

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

Printing date 23.01.2020

Version number 1

Revision: 23.01.2020

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

· **1.1 Product identifier**

· **Product name: Custom Standard: As, Cd, Cr, Cu, K, Ni, P, Pb, Zn @ 1000 µg/mL in 5% HNO₃**

· **Part number: LK1-CB112209-500**

· **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

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

· **Manufacturer/Supplier:**

LabKings B.V.
Hoge Naarderweg 42, 1217 AG Hilversum
The Netherlands

Tel: +31 35 240 0142
Web: www.labkings.com

· **Further information obtainable from:** info@labkings.com

· **1.4 Emergency telephone number:** +31 35 240 0142

SECTION 2: Hazards identification

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

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



GHS08 health hazard

Carc. 1A H350 May cause cancer.

Repr. 1A H360D May damage the unborn child.



GHS05 corrosion

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

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· **2.2 Label elements**

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

The product is classified and labelled according to the CLP regulation.

(Contd. on page 2)

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

Printing date 23.01.2020

Version number 1

Revision: 23.01.2020

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(Contd. from page 1)

· **Hazard pictograms**



GHS05 GHS08

· **Signal word** *Danger*

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

Nitric acid
Arsenic
Lead
cadmium

· **Hazard statements**

H290 *May be corrosive to metals.*
H315 *Causes skin irritation.*
H318 *Causes serious eye damage.*
H350 *May cause cancer.*
H360D *May damage the unborn child.*
H412 *Harmful to aquatic life with long lasting effects.*

· **Precautionary statements**

P280 *Wear protective gloves/protective clothing/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).*
P405 *Store locked up.*
P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Additional information:**

Contains Nickel. May produce an allergic reaction.
Restricted to professional users.

· **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:**

Also contains substances at levels not considered to be hazardous.
Aqueous solution.

(Contd. on page 3)

NLEN

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

Printing date 23.01.2020

Version number 1

Revision: 23.01.2020

Product name: Custom Standard: As, Cd, Cr, Cu, K, Ni, P, Pb, Zn @ 1000 µg/mL in 5% HNO3

(Contd. from page 2)

· Dangerous components:		
CAS: 7697-37-2 EINECS: 231-714-2 RTECS: QU5775000	Nitric acid ☠ Ox. Liq. 2, H272; ☠ Met. Corr.1, H290; Skin Corr. 1A, H314	<5%
CAS: 7440-50-8 EINECS: 231-159-6 RTECS: GL5325000	Copper ☠ Flam. Sol. 1, H228; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	<0.25%
CAS: 7440-02-0 EINECS: 231-111-4 RTECS: QR5950000	Nickel ☠ Carc. 2, H351; STOT RE 1, H372; ☠ Skin Sens. 1, H317; Aquatic Chronic 3, H412	<0.25%
CAS: 7439-92-1 EINECS: 231-100-4 RTECS: OF 7525000	Lead ☠ Carc. 2, H351; Repr. 1A, H360FD-H362; STOT RE 1, H372; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	<0.25%
CAS: 7440-66-6 EINECS: 231-175-3 RTECS: ZG 8600000	Zinc ☠ Pyr. Sol. 1, H250; Water-react. 1, H260; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	<0.25%
CAS: 7440-43-9 EINECS: 231-152-8 RTECS: EU 9800000	cadmium ☠ Acute Tox. 2, H330; ☠ Muta. 2, H341; Carc. 1B, H350; Repr. 2, H361fd; STOT RE 1, H372; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	<0.25%
CAS: 7440-38-2 EINECS: 231-148-6 RTECS: CG 0525000	Arsenic ☠ Acute Tox. 3, H301; Acute Tox. 3, H331; ☠ Carc. 1A, H350; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	<0.25%

· **SVHC**

CAS: 7439-92-1	Lead
CAS: 7440-43-9	cadmium

· **Additional information:** 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.

(Contd. on page 4)

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

Printing date 23.01.2020

Version number 1

Revision: 23.01.2020

Product name: Custom Standard: As, Cd, Cr, Cu, K, Ni, P, Pb, Zn @ 1000 µg/mL in 5% HNO3

(Contd. from page 3)

- **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.
- **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:**
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:**
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.
- **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.
- **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:**
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.

(Contd. on page 5)

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

Printing date 23.01.2020

Version number 1

Revision: 23.01.2020

Product name: Custom Standard: As, Cd, Cr, Cu, K, Ni, P, Pb, Zn @ 1000 µg/mL in 5% HNO3

(Contd. from page 4)

- 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

- **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:**

CAS: 7697-37-2 Nitric acid

WGW (Netherlands) Short-term value: 1.3 mg/m³, 0.5 ppm

CAS: 7440-50-8 Copper

WGW (Netherlands) Long-term value: 0.1 mg/m³
inhaleerbaar

CAS: 7440-43-9 cadmium

WGW (Netherlands) Long-term value: 0.004 mg/m³
als Cd

CAS: 7440-38-2 Arsenic

WGW (Netherlands) Long-term value: 0.0028 mg/m³
als As

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

· **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 skin.
- 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.

· **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

(Contd. on page 6)

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

Printing date 23.01.2020

Version number 1

Revision: 23.01.2020

Product name: Custom Standard: As, Cd, Cr, Cu, K, Ni, P, Pb, Zn @ 1000 µg/mL in 5% HNO3

(Contd. from page 5)

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:

Fluid

Colour:

According to product specification

· **Odour:**

Odourless

· **Odour threshold:**

Not determined.

· **pH-value:**

Not determined.

