

Safety Data Sheet
according to WHS Regulations

Printing date 16.10.2018

Version number 1

Revision: 16.10.2018

Hazardous according to criteria of Australian Safety and Compensation Council.

1 Identification· **Product identifier**· **Product name: Cobalt Standard: 10000 µg/mL Co in 5% HNO₃ [100ml bottle]**· **Part number: 5190-8376**· **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· **Details of the supplier of the safety data sheet**· **Manufacturer/Supplier:**Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave Victoria 3170,
Australia

Tel: 1800 802 402

· **Further information obtainable from:** e-mail: pdl-msds_author@agilent.com· **Emergency telephone number:** CHEMTREC®: +(61)-290372994**2 Hazard(s) Identification**· **Classification of the substance or mixture**

flame over circle

Ox. Liq. 3 H272 May intensify fire; oxidiser.



health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carc. 2 H351 Suspected of causing cancer.



corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



Skin Sens. 1 H317 May cause an allergic skin reaction.

· **Label elements**· **GHS label elements**

The product is classified and labelled according to the Globally Harmonised System (GHS).

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· **Hazard pictograms**



GHS03 GHS05 GHS08

· **Signal word** *Danger*

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

Nitric acid

Cobalt

· **Hazard statements**

H272 May intensify fire; oxidiser.

H314 Causes severe skin burns and eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

· **Precautionary statements**

P221 Take any precaution to avoid mixing with combustibles.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition and Information on Ingredients

· **Chemical characterisation: Mixtures**

· **Description:**

Aqueous solution.

Mixture: consisting of the following components.

· **Dangerous components:**

CAS: 7697-37-2 RTECS: QU5775000	Nitric acid ⚠ Ox. Liq. 2, H272; ⚠ Skin Corr. 1A, H314	<10%
CAS: 7440-48-4 RTECS: GF 8750000	Cobalt ⚠ Resp. Sens. 1, H334; Carc. 2, H351; ⚠ Skin Sens. 1, H317; Aquatic Chronic 4, H413	<1%

· **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.

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*For the wording of the listed hazard phrases refer to section 16.***4 First Aid Measures**

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air and call a doctor.
In case of unconsciousness place patient in recovery position for transport.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **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:** Use fire extinguishing methods suitable for surrounding conditions.
- **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.
HazChem Code: 2R

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **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:**
Use neutralising agent.
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
Absorb liquid components with liquid-binding material.
DO NOT USE 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.

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7 Handling and Storage

- Handling:
Precautions for safe handling
Information about fire - and explosion protection:
Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles:
Information about storage in one common storage facility:
Further information about storage conditions:
Specific end use(s)

8 Exposure controls and personal protection

- Additional information about design of technical facilities:
Control parameters

Ingredients with limit values that require monitoring at the workplace:

7697-37-2 Nitric acid

Table with 2 columns: WES, values for short-term and long-term exposure.

7440-48-4 Cobalt

Table with 2 columns: WES, Sen, value for long-term exposure.

- Additional information:
Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Respiratory protection:
Protection of hands:

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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

9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Liquid

Colour: Colourless

- **Odour:** Odourless

- **Odour threshold:** Not determined.

- **pH-value at 20 °C:** <2

- **Change in condition**

Melting point/freezing point: Not determined.

Initial boiling point and boiling range: 83 °C

- **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:** 1.10918 g/cm³

- **Relative density:** Not determined.

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· Vapour density	<i>Not determined.</i>
· Evaporation rate	<i>Not determined.</i>
· Solubility in / Miscibility with water:	<i>Fully miscible.</i>
· Partition coefficient: n-octanol/water:	<i>Not determined.</i>
· Viscosity:	
Dynamic:	<i>Not determined.</i>
Kinematic:	<i>Not determined.</i>
· Other information	<i>No further relevant information available.</i>

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**

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

7697-37-2 Nitric acid

Inhalative	LC50/4 h	130 mg/l (rat)
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7440-48-4 Cobalt

Oral	LD50	6,170 mg/kg (rat)
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- **Primary irritant effect:**
- **Skin corrosion/irritation** *Caustic effect on skin and mucous membranes.*
- **Serious eye damage/irritation**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
- **Respiratory or skin sensitisation**
Sensitisation possible through inhalation.
Sensitisation possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
Carc. 2

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12 Ecological Information

· **Toxicity**

· **Aquatic toxicity:**

7697-37-2 Nitric acid

LC50/48 | 180 mg/l (crustacean)

· **Persistence and degradability** No further relevant information available.

· **Behaviour 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 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

Danger to drinking water if even small quantities leak into the ground.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

· **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 packaging:**

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

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

14 Transport information

· **UN-Number**

· **ADG, IMDG, IATA**

· **ADG**

· **IMDG, IATA**

UN2031

2031 NITRIC ACID solution

NITRIC ACID solution

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· **Transport hazard class(es)**

· **ADG, IMDG, IATA**



· **Class**

8 Corrosive substances.

· **Label**

8

· **Packing group**

· **ADG, IMDG, IATA**

II

· **Environmental hazards:**

Not applicable.

· **Special precautions for user**

Warning: Corrosive substances.

· **Danger code (Kemler):**

80

· **EMS Number:**

F-A,S-B

· **Segregation groups**

Acids

· **Stowage Category**

D

· **Transport in bulk according to Annex II of Marpol and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADG**

· **Limited quantities (LQ)**

1L

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **Transport category**

2

· **Tunnel restriction code**

E

· **Remarks:**

HazChem Code: 2R

· **UN "Model Regulation":**

UN 2031 NITRIC ACID SOLUTION, 8, II

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

All ingredients are listed.

· **Standard for the Uniform Scheduling of Medicines and Poisons**

7697-37-2 Nitric acid

S5, S6

7440-48-4 Cobalt

S4

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· Hazard pictograms


GHS03 GHS05 GHS08

· Signal word *Danger*
· Hazard-determining components of labelling:
Nitric acid
Cobalt
· Hazard statements
H272 May intensify fire; oxidiser.
H314 Causes severe skin burns and eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
· Precautionary statements
P221 Take any precaution to avoid mixing with combustibles.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· Directive 2012/18/EU
· Named dangerous substances - ANNEX I *None of the ingredients is listed.*
· Seveso category P8 **OXIDISING LIQUIDS AND SOLIDS**
· Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t

· Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

· 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.

· Relevant phrases
H272 May intensify fire; oxidiser.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H351 Suspected of causing cancer.
H413 May cause long lasting harmful effects to aquatic life.
· 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

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*IATA: International Air Transport Association**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. 2: Oxidizing liquids – Category 2**Ox. Liq. 3: Oxidizing liquids – Category 3**Skin Corr. 1A: Skin corrosion/irritation – Category 1A**Skin Corr. 1B: Skin corrosion/irritation – Category 1B**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**Resp. Sens. 1: Respiratory sensitisation – Category 1**Skin Sens. 1: Skin sensitisation – Category 1**Carc. 2: Carcinogenicity – 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.

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