# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
WHS Regulations

**Revision date** 24-Jul-2024 **Revision Number** 1.01

## Section 1: Identification: Product identifier and chemical identity

**Product identifier**

**Product Name** Nickel AA Standard: 1000 µg/mL Ni in 5% HNO3 [100ml bottle]

**Product Code(s)** 5190-8298

**Other means of identification**

**Proper shipping name** Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid)

**Chemical name**
**Pure substance/mixture** Mixture

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

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

**Uses advised against** No information available.

**Banned and/or restricted** This product contains one or more substance(s) subject to prohibition, authorisation or restriction. Verify that requirements related to using, handling, and storing substances subject to prohibition, authorisation or restriction are met.

**Chemicals of Security Concern** This product contains one or more substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern.

**Details of manufacturer or importer**

**Supplier**

Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia

1800 802 402

For further information, please contact

**Contact Point** Product Safety Department

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

**Emergency telephone number**

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

## Section 2: Hazard(s) identification

**GHS Classification**

| | |
|---|---|
| **Corrosive to metals** | Category 1 |
| **Skin corrosion/irritation** | Category 2 |
| **Serious eye damage/eye irritation** | Category 1 |

**Label elements**

Corrosion



**Signal word**

DANGER

**Hazard statements**

May be corrosive to metals.
Causes skin irritation.
Causes serious eye damage.

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling.
Keep only in original packaging.
Wear protective gloves/clothing and eye/face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISONS INFORMATION CENTRE or doctor.
IF ON SKIN: Wash with plenty of water and soap.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Absorb spillage to prevent material damage.

**Precautionary Statements - Storage**

Store in corrosion resistant container with a resistant inner liner.

**Other hazards which do not result in classification**

No information available.

## Section 3: Composition/information on ingredients

| Chemical name | CAS No. | Weight-% |
|---|---|---|
| Nitric Acid | 7697-37-2 | 0 - 10% |
| Nickel | 7440-02-0 | 0 - 10% |

| | | |
|---|---|---|
| Non-hazardous ingredients | Proprietary | Balance |

**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.

## Section 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.

**Emergency telephone number** Poisons Information Centre, Australia: 13 11 26
Poisons Information Centre, New Zealand: 0800 764 766

**Inhalation** Remove to fresh air. Get medical attention immediately if symptoms occur.

**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 for at least 15 minutes. Get medical attention if irritation develops and persists.

**Ingestion** Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.

**Self-protection of the first aider** Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

**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** Treat symptomatically.

## Section 5: Firefighting measures

**Suitable Extinguishing Media**

**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**

| | |
|---|---|
| **Specific hazards arising from the chemical** | No information available. |

**Special protective actions for firefighters**

| | |
|---|---|
| **Special protective equipment and precautions for fire-fighters** | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |
| **Hazchem code** | 2X |

## Section 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. |
| **Other information** | Refer to protective measures listed in Sections 7 and 8. |
| **For emergency responders** | Use personal protection recommended in Section 8. |

**Environmental precautions**

| | |
|---|---|
| **Environmental precautions** | Prevent further leakage or spillage if safe to do so. |

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

| | |
|---|---|
| **Methods for containment** | Prevent further leakage or spillage if safe to do so. |

**Precautions to prevent secondary hazards**

| | |
|---|---|
| **Prevention of secondary hazards** | Clean contaminated objects and areas thoroughly observing environmental regulations. |

## Section 7: Handling and storage, including how the chemical may be safely used

**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. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before re-use. |
| **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. |

**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.

**Incompatible materials** Oxidising agent. Strong acids. Strong bases.

## Section 8: Exposure controls and personal protection

**Control parameters**

**Exposure Limits**

| Chemical name | Australia | New Zealand | ACGIH TLV |
|---|---|---|---|
| Nitric Acid<br>7697-37-2 | TWA: 2 ppm<br>TWA: 5.2 mg/m³<br>STEL: 4 ppm<br>STEL: 10 mg/m³ | TWA: 2 ppm<br>TWA: 5.2 mg/m³<br>STEL: 4 ppm<br>STEL: 10 mg/m³ | TWA: 2 ppm<br>STEL: 4 ppm |
| Nickel<br>7440-02-0 | TWA: 1 mg/m³ | TWA: 0.005 mg/m³ | TWA: 1.5 mg/m³ inhalable particulate matter |

