

## Safety Data Sheet acc. to OSHA HCS

Printing date 12/06/2019

Reviewed on 12/06/2019

### 1 Identification

- **Product identifier**
- **Trade name:** ICP Multielement Calibration Standard 3
- **Article number:** ICP-MCS-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**



GHS05 Corrosion

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

Eye Dam. 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

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
hydrochloric acid
- **Hazard statements**  
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**  
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.

(Contd. on page 2)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 12/06/2019

Reviewed on 12/06/2019

**Trade name: ICP Multielement Calibration Standard 3**

(Contd. of page 1)

*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.*  
*Specific treatment (see on this label).*  
*Wash contaminated clothing before reuse.*  
*Store locked up.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

**3 Composition/information on ingredients**

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

7647-01-0	hydrochloric acid	5.0%
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· **Chemical identification of the substance/preparation**

7757-79-1	potassium nitrate	0.04%
497-19-8	sodium carbonate	0.02%
7440-36-0	antimony	0.02%
7429-90-5	aluminium	0.02%
7439-98-7	molybdenum	0.01%
7440-47-3	chromium	0.002%
7732-18-5	water, distilled, conductivity or of similar purity	94.888%

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(Contd. on page 3)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 12/06/2019

Reviewed on 12/06/2019

**Trade name: ICP Multielement Calibration Standard 3**

(Contd. of page 2)

**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.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** 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**

· **PAC-1:**

7647-01-0	hydrochloric acid	1.8 ppm
7757-79-1	potassium nitrate	9 mg/m <sup>3</sup>
497-19-8	sodium carbonate	7.6 mg/m <sup>3</sup>
7440-36-0	antimony	1.5 mg/m <sup>3</sup>

(Contd. on page 4)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 12/06/2019

Reviewed on 12/06/2019

**Trade name: ICP Multielement Calibration Standard 3**

(Contd. of page 3)

7439-98-7	molybdenum	30 mg/m <sup>3</sup>
7440-47-3	chromium	1.5 mg/m <sup>3</sup>
<b>· PAC-2:</b>		
7647-01-0	hydrochloric acid	22 ppm
7757-79-1	potassium nitrate	100 mg/m <sup>3</sup>
497-19-8	sodium carbonate	83 mg/m <sup>3</sup>
7440-36-0	antimony	13 mg/m <sup>3</sup>
7439-98-7	molybdenum	330 mg/m <sup>3</sup>
7440-47-3	chromium	17 mg/m <sup>3</sup>
<b>· PAC-3:</b>		
7647-01-0	hydrochloric acid	100 ppm
7757-79-1	potassium nitrate	600 mg/m <sup>3</sup>
497-19-8	sodium carbonate	500 mg/m <sup>3</sup>
7440-36-0	antimony	80 mg/m <sup>3</sup>
7439-98-7	molybdenum	2,000 mg/m <sup>3</sup>
7440-47-3	chromium	99 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
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:**

7647-01-0 hydrochloric acid	
PEL	Ceiling limit value: 7 mg/m <sup>3</sup> , 5 ppm

(Contd. on page 5)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 12/06/2019

Reviewed on 12/06/2019

**Trade name: ICP Multielement Calibration Standard 3**

(Contd. of page 4)

REL	Ceiling limit value: 7 mg/m <sup>3</sup> , 5 ppm
TLV	Ceiling limit value: 2.98 mg/m <sup>3</sup> , 2 ppm

· **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.
- 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.

· **Eye protection:**



Tightly sealed goggles

**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

**Form:** Liquid  
**Color:** colorless

(Contd. on page 6)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 12/06/2019

Reviewed on 12/06/2019

**Trade name: ICP Multielement Calibration Standard 3**

(Contd. of page 5)

· <b>Odor:</b>	Characteristic
· <b>Odor threshold:</b>	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20 °C (68 °F):</b>	23 hPa (17.3 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	1.01077 g/cm <sup>3</sup> (8.43488 lbs/gal)
· <b>Bulk density:</b>	1,010 kg/m <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	94.9 %
<b>VOC content:</b>	0.00 %
	0.0 g/l / 0.00 lb/gal
<b>Solids content:</b>	0.1 %
· <b>Other information</b>	No further relevant information available.

**10 Stability and reactivity**

· **Reactivity** No further relevant information available.

(Contd. on page 7)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 12/06/2019

Reviewed on 12/06/2019

**Trade name: ICP Multielement Calibration Standard 3**

(Contd. of page 6)

- **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:**

7647-01-0 hydrochloric acid

Oral LD50 900 mg/kg (rabbit)

· **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

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

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

7647-01-0 hydrochloric acid

3

7440-47-3 chromium

3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

**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.

(Contd. on page 8)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 12/06/2019

Reviewed on 12/06/2019

**Trade name: ICP Multielement Calibration Standard 3**

(Contd. of page 7)

- **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.*
- **Uncleaned packagings:**
- **Recommendation:** *Disposal must be made according to official regulations.*

**14 Transport information**

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN3264
- **UN proper shipping name**
- **DOT** Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric acid)
- **ADR** 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID)
- **IMDG, IATA** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID)
- **Transport hazard class(es)**
- **DOT**
- **Class** 8 Corrosive substances
- **Label** 8



(Contd. on page 9)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 12/06/2019

Reviewed on 12/06/2019

**Trade name: ICP Multielement Calibration Standard 3**

(Contd. of page 8)

· **ADR, IMDG, IATA**



· **Class** 8 Corrosive substances  
· **Label** 8

· **Packing group**  
· **DOT, ADR, 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** B  
· **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**  
· **DOT**  
· **Quantity limitations** On passenger aircraft/rail: 1 L  
On cargo aircraft only: 30 L

· **ADR**  
· **Excepted quantities (EQ)** Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

· **IMDG**  
· **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

· **UN "Model Regulation":** UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID), 8, II

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 12/06/2019

Reviewed on 12/06/2019

**Trade name: ICP Multielement Calibration Standard 3**

(Contd. of page 9)

**15 Regulatory information**

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

· **Sara**

· **Section 355 (extremely hazardous substances):**

7647-01-0	hydrochloric acid
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· **Section 313 (Specific toxic chemical listings):**

7647-01-0	hydrochloric acid
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7757-79-1	potassium nitrate
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7440-36-0	antimony
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7429-90-5	aluminium
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7440-47-3	chromium
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· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

7647-01-0	hydrochloric acid
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· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

7440-47-3	chromium	D
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· **TLV (Threshold Limit Value established by ACGIH)**

7647-01-0	hydrochloric acid	A4
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7429-90-5	aluminium	A4
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7439-98-7	molybdenum	A3
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7440-47-3	chromium	A4
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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

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

(Contd. on page 11)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 12/06/2019

Reviewed on 12/06/2019

**Trade name: ICP Multielement Calibration Standard 3**

(Contd. of page 10)

**Hazard pictograms**

GHS05

**Signal word** *Danger***Hazard-determining components of labeling:***hydrochloric acid***Hazard statements***H314 Causes severe skin burns and eye damage.***Precautionary statements***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.**Specific treatment (see on this label).**Wash contaminated clothing before reuse.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.***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** *12/06/2019 / -***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**DOT: US Department of Transportation**IATA: International Air Transport Association**ACGIH: American Conference of Governmental Industrial Hygienists**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)*

(Contd. on page 12)

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 12/06/2019

Reviewed on 12/06/2019

**Trade name: ICP Multielement Calibration Standard 3**

(Contd. of page 11)

*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*  
*Skin Corr. 1A: Skin corrosion/irritation – Category 1A*  
*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*

US