



Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 22.06.2015

Version number 1

Revision: 22.06.2015

Hazardous according to criteria of Australian Safety and Compensation Council

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

· **1.1 Product identifier**

· **Product name: Nickel Nitrate GFAA Matrix Modifier: 1% Ni(NO₃)₂ in 2% HNO₃ [100ml bottle]**

· **Part number: 5190-8339**

· **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** Reference material for laboratory use only

· **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

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

SECTION 2: Hazards identification

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

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



health hazard

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

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1A H350 May cause cancer.

Repr. 1B H360D May damage the unborn child.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

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

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



T; Toxic

R49-61-48/23: May cause cancer by inhalation. May cause harm to the unborn child. Toxic: danger of serious damage to health by prolonged exposure through inhalation.



Xn; Harmful

R68: Possible risk of irreversible effects.



Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **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**



GHS08

· **Signal word Danger**

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

Nickeldinitrate

· **Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

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

H317 May cause an allergic skin reaction.

H341 Suspected of causing genetic defects.

H350 May cause cancer.

H360D May damage the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

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

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P285 In case of inadequate ventilation wear respiratory 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.

P405 Store locked up.

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

· **Additional information:**

Restricted to professional users.

· **Information concerning particular hazards for human and environment:**

· **Safety phrases:**

53 Avoid exposure - obtain special instructions before use.

23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

61 Avoid release to the environment. Refer to special instructions/safety data sheets.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description:

Aqueous solution.

Mixture: consisting of the following components.

Dangerous components:

CAS: 7697-37-2 EINECS: 231-714-2 RTECS: QU5775000	Nitric acid C R35; O R8 Ox. Liq. 3, H272; Skin Corr. 1A, H314	< 2.0%
CAS: 13138-45-9 EINECS: 236-068-5	Nickeldinitrate T Repr. Cat. 2 R49-61-48/23; Xn R20/22-68; Xn R42/43; Xi R38-41; O R8; N R50/53 Carc. Cat. 1, Muta. Cat. 3 Ox. Sol. 2, H272; Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1A, H350i; Repr. 1B, H360D; STOT RE 1, H372; Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Skin Sens. 1, H317	< 1.0%

Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

Symptoms of poisoning may occur even after several hours; therefore medical observation for at least 48 hours after the accident is recommended.

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.

If skin irritation continues, consult a doctor.

After eye contact: Rinse opened eye for several minutes under running water.

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:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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.

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SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
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**
Ensure good ventilation/extraction at the workplace.
Store in cool, dry place in tightly closed receptacles.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Please refer to the manufacturer's certificate for specific storage and transport temperature conditions.
Store only in the original receptacle.
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:** None.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

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

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

7697-37-2 Nitric acid

NES	Short-term value: 10 mg/m ³ , 4 ppm
	Long-term value: 5.2 mg/m ³ , 2 ppm

13138-45-9 Nickeldinitrate

NES	Long-term value: 0.1 mg/m ³ as Ni
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· **Additional information:** Lists used were valid at the time of SDS preparation.

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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.
Store protective clothing separately.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
- **Protection of hands:**
Chemical-resistant, impervious gloves with an approved standards should be worn at all times.
The selection of the glove material is based on the penetration times, rates of diffusion and its degradation



Protective gloves

- **Material of gloves**
Neoprene gloves
PVC gloves
- **Penetration time of glove material**
The protection time of the gloves can not be accurately estimated for mixtures consisting of several substances
Refer to and observe manufacturers break through times of the protective gloves.
- **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 at 20 °C:** < 2
- **Change in condition**

Melting point/Melting range:	Not determined.
Boiling point/Boiling range:	Not determined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not determined.

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· **Ignition temperature:**

Decomposition temperature: *Not determined.*

· **Self-igniting:** *Product is not selfigniting.*

· **Danger of explosion:** *Not determined.*

· **Explosion limits:**

Lower: *Not determined.*

Upper: *Not determined.*

· **Vapour pressure at 20 °C:** *23 hPa*

· **Density:** *Not determined.*

· **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.*

· **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.*

· **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:**

· **Primary irritant effect:**

· **on the skin:** *No irritating effect.*

· **on the eye:** *No irritating effect.*

· **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

Irritant

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- Carcinogenic if inhaled.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Muta. 2, Carc. 1A, Repr. 1B

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **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.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **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.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms
- **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.
- **European waste catalogue**
Waste disposal key numbers from EWC have to be assigned depending on origin and processing.
- **Uncleaned packaging:**
- **Recommendation:** Dispose of in accordance with national regulations.

SECTION 14: Transport information

- | | |
|--|----------------|
| · 14.1 UN-Number | |
| · ADG, ADN, IMDG, IATA | Not applicable |
| · ADG, ADN, IMDG, IATA | Not applicable |
| · 14.3 Transport hazard class(es) | |
| · ADG, ADN, IMDG, IATA | |
| · Class | Not applicable |
| · 14.4 Packing group | |
| · ADG, IMDG, IATA | Not applicable |
| · 14.5 Environmental hazards: | |
| · Marine pollutant: | No |

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· **14.6 Special precautions for user** *Not applicable.*

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** *Not applicable.*

· **UN "Model Regulation":** -

SECTION 15: Regulatory information

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

· **Philippines Inventory of Chemicals and Chemical Substances**
All ingredients are listed.

· **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
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· **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.

· **Relevant phrases**

- H272 *May intensify fire; oxidiser.*
- H302 *Harmful if swallowed.*
- H314 *Causes severe skin burns and eye damage.*
- H315 *Causes skin irritation.*
- H317 *May cause an allergic skin reaction.*
- H318 *Causes serious eye damage.*
- H332 *Harmful if inhaled.*
- H334 *May cause allergy or asthma symptoms or breathing difficulties if inhaled.*
- H341 *Suspected of causing genetic defects.*
- H350i *May cause cancer by inhalation.*
- H360D *May damage the unborn child.*
- H372 *Causes damage to organs through prolonged or repeated exposure.*
- R20/22 *Harmful by inhalation and if swallowed.*
- R35 *Causes severe burns.*
- R38 *Irritating to skin.*
- R41 *Risk of serious damage to eyes.*
- R42/43 *May cause sensitisation by inhalation and skin contact.*
- R48/23 *Toxic: danger of serious damage to health by prolonged exposure through inhalation.*
- R49 *May cause cancer by inhalation.*
- R50/53 *Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*
- R61 *May cause harm to the unborn child.*
- R68 *Possible risk of irreversible effects.*
- R8 *Contact with combustible material may cause fire.*

· **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
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)
Ox. Liq. 3: Oxidising Liquids, Hazard Category 3
Ox. Sol. 2: Oxidising Solids, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
Muta. 2: Germ cell mutagenicity, Hazard Category 2
Carc. 1A: Carcinogenicity, Hazard Category 1A
Carc. 1A: Carcinogenicity, Hazard Category 1Ai
Repr. 1B: Reproductive toxicity, Hazard Category 1B
STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

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.

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