| Chemical name | European Union | United Kingdom | Germany DFG |
|---|---|---|---|
| Nitric Acid<br>7697-37-2 | - | STEL: 1 ppm<br>STEL: 2.6 mg/m³ | - |
| Nickel<br>7440-02-0 | - | TWA: 0.5 mg/m³<br>STEL: 1.5 mg/m³<br>Sk* | respiratory and skin sensitizer inhalable fraction, respiratory sensitization confirmed for water soluble Nickel compounds only |

**Biological occupational exposure limits**

| Chemical name | Australia | ACGIH | European Union |
|---|---|---|---|
| Nickel<br>7440-02-0 | - | 5 µg/L - urine (Nickel) - post-shift at end of workweek | - |

**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. |
| **Skin and body protection** | Wear suitable protective clothing. Long sleeved clothing. |
| **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. |
| **Respiratory protection** | Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. 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. |
| **Thermal hazards** | No information available. |

## Section 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(ies)** | No data available | None known |
| **Partition coefficient** | No data available | None known |
| **Auto-ignition temperature** | No data available | None known |
| **Decomposition temperature** | No data available | None known |
| **Kinematic viscosity** | No data available | None known |
| **Dynamic viscosity** | No data available | None known |

**Other information**

| | |
|---|---|
| **VOC content** | No information available |
| **Particle characteristics** | No information available |

## Section 10: Stability and reactivity

**Reactivity**

**Reactivity** No information available.

**Chemical stability**

**Stability** Stable under normal conditions.

**Explosion data**

| | |
|---|---|
| **Sensitivity to mechanical impact** | None. |
| **Sensitivity to static discharge** | None. |

**Possibility of hazardous reactions**

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** Exposure to air or moisture over prolonged periods.

**Incompatible materials**

**Incompatible materials** Oxidising agent. Strong acids. Strong bases.

**Hazardous decomposition products**

**Hazardous decomposition products** None known based on information supplied.

## Section 11: Toxicological information

**Information on likely routes of exposure**

**Product Information**

| | |
|---|---|
| **Inhalation** | Specific test data for the substance or mixture is not available. |
| **Eye contact** | Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes. |
| **Skin contact** | Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components). |

**Ingestion** Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

**Symptoms** Redness. Burning. May cause blindness. May cause redness and tearing of the eyes.

**Acute toxicity** .

**Numerical measures of toxicity - Product Information**

**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-vapour)** | 58.90 mg/l |
| **ATEmix (inhalation-dust/mist)** | 99,999.00 mg/l |

**Component Information**

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|---|---|---|
| Nitric Acid | - | - | = 2500 ppm ( Rat ) 1 h<br>ATE (vapours) = 2.65 mg/L |
| Nickel | > 9000 mg/kg ( Rat ) | - | > 10.2 mg/L ( Rat ) 1 h |

*See section 16 for terms and abbreviations*

**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 skin irritation.

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

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

**Germ cell mutagenicity** No information available.

**Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name | Australia | European Union | IARC |
|---|---|---|---|
| Nickel - 7440-02-0 | Carc. 2 | Carc. 2 | Group 2B |

**Legend**

**IARC (International Agency for Research on Cancer)**
Group 2B - Possibly Carcinogenic to Humans

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## Section 12: Ecological information

**Ecotoxicity**

**Aquatic ecotoxicity**

**Unknown aquatic toxicity** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|---|---|---|---|---|
| Nickel | EC50: =0.18mg/L (72h, Pseudokirchneriella subcapitata)<br>EC50: 0.174 - 0.311mg/L (96h, Pseudokirchneriella subcapitata) | LC50: >100mg/L (96h, Brachydanio rerio)<br>LC50: =1.3mg/L (96h, Cyprinus carpio)<br>LC50: =10.4mg/L (96h, Cyprinus carpio) | - | EC50: >100mg/L (48h, Daphnia magna)<br>EC50: =1mg/L (48h, Daphnia magna) |