· **Change in condition**

Melting point/freezing point:

Not determined.

Not determined.

Initial boiling point and boiling range: 100 °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.

(Contd. on page 7)

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

Printing date 23.01.2020

Version number 1

Revision: 23.01.2020

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(Contd. from page 6)

· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure at 20 °C:	23 hPa
· Density at 20 °C:	1.06796 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· 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.

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

CAS: 7697-37-2 Nitric acid

Inhalative	LC50/4 h	130 mg/l (rat)
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(Contd. on page 8)

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

Printing date 23.01.2020

Version number 1

Revision: 23.01.2020

Product name: Custom Standard: As, Cd, Cr, Cu, K, Ni, P, Pb, Zn @ 1000 µg/mL in 5% HNO3

(Contd. from page 7)

CAS: 7440-43-9 cadmium

Oral	LD50	2,330 mg/kg (rat)
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- **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.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Carc. 1A, Repr. 1A
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
May cause cancer.
- **Reproductive toxicity**
May damage the unborn child.
- **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)

CAS: 7440-50-8 Copper

LC50/48 0.044 mg/l (crustacean)

EC50/48 h 0.02 mg/l (crustacean)

EC50/72h 0.57 mg/l (Algae)

LC50/96 h 0.665 mg/l (fish)

- **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 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

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

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

Harmful to aquatic organisms

(Contd. on page 9)

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

Printing date 23.01.2020

Version number 1

Revision: 23.01.2020

Product name: Custom Standard: As, Cd, Cr, Cu, K, Ni, P, Pb, Zn @ 1000 µg/mL in 5% HNO3

(Contd. from page 8)

- **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**
 - **ADR, IMDG, IATA**
 - **ADR**
 - **IMDG, IATA**
- UN3264
3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)
CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)

- **14.3 Transport hazard class(es)**
- **ADR, IMDG, IATA**



- **Class**
 - **Label**
- 8 Corrosive substances.
8

- **14.4 Packing group**
 - **ADR, IMDG, IATA**
- III

- **14.5 Environmental hazards:**
- Not applicable.

- **14.6 Special precautions for user**
 - **Danger code (Kemler):**
 - **EMS Number:**
 - **Segregation groups**
 - **Stowage Category**
- Warning: Corrosive substances.
80
F-A,S-B
Acids
A

(Contd. on page 10)

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

Printing date 23.01.2020

Version number 1

Revision: 23.01.2020

Product name: Custom Standard: As, Cd, Cr, Cu, K, Ni, P, Pb, Zn @ 1000 µg/mL in 5% HNO3

(Contd. from page 9)

· 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
· Exempted 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

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.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 23, 28, 30, 63, 72

· **Regulation (EU) No 649/2012**

CAS: 7440-43-9	cadmium	Annex I Part I
CAS: 7440-38-2	Arsenic	Annex I Part I

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

CAS: 7439-92-1	Lead
CAS: 7440-43-9	cadmium

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

The information in this safety data sheet (SDS) has been prepared with due care and is true and accurate to the best of our knowledge. The user must determine the suitability of the information for its particular purpose, ensure compliance with existing laws and regulations, and be aware that other or additional safety or performance considerations may arise when using, handling and/ or storing the material. The information

(Contd. on page 11)

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

Printing date 23.01.2020

Version number 1

Revision: 23.01.2020

Product name: Custom Standard: As, Cd, Cr, Cu, K, Ni, P, Pb, Zn @ 1000 µg/mL in 5% HNO3

(Contd. from page 10)

in this SDS does not purport to be all inclusive or a guarantee as to the properties of the material supplied, and should be used only as a guide. Labkings makes no warranties or representations as to the accuracy and completeness of the information contained herein, shall not be held responsible for the suitability of this information for the user's intended purposes or the consequences of such use, and shall not be liable for any damage or loss, howsoever arising, direct or otherwise.

· Relevant phrases

- H228 Flammable solid.
- H250 Catches fire spontaneously if exposed to air.
- H260 In contact with water releases flammable gases which may ignite spontaneously.
- H272 May intensify fire; oxidiser.
- H290 May be corrosive to metals.
- H301 Toxic if swallowed.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H330 Fatal if inhaled.
- H331 Toxic if inhaled.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H351 Suspected of causing cancer.
- H360FD May damage fertility. May damage the unborn child.
- H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
- H362 May cause harm to breast-fed children.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

· 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
- 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
- SVHC: Substances of Very High Concern
- vPvB: very Persistent and very Bioaccumulative
- Flam. Sol. 1: Flammable solids – Category 1
- Pyr. Sol. 1: Pyrophoric solids – Category 1
- Water-react. 1: Substances and mixtures which in contact with water emit flammable gases – Category 1
- Ox. Liq. 2: Oxidizing liquids – Category 2
- Met. Corr.1: Corrosive to metals – Category 1
- Acute Tox. 3: Acute toxicity – Category 3
- Acute Tox. 2: Acute toxicity – Category 2
- 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

(Contd. on page 12)

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

Printing date 23.01.2020

Version number 1

Revision: 23.01.2020

Product name: Custom Standard: As, Cd, Cr, Cu, K, Ni, P, Pb, Zn @ 1000 µg/mL in 5% HNO₃

(Contd. from page 11)

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 1A: Carcinogenicity – Category 1A

Carc. 1B: Carcinogenicity – Category 1B

Carc. 2: Carcinogenicity – Category 2

Repr. 1A: Reproductive toxicity – Category 1A

Repr. 1A: Reproductive toxicity – Category 1A

Repr. 2: Reproductive toxicity – Category 2

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

• **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.