Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.04.2021 *Version number 1* *Revision: 23.04.2021*

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

· ***1.1 Product identifier***

· ***Product name:*** **Thallium AA Standard: 1000 µg/mL Tl in 5% HNO3 [500ml bottle]**

· ***Part number:*** *5190-8317*

· ***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*** *Reagents and Standards for Analytical Chemical Laboratory Use*

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

· ***Manufacturer/Supplier:***
Agilent Technologies Manufacturing GmbH & Co. KG *Tel:0800 603 1000*
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany

· ***Further information obtainable from:*** *e-mail: pdl-msds_author@agilent.com*

· ***1.4 Emergency telephone number:*** *CHEMTREC®: +(44)-870-8200418*

SECTION 2: Hazards identification

· ***2.1 Classification of the substance or mixture***

· ***Classification according to Regulation (EC) No 1272/2008***



corrosion

Met. Corr.1 H290 May be corrosive to metals.

Eye Dam. 1 H318 Causes serious eye damage.



Skin Irrit. 2 H315 Causes skin irritation.

· ***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*

· ***Hazard-determining components of labelling:***
nitric acid

· ***Hazard statements***
H290 May be corrosive to metals.
H315 Causes skin irritation.
H318 Causes serious eye damage.

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· ***Precautionary statements***

P280	Wear protective gloves / 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).
P332+P313	If skin irritation occurs: Get medical advice/attention.
P406	Store in a corrosion resistant container / container with a resistant inner liner.

· ***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:***

CAS: 7697-37-2 EINECS: 231-714-2 RTECS: QU5775000	nitric acid Ox. Liq. 3, H272; Acute Tox. 3, H331; Met. Corr.1, H290; Skin Corr. 1A, H314	<5%
CAS: 7440-28-0 EINECS: 231-138-1 RTECS: XG3425000	thallium Acute Tox. 2, H300; Acute Tox. 2, H330; STOT RE 2, H373; Aquatic Chronic 4, H413	<0.25%

· ***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.
For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· ***4.1 Description of first aid measures***
· ***General information:*** *Immediately remove any clothing soiled by the product.*
· ***After inhalation:*** *Supply fresh air; consult doctor in case of complaints.*
· ***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:*** *Use fire extinguishing methods suitable for surrounding conditions.*

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· ***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 equipment. Keep unprotected persons away.
· ***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:***
Use neutralising agent.
Dispose of contaminated material as waste according to item 13.
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*** *Store in cool, dry place in tightly closed receptacles.*
· ***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:***
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 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:*** *Keep container tightly sealed.*
· ***7.3 Specific end use(s)*** *No further relevant information available.*

SECTION 8: Exposure controls/personal protection

· ***8.1 Control parameters***
· ***Additional information about design of technical facilities:*** *No further data; see item 7.*

· ***Ingredients with limit values that require monitoring at the workplace:***	
CAS: 7697-37-2 nitric acid	
WEL	*Short-term value: 2.6 mg/m³, 1 ppm*

· ***Additional information:*** *Lists used were valid at the time of SDS preparation.*

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***Product name:* Thallium AA Standard: 1000 µg/mL Tl in 5% HNO3 [500ml bottle]**

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· ***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:***
Not required.
Use suitable respiratory protective device in case of insufficient ventilation.
· ***Protection of hands:***
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374



Protective gloves

· ***Material of gloves***
PVC gloves
Neoprene gloves
· ***Penetration time of glove material***
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· ***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:***	*<2*
· ***Change in condition***	
Melting point/freezing point:	*0 °C*
Initial boiling point and boiling range:	*100 °C*

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***Product name:* Thallium AA Standard: 1000 µg/mL Tl in 5% HNO3 [500ml bottle]**