**Terrestrial ecotoxicity** There is no data for this product.

**Persistence and degradability**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation**

**Component Information**

| Chemical name | Partition coefficient |
|---|---|
| Nitric Acid | -2.3 |

**Mobility**

**Mobility** No information available.

**Other adverse effects**

**Other adverse effects** No information available.

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors.

| Chemical name | EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation | EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances |
|---|---|---|
| Nitric Acid | - | -. |
| Nickel | - | -. |

## Section 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 re-use empty containers.

*See section 8 for more information*

## Section 14: Transport information

**ADG**

**UN number or ID number** UN3264
**Proper shipping name** Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid)
**Transport hazard class(es)** 8
**Packing group** III
**Special Provisions** 223, 274
**Description** UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid), 8, III
**Limited quantity (LQ)** 5 L
**Hazchem code** 2X

**IATA**

**UN number or ID number** UN3264
**UN proper shipping name** Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid)
**Transport hazard class(es)** 8
**Packing group** III
**ERG Code** 8L
**Special Provisions** A3, A803

| | |
|---|---|
| **Description** | UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid), 8, III |

| **IMDG** | Not regulated |
|---|---|
| **UN number or ID number** | UN3264 |
| **UN proper shipping name** | Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid) |
| **Transport hazard class(es)** | 8 |
| **Packing group** | III |
| **EmS-No.** | F-A, S-B |
| **Special Provisions** | 223, 274 |
| **Marine pollutant** | NP |
| **Description** | UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid), 8, III |

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
No information available

## Section 15: Regulatory information

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

**National regulations**

**Australia**

See section 8 for national exposure control parameters

**Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)**
Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

**Poison Schedule Number** 5

**Australian Industrial Chemicals Introduction Scheme (AICIS)**

| Chemical name | Australian Industrial Chemicals Introduction Scheme (AICIS) | Additional information |
|---|---|---|
| Nitric Acid - 7697-37-2 | Contact supplier for inventory compliance status Present | - |

**Illicit Drug Precursors/Reagents**
This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

**Chemicals of Security Concern**
This product contains one or more substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern.

| Chemical name | Chemicals of Security Concern | Additional information |
|---|---|---|
| Nitric Acid - 7697-37-2 | Present<br>High risk | Precursors to homemade explosives |

**National pollutant inventory**

Subject to reporting requirement

| Chemical name | National pollutant inventory |
|---|---|
| Nitric Acid - 7697-37-2 | 10 tonne/yr Threshold category 1 |
| Nickel - 7440-02-0 | 10 tonne/yr Threshold category 1<br>2000 tonne/yr Threshold category 2b<br>60000 MWH Threshold category 2b<br>20 MW Threshold category 2b |

**Banned and/or restricted**

This product contains one or more substance(s) subject to prohibition, authorisation or restriction. Verify that requirements related to using, handling, and storing substances subject to prohibition, authorisation or restriction are met.

| Chemical name | Carcinogen | Restricted substance |
|---|---|---|
| Nickel - 7440-02-0 | - | For abrasive blasting at a concentration of >0.1% |

**International Inventories**

| | |
|---|---|
| **AIIC** | Contact supplier for inventory compliance status. |
| **NZIoC** | Contact supplier for inventory compliance status. |
| **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. |
| **KECI** | Contact supplier for inventory compliance status. |
| **PICCS** | Contact supplier for inventory compliance status. |

**Legend:**

**AICS** - Australian Inventory of Chemical Substances
**NZIoC** - New Zealand Inventory of Chemicals
**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

**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

## Section 16: Any other relevant information

**Revision date** 24-Jul-2024

**Revision Note**

The symbol (*) in the margin of this SDS indicates that this line has been revised.

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

**Legend**
SVHC: Substances of Very High Concern for Authorisation:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
STOT: Specific Target Organ Toxicity
ATE: Acute Toxicity Estimate
LC50: 50% Lethal Concentration
LD50: 50% Lethal Dose

**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 |
| C | Carcinogen | | |

**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)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
Australian Industrial Chemicals Introduction Scheme (AICIS)
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 Program
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

**Disclaimer**

**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.**

**End of Safety Data Sheet**