KECL** | Contact supplier for inventory compliance status. |
| **PICCS** | Contact supplier for inventory compliance status. |
| **AIIC** | Contact supplier for inventory compliance status. |

**Legend:**
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
**ENCS** - Japan Existing and New Chemical Substances
**IECSC** - China Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**AICS** - Australian Inventory of Chemical Substances

## 16. Other information

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **NFPA** | **Health hazards** 3 | **Flammability** 0 | **Instability** 0 | **Special hazards** - |
| **HMIS** | **Health hazards** 3 | **Flammability** 0 | **Physical hazards** 0 | **Personal protection** X |

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

| | | | |
|---|---|---|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| Ceiling | Maximum limit value | Sk* | Skin designation |

**Key literature references and sources for data used to compile the SDS**
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification

Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

**Revision date** 07-May-2024

**Revision Note** No information available.

**Disclaimer**

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**End of Safety Data Sheet**