



# SAFETY DATA SHEET

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

Revision date 29-Apr-2024

Revision Number 1

## 1. Identification

### Product identifier

**Product Name** Quality Control Standard 27 in 5% HNO<sub>3</sub>, tr. HF

### Other means of identification

**Product Code(s)** 5190-9418

### 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 2
Serious eye damage/eye irritation	Category 1
Chronic aquatic toxicity	Category 1
Corrosive to metals	Category 1

### Label elements

**Danger**

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## Hazard statements

Classification according to WHIMIS  
Causes skin irritation  
Causes serious eye damage  
Very toxic to aquatic life with long lasting effects  
May be corrosive to metals



## Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling  
Avoid release to the environment  
Keep only in original packaging  
Wear protective gloves, protective clothing, eye protection and face protection

## Precautionary Statements - Response

### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Immediately call a POISON CENTRE or doctor

### Skin

IF ON SKIN: Wash with plenty of water and soap  
If skin irritation occurs: Get medical advice and attention  
Take off all contaminated clothing and wash it before reuse

### Spill

Collect spillage  
Absorb spillage to prevent material damage

## Precautionary Statements - Storage

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

Toxic to aquatic life.

## 3. Composition/information on ingredients

### Substance



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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)
Nitric Acid	7697-37-2	0 - 10%	-	
hydrofluoric acid	7664-39-3	0 - 10%	-	

## **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.

## **4. First-aid measures**

### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur.
<b>Eye contact</b>	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.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.
<b>Self-protection of the first aider</b>	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.

## **5. Fire-fighting measures**



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<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	None.
<b>Sensitivity to static discharge</b>	None.
<b>Special protective equipment and precautions for fire-fighters</b>	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

<b>Personal precautions</b>	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.
<b>Other information</b>	Refer to protective measures listed in Sections 7 and 8.

### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labelled containers.

## 7. Handling and storage

### Precautions for safe handling

<b>Advice on safe handling</b>	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 it before reuse.
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### Conditions for safe storage, including any incompatibilities



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## 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
Nitric Acid 7697-37-2	TWA: 2 ppm TWA: 5.2 mg/m <sup>3</sup> STEL: 4 ppm STEL: 10 mg/m <sup>3</sup>	TWA: 2 ppm STEL: 4 ppm	TWA: 2 ppm STEL: 4 ppm	TWA: 2 ppm TWA: 5.2 mg/m <sup>3</sup> STEL: 4 ppm STEL: 10 mg/m <sup>3</sup>
hydrofluoric acid 7664-39-3	Ceiling: 2 ppm Ceiling: 1.6 mg/m <sup>3</sup> TWA: 0.5 ppm TWA: 0.4 mg/m <sup>3</sup>	TWA: 2.5 mg/m <sup>3</sup> Ceiling: 2 ppm Skin	TWA: 0.5 ppm CEV: 2 ppm Skin	TWA: 2.5 mg/m <sup>3</sup> Ceiling: 3 ppm Ceiling: 2.6 mg/m <sup>3</sup>

### 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.

#### Hand protection

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

#### Skin and body protection

Wear suitable protective clothing. Long sleeved clothing.

#### 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.

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## 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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
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	460 °C / 860 °F	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



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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. Strong acids. Strong bases.

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

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

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

<b>Symptoms</b>	Redness. Burning. May cause blindness. May cause redness and tearing of the eyes.
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### Acute toxicity

#### Numerical measures of toxicity

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

<b>ATEmix (oral)</b>	99,999.00 mg/kg
<b>ATEmix (dermal)</b>	99,999.00 mg/kg
<b>ATEmix (inhalation-gas)</b>	99,999.00 ppm
<b>ATEmix (inhalation-dust/mist)</b>	99,999.00 mg/l
<b>ATEmix (inhalation-vapour)</b>	66.70 mg/l

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
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Nitric Acid 7697-37-2	-	-	= 2500 ppm ( Rat ) 1 h ATE (vapours) = 2.65 mg/L
hydrofluoric acid 7664-39-3	-	-	= 0.79 mg/L ( Rat ) 1 h

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

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Causes skin irritation.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes burns. Causes serious eye damage.
<b>Respiratory or skin sensitisation</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

## 12. Ecological information

**Ecotoxicity** Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
hydrofluoric acid 7664-39-3	-	-	-	EC50: =270mg/L (48h, Daphnia species)

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.