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· ***Flash point:***	*Not applicable.*
· ***Flammability (solid, gas):***	*Not determined.*
· ***Ignition temperature:***	*Not determined*
· ***Decomposition temperature:***	*Not determined.*
· ***Auto-ignition temperature:***	*Product is not selfigniting.*
· ***Explosive properties:***	*Not determined.*
· ***Explosion limits:***	
Lower:	*Not determined.*
Upper:	*Not determined.*
· ***Vapour pressure at 20 °C:***	*23 hPa*
· ***Density at 20 °C:***	*1.03349 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.
No further relevant information available.
· ***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.
Metals.
· ***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*** *Based on available data, the classification criteria are not met.*

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· ***LD/LC50 values relevant for classification:***

CAS: 7697-37-2 nitric acid		
Inhalative	*LC50/4 h*	*2.65 mg/l (rat)*

· ***Primary irritant effect:***
· ***Skin corrosion/irritation***
Causes skin irritation.
· ***Serious eye damage/irritation***
Causes serious eye damage.
· ***Respiratory or skin sensitisation*** *Based on available data, the classification criteria are not met.*
· ***Additional toxicological information:***
· ***CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)***
· ***Germ cell mutagenicity*** *Based on available data, the classification criteria are not met.*
· ***Carcinogenicity*** *Based on available data, the classification criteria are not met.*
· ***Reproductive toxicity*** *Based on available data, the classification criteria are not met.*
· ***STOT-single exposure*** *Based on available data, the classification criteria are not met.*
· ***STOT-repeated exposure*** *Based on available data, the classification criteria are not met.*
· ***Aspiration hazard*** *Based on available data, the classification criteria are not met.*

SECTION 12: Ecological information

· ***12.1 Toxicity***

· ***Aquatic toxicity:***

CAS: 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.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
· ***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.

· ***Uncleaned packaging:***
· ***Recommendation:*** *Dispose of in accordance with national regulations.*

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· ***Recommended cleansing agents:*** *Water, if necessary together with cleansing agents.*

SECTION 14: Transport information

· ***14.1 UN-Number***	
· ***ADR, IMDG, IATA***	*UN3264*
· ***ADR***	*3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)*
· ***IMDG, IATA***	*CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)*
· ***14.3 Transport hazard class(es)***	
· ***ADR, IMDG, IATA***	
· ***Class***	*8 Corrosive substances.*
· ***Label***	*8*
· ***14.4 Packing group***	
· ***ADR, IMDG, IATA***	*III*
· ***14.5 Environmental hazards:***	*Not applicable.*
· ***14.6 Special precautions for user***	*Warning: Corrosive substances.*
· ***Hazard identification number (Kemler code):***	*80*
· ***EMS Number:***	*F-A,S-B*
· ***Segregation groups***	*Acids*
· ***Stowage Category***	*A*
· ***Stowage Code***	*SW2 Clear of living quarters.*
· ***14.7 Transport in bulk according to Annex II of Marpol and the IBC Code***	*Not applicable.*
· ***Transport/Additional information:***	
· ***ADR***	
· ***Limited quantities (LQ)***	*5L*
· ***Excepted quantities (EQ)***	*Code: E1* *Maximum net quantity per inner packaging: 30 ml* *Maximum net quantity per outer packaging: 1000 ml*
· ***Transport category***	*3*
· ***Tunnel restriction code***	*E*
· ***UN "Model Regulation":***	*UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, III*

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SECTION 15: Regulatory information

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

· ***Directive 2012/18/EU***
· ***Named dangerous substances - ANNEX I*** *None of the ingredients is listed.*
· ***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.

· ***Abbreviations and acronyms:***
ADR: Accord relatif au transport international 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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 3: Oxidizing liquids – Category 3
Met. Corr.1: Corrosive to metals – Category 1
Acute Tox. 2: Acute toxicity – Category 2
Acute Tox. 3: Acute toxicity – Category 3
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

· ***Sources***
Tables 3.1 and 3.2 from Annex 6 of EC 1272/2008, EC 1907/2006, EH40/2005 as amended 2011, Registry of Toxic Effects of Chemical Substances (RTECS), The Dictionary of Substances and their Effects, 1st Edition, IUCLID.

· ***Data compared to the previous version altered.*** *All sections have been updated.*