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Safety Data Sheet acc. to OSHA HCS

Printing date 02/27/2023 Reviewed on 02/27/2023

1 Identification

· Product identifier

· Trade name: CLP Calibration Standard 3

· Article number: CLP-CAL-3

Details of the supplier of the safety data sheet

· Manufacturer/Supplier: High-Purity Standards

7221 Investment Drive, North Charleston, SC 29418 United States

Telephone: +1-843-767-7900 Fax: +1-843-767-7906 highpuritystandards.com

Email: info@highpuritystandards.com

· Information department: Product safety department

· Emergency telephone number:

INFOTRAC

Emergency telephone numbers 1-800-535-5053 Other emergency telephone numbers 1-352-323-3500

2 Hazard(s) identification

· Classification of the substance or mixture



GHS08 Health hazard

Carcinogenicity 1A H350 May cause cancer.

Toxic to Reproduction 1A H360 May damage fertility or the unborn child.



GHS05 Corrosion

Corrosive to Metals 1 H290 May be corrosive to metals.

Skin Corrosion 1A H314 Causes severe skin burns and eye damage.

Eye Damage 1 H318 Causes serious eye damage.

- · Label elements
- · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms



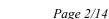


GHS05

GHS08

· Signal word Danger

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· Hazard-determining components of labeling:

nitric acid

arsenic

lead

· Hazard statements

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H350 May cause cancer.

H360 May damage fertility or the unborn child.

· Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep only in original container.

Do not breathe dusts or mists.

Wash thoroughly after handling.

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

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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 center/doctor.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Wash contaminated clothing before reuse.

Absorb spillage to prevent material damage.

Store locked up.

Store in corrosive resistant container with a resistant inner liner.

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

- · Classification system:
- · NFPA ratings (scale 0 4)



Health = 3Fire = 0

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = *3

Fire = 0

- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.

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· vPvB: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous	s components:		
7697-37-2	nitric acid		2.0%
7439-92-1	lead		0.1%
7440-28-0	thallium		0.1%
7440-38-2	arsenic		0.19
7782-49-2	selenium		0.19
Chemical	identification of the substance/preparation		
7732-18-5	water, distilled, conductivity or of similar purity	9	7.55%
7440-43-9	cadmium	(0.05%

4 First-aid measures

- · Description of first aid measures
- General information: Immediately remove any clothing soiled by the product.
- · After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- · After swallowing: Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- 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 fighting measures that suit the environment.
- · Special hazards arising from the substance or mixture
- During heating or in case of fire poisonous gases are produced.
- · Advice for firefighters
- · Protective equipment: Mouth respiratory protective device.

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6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

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:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· 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.

· Protective Action Criteria for Chemicals

7697-37-2 nitric acid	0.16 ppm
7439-92-1 lead	0.15 mg/m ⁻
7440-28-0 thallium	0.06 mg/m
7440-38-2 arsenic	1.5 mg/m^3
7782-49-2 selenium	0.6 mg/m^3
7440-43-9 cadmium	0.10 mg/m
PAC-2:	
7697-37-2 nitric acid	24 ppm
7439-92-1 lead	120 mg/m ²
7440-28-0 thallium	3.3 mg/m^3
7440-38-2 arsenic	17 mg/m³
7782-49-2 selenium	6.6 mg/m³
7440-43-9 cadmium	0.76 mg/m
PAC-3:	
7697-37-2 nitric acid	92 ppm
7439-92-1 lead	700 mg/m
7440-28-0 thallium	20 mg/m ³
7440-38-2 arsenic	100 mg/m
7782-49-2 selenium	40 mg/m^3
7440-43-9 cadmium	4.7 mg/m



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7 Handling and storage

- · Handling:
- · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

- · Information about protection against explosions and fires: Keep respiratory protective device available.
- · Conditions for safe storage, including any incompatibilities
- Storage:
- · Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: Keep receptacle tightly sealed.
- · Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · Control parameters
- · Components with limit values that require monitoring at the workplace:

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

7697	-37-2 nitric acid
PEL	Long-term value: 5 mg/m³, 2 ppm
REL	Short-term value: 10 mg/m³, 4 ppm Long-term value: 5 mg/m³, 2 ppm
TLV	Short-term value: 10 mg/m³, 4 ppm Long-term value: 5.2 mg/m³, 2 ppm
7440	-38-2 arsenic
PEL	Long-term value: 0.5* 0.01** mg/m³ as As; *organic**inorg. compds.; 29 CFR 1910.1018
REL	Ceiling limit value: 0.002 mg/m³ as As; 15min; See Pocket Guide App. A
TLV	Long-term value: 0.01 mg/m³ as As; BEI
7782	-49-2 selenium
PEL	Long-term value: 0.2 mg/m³ as Se
REL	Long-term value: 0.2 mg/m³ as Se

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TLV Long-term value: 0.2 mg/m³ as Se

· Ingredients with biological limit values:

7440-38-2 arsenic

BEI 35 μg As/L

Medium: urine

Time: end of workweek

Parameter: Inorganic arsenic plus methylated metabolites (background)

- · Additional information: The lists that were valid during the creation were used as basis.
- · 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.

Avoid contact with the eyes and skin.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· 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.