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## Component Information

Chemical name	Partition coefficient
Nitric Acid 7697-37-2	-2.3
hydrofluoric acid 7664-39-3	-1.4

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** UN3264  
**UN proper shipping name** Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid, hydrofluoric acid)  
**Transport hazard class(es)** 8  
**Packing group** III  
**Special Provisions** 16  
**Marine pollutant** P.  
**Description** UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid, hydrofluoric acid), 8, III

### DOT

**UN number or ID number** UN3264  
**Extended proper shipping name** Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid, hydrofluoric acid)  
**Transport hazard class(es)** 8  
**Packing group** III  
**Reportable Quantity (RQ)** (Arsenic: RQ (kg)= 0.454, Lead: RQ (kg)= 4.54, Nitric Acid: RQ (kg)= 454.00) Arsenic: RQ (lb)= 1, Lead: RQ (lb)= 10, Nitric Acid: RQ (lb)= 1000.00  
**Reportable quantity (kg) (calculated)** Arsenic: RQ (kg)= 4540.00, Lead: RQ (kg)= 454.00, Nitric Acid: RQ (kg)= 10089.00  
**Reportable quantity (lbs) (calculated)** Arsenic: RQ (lb)= 10000.00, Lead: RQ (lb)= 1000.00, Nitric Acid: RQ (lb)= 22222.00  
**DOT Marine Pollutant** I.  
**Marine pollutant** Lead, Silver  
**Description** UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid, hydrofluoric acid), 8, III, Marine pollutant



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<b>Special Provisions</b>	IB3, T7, TP1, TP28
<b>Emergency Response Guide Number</b>	154
<b>MEX</b>	
<b>UN number or ID number</b>	UN3264
<b>UN proper shipping name</b>	Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid, hydrofluoric acid)
<b>Transport hazard class(es)</b>	8
<b>Packing group</b>	III
<b>Description</b>	UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid, hydrofluoric acid), 8, III
<b>Special Provisions</b>	223, 274
<b>IATA</b>	
<b>UN number</b>	UN3264
<b>UN proper shipping name</b>	Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid, hydrofluoric acid)
<b>Transport hazard class(es)</b>	8
<b>Packing group</b>	III
<b>ERG Code</b>	8L
<b>Special Provisions</b>	A3, A803
<b>Description</b>	UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid, hydrofluoric acid), 8, III
<b>IMDG</b>	
<b>UN number</b>	UN3264
<b>UN proper shipping name</b>	Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid, hydrofluoric acid)
<b>Transport hazard class(es)</b>	8
<b>Packing group</b>	III
<b>EmS-No.</b>	F-A, S-B
<b>Special Provisions</b>	223, 274
<b>Marine pollutant</b>	P
<b>Description</b>	UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Nitric Acid, hydrofluoric acid), 8, III, Marine pollutant

## 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 has not confirmed that the chemical substances in this product are on the TSCA Inventory, and LGC is distributing this product solely for use either in applications statutorily exempt from TSCA and regulated under other laws (e.g., FFDCA, FIFRA) or in research and development activities in accordance with the TSCA Inventory R&D exemption provided



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at 40 CFR 720.36. It is the end-user's responsibility to understand and follow the requirements that apply to its use of this product.

**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.  
**AIC** 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

<b>NFPA</b>	<b>Health hazards</b> 3	<b>Flammability</b> 1	<b>Instability</b> 0	<b>Special hazards</b> -
<b>HMIS</b>	<b>Health hazards</b> 3	<b>Flammability</b> 1	<b>Physical hazards</b> 0	<b>Personal protection</b> 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)



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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

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**Revision Note** No information available.

**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**