

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/10/2022

Reviewed on 06/15/2022

1 Identification

- **Product identifier**
- **Trade name:** ICP-MS-C
- **Article number:** ICP-MS-C-W/W
- **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 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

- **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 10/10/2022

Reviewed on 06/15/2022

Trade name: ICP-MS-C

(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)**



Health = 3

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *3

Fire = 0

Reactivity = 0

· **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	4%
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· **Chemical identification of the substance/preparation**

7732-18-5	water, distilled, conductivity or of similar purity	95.99%
7440-05-3	palladium	0.001%
7440-06-4	platinum	0.001%
7440-31-5	tin	0.001%
7440-36-0	antimony	0.001%
7440-57-5	Gold	0.001%
7440-58-6	hafnium	0.001%
13494-80-9	tellurium	0.001%
16940-92-4	diammonium hexachloroiridate	0.001%

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/10/2022

Reviewed on 06/15/2022

Trade name: ICP-MS-C

(Contd. of page 2)

18746-63-9	Ammonium hexachlororuthenate(IV) Ruthenium	0.001%
20765-98-4	Rhodium(III) chloride hydrate	0.001%

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.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/10/2022

Reviewed on 06/15/2022

Trade name: ICP-MS-C

(Contd. of page 3)

· Protective Action Criteria for Chemicals

· PAC-1:

7647-01-0	hydrochloric acid	1.8 ppm
7440-05-3	palladium	6 mg/m ³
7440-06-4	platinum	3 mg/m ³
7440-31-5	tin	6 mg/m ³
7440-36-0	antimony	1.5 mg/m ³
7440-57-5	Gold	0.46 mg/m ³
7440-58-6	hafnium	1.5 mg/m ³
13494-80-9	tellurium	1.8 mg/m ³

· PAC-2:

7647-01-0	hydrochloric acid	22 ppm
7440-05-3	palladium	66 mg/m ³
7440-06-4	platinum	33 mg/m ³
7440-31-5	tin	67 mg/m ³
7440-36-0	antimony	13 mg/m ³
7440-57-5	Gold	5.1 mg/m ³
7440-58-6	hafnium	17 mg/m ³
13494-80-9	tellurium	20 mg/m ³

· PAC-3:

7647-01-0	hydrochloric acid	100 ppm
7440-05-3	palladium	400 mg/m ³
7440-06-4	platinum	200 mg/m ³
7440-31-5	tin	400 mg/m ³
7440-36-0	antimony	80 mg/m ³
7440-57-5	Gold	30 mg/m ³
7440-58-6	hafnium	99 mg/m ³
13494-80-9	tellurium	110 mg/m ³

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.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/10/2022

Reviewed on 06/15/2022

Trade name: ICP-MS-C

(Contd. of page 4)

- **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 ³ , 5 ppm
REL	Ceiling limit value: 7 mg/m ³ , 5 ppm
TLV	Ceiling limit value: 2 ppm
A4	

- **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.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/10/2022

Reviewed on 06/15/2022

Trade name: ICP-MS-C

(Contd. of page 5)

· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Liquid
Color:	According to product specification
Odor:	Characteristic
Odor threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

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.

· 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: Not determined.

· Relative density: Not determined.

· Vapor 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.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/10/2022

Reviewed on 06/15/2022

Trade name: ICP-MS-C

(Contd. of page 6)

· Solvent content:	
Water:	90.0 %
VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gal
· Solids content:	0.0 %
· 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:**

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

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/10/2022

Reviewed on 06/15/2022

Trade name: ICP-MS-C

(Contd. of page 7)

· 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.

· 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
· ADR

Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric acid)

3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
(HYDROCHLORIC ACID)

· IMDG, IATA

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
(HYDROCHLORIC ACID)

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/10/2022

Reviewed on 06/15/2022

Trade name: ICP-MS-C

(Contd. of page 8)

· **Transport hazard class(es)**

· **DOT**



· **Class**

8 Corrosive substances

· **Label**

8

· **ADR**



· **Class**

8 (C1) Corrosive substances

· **Label**

8

· **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

· **Hazard identification number (Kemler code):** 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

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/10/2022

Reviewed on 06/15/2022

Trade name: ICP-MS-C

(Contd. of page 9)

· 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

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **Sara**

· Section 355 (extremely hazardous substances):

7647-01-0	hydrochloric acid
13494-80-9	tellurium

· Section 313 (Specific toxic chemical listings):

7647-01-0	hydrochloric acid
7440-36-0	antimony

· TSCA (Toxic Substances Control Act):

7732-18-5	water, distilled, conductivity or of similar purity	ACTIVE
7647-01-0	hydrochloric acid	ACTIVE
7440-05-3	palladium	ACTIVE
7440-06-4	platinum	ACTIVE
7440-31-5	tin	ACTIVE
7440-36-0	antimony	ACTIVE
7440-57-5	Gold	ACTIVE
7440-58-6	hafnium	ACTIVE
13494-80-9	tellurium	ACTIVE
16940-92-4	diammonium hexachloroiridate	ACTIVE
18746-63-9	Ammonium hexachlororuthenate(IV) Ruthenium	ACTIVE

· Hazardous Air Pollutants

7647-01-0	hydrochloric acid
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(Contd. on page 11)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/10/2022

Reviewed on 06/15/2022

Trade name: ICP-MS-C

(Contd. of page 10)

· 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)

None of the ingredients is listed.

· TLV (Threshold Limit Value)

7647-01-0 hydrochloric acid

A4

· 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).

· 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.

(Contd. on page 12)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/10/2022

Reviewed on 06/15/2022

Trade name: ICP-MS-C

(Contd. of page 11)

*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** 10/10/2022**· **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)**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**Skin Corrosion 1A: Skin corrosion/irritation – Category 1A**Eye Damage 1: Serious eye damage/eye irritation – Category 1*