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· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties · General Information · Appearance:		
Form:	Liquid	
Color:	colorless	

• Odor: Characteristic
• Odor threshold: Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:

Melting point/Melting range:Undetermined.Boiling point/Boiling range:100 °C (212 °F)Flash point:Not applicable.

Flammability (solid, gaseous): Not applicable.
 Decomposition temperature: Not determined.

Decomposition temperature: Not determined.
 Auto igniting: Product is not selfigniting.

• Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower: Not determined. Upper: Not determined.

• Vapor pressure at 20 °C (68 °F): 23 hPa (17.3 mm Hg)

• Density at 20 °C (68 °F): 1.0436 g/cm³ (8.70884 lbs/gal)

Bulk density: 1,035 kg/m³
 Relative density Not determined.
 Vapor 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.

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Kinematic:	Not determined.
· Solvent content:	
Water:	97.6 %
VOC content:	0.00 %
	0.0g/l/0.00lb/gal
Solids content:	0.5 %
· Other information	No further relevant information available.

10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · *Incompatible materials:* No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

· LD/LC50 values that are relevant for classification:
7440-38-2 arsenic
Oral LD50 763 mg/kg (rat)
7782-49-2 selenium
Oral LD50 6,700 mg/kg (rat)
7440-43-9 cadmium
Oral LD50 225 mg/kg (rat)

- · Primary irritant effect:
- on the skin: Strong caustic effect on skin and mucous membranes.
- on the eye:

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: Corrosive

Irritant

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Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· Carcinoge	nic categories	
· IARC (Int	ernational Agency for Research on Cancer)	
7439-92-1	lead	2B
7440-38-2	arsenic	1
7782-49-2	selenium	3
7440-43-9	cadmium	1
· NTP (Nat	onal Toxicology Program)	
7439-92-1	lead	R
7440-38-2	arsenic	K
7440-43-9	cadmium	K
· OSHA-Ca	(Occupational Safety & Health Administration)	
7440-38-2	arsenic	
7440-43-9	cadmium	

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior 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 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or unneutralized.

- · 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.

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- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

4 Transport information	
· UN-Number · DOT, ADR, IMDG, IATA	UN3264
· UN proper shipping name · DOT · ADR · IMDG, IATA	Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid) 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O. (NITRIC ACID) CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITR
· Transport hazard class(es)	
· DOT	
· Class · Label	8 Corrosive substances 8
· ADR	
· Class · Label	8 (C1) Corrosive substances 8
· IMDG, IATA	
· Class · Label	8 Corrosive substances 8
· Packing group · DOT, ADR, IMDG, IATA	III
Environmental hazards:	Not applicable.

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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.
Transport in bulk according to Annex II of	
MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 5 L
	On cargo aircraft only: 60 L
· ADR	
Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· IMDG	
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
UN "Model Regulation":	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O. (NITRIC ACID), 8, III

15 Regulatory information	1 - D		C
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- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Sara

Section 355 (extremely hazardous substances):	
7697-37-2 nitric acid	
	_

Section 313 (Specific toxic chemical listings):

7697-37-2 nitric acid 7439-92-1 lead

7440-28-0 thallium

7440-38-2 arsenic

7782-49-2 selenium

7440-43-9 cadmium

· TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

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(Contd. of page 11) · Hazardous Air Pollutants 7439-92-1 lead · Proposition 65 · Chemicals known to cause cancer: 7439-92-1 lead 7440-38-2 arsenic 7440-43-9 cadmium · Chemicals known to cause reproductive toxicity for females: 7439-92-1 lead · Chemicals known to cause reproductive toxicity for males: 7439-92-1 lead 7440-43-9 cadmium · Chemicals known to cause developmental toxicity: 7439-92-1 lead 7440-43-9 cadmium · Carcinogenic categories · EPA (Environmental Protection Agency) 7439-92-1 lead B27440-38-2 arsenic A 7782-49-2 selenium DВ1 7440-43-9 cadmium · TLV (Threshold Limit Value) 7439-92-1 lead A37440-38-2 arsenic A17440-43-9 cadmium A2 · NIOSH-Ca (National Institute for Occupational Safety and Health) 7440-38-2 arsenic 7440-43-9 cadmium

- GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms





GHS05 GHS08

- · Signal word Danger
- · Hazard-determining components of labeling: nitric acid

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arsenic

lead

· Hazard statements

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H350 May cause cancer.

H360 May damage fertility or the unborn child.

· Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep only in original container.

Do not breathe dusts or mists.

Wash thoroughly after handling.

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

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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 center/doctor.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Wash contaminated clothing before reuse.

Absorb spillage to prevent material damage.

Store locked up.

Store in corrosive resistant container with a resistant inner liner.

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

· 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.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Environment protection department.
- · Contact:

High-Purity Standards Tel: 843-767-7900 Fax: 843-767-7906

- · Date of preparation / last revision 02/27/2023
- · 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)

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IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

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)

NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit BEI: Biological Exposure Limit

Corrosive to Metals 1: Corrosive to metals – Category 1 Skin Corrosion 1A: Skin corrosion/irritation – Category 1A Eye Damage 1: Serious eye damage/eye irritation – Category 1

Carcinogenicity 1A: Carcinogenicity – Category 1A

Toxic to Reproduction 1A: Reproductive toxicity – Category 1A

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