

PlasmaCAL custom calibration standard for ICP-AES and ICP-MS

Revision: 23.08.2023

Product code: AC18.09280

Page 1 of 10

1. Identification
Product identifier

PlasmaCAL custom calibration standard for ICP-AES and ICP-MS

Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture

 Reagents and laboratory chemicals
 Only for laboratory and analysis purposes.

Uses advised against

Do not use for private purposes (household).

Details of the supplier of the safety data sheet
Details of the supplier of the safety data sheet

Company name:	AnalytiChem Services, Unipessoal, Lda
Street:	Rua de Júlio Dinis 676 7º
Place:	P-4050-320 Porto
Telephone:	+351 226002917
E-mail:	info@analytichem.com
Contact person:	SDS service department
E-mail:	SDS@analytichem.com
Internet:	www.analytichem.com
Responsible Department:	SDS service department

Supplier or manufacturer details

Company name:	AnalytiChem Canada Inc.	
	Québec, CANADA	
Street:	21800 Clark Graham Ave	
Place:	CDN-H9X 4B6 Baie-D'Urfé	
Telephone:	+1 (800) 361-6820	Telefax: +1 (800) 253-5549
E-mail:	info@analytichem.com	
Contact person:	SDS service department	
E-mail:	SDS@analytichem.com	
Internet:	www.analytichem.com	
Responsible Department:	AnalytiChem:	
	EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20	
	EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200	
	EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848	
	UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500	
	USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378	
	Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701	
	Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333	
Emergency telephone number:	+1 703-741-5970 (CHEMTREC)	

Further Information

This product is a mixture. REACH Registration Number see section 3.

PlasmaCAL custom calibration standard for ICP-AES and ICP-MS

Revision: 23.08.2023

Product code: AC18.09280

Page 2 of 10

2. Hazard identification

Classification of the substance or mixture

Regulation (EC) No 1272/2008

Met. Corr. 1; H290

Full text of hazard statements: see SECTION 16.

Label elements

Regulation (EC) No 1272/2008

Signal word: Warning

Pictograms:



Hazard statements

H290 May be corrosive to metals.

Precautionary statements

- P234 Keep only in original packaging.
- P390 Absorb spillage to prevent material damage.
- P406 Store in a corrosion resistant container with a resistant inner liner.

Other hazards

No data available

3. Composition/information on ingredients

Mixtures

Chemical characterization

Mixtures in aqueous solution

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7647-01-0	Hydrochloric acid			1 - < 5 %
	231-595-7	017-002-01-X	01-2119484862-27	
	Met. Corr. 1, Skin Corr. 1B, Eye Dam. 1, STOT SE 3; H290 H314 H318 H335			

Full text of H statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
7647-01-0	231-595-7	Hydrochloric acid	1 - < 5 %
	Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25 STOT SE 3; H335: >= 10 - 100		

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

PlasmaCAL custom calibration standard for ICP-AES and ICP-MS

Revision: 23.08.2023

Product code: AC18.09280

Page 3 of 10

4. First-aid measures

Description of first aid measures

General information

No data available

After inhalation

Provide fresh air.
Call a doctor if you feel unwell.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
In case of skin irritation, consult a physician.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth immediately and drink plenty of water.
Call a physician immediately.

Most important symptoms and effects, whether acute or delayed

Irritant — skin irritation and eye damage
Cough
Dyspnoea

Indication of immediate medical attention and special treatment needed

No data available

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

Specific hazards arising from the hazardous product

Non-combustible liquids
Hazardous combustion products
In case of fire may be liberated:
Hydrochloric gas

Special protective equipment and precautions for fire-fighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.
Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Use water spray jet to protect personnel and to cool endangered containers.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

General advice

Corrosive to metals.

PlasmaCAL custom calibration standard for ICP-AES and ICP-MS

Revision: 23.08.2023

Product code: AC18.09280

Page 4 of 10

For non-emergency personnel

- Provide adequate ventilation.
- Use personal protection equipment.
- Avoid contact with skin, eyes and clothes.
- Remove persons to safety.
- Emergency procedures
- Consult an expert
- Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

Environmental precautions

Do not allow to enter into surface water or drains.

Methods and material for containment and cleaning up
For containment

- Cover drains.
- Prevent spread over a wide area (e.g. by containment or oil barriers).
- Collect in closed and suitable containers for disposal.
- Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

- Provide adequate ventilation.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Reference to other sections

- Safe handling: see section 7
- Personal protection equipment: see section 8
- Disposal: see section 13

7. Handling and storage
Precautions for safe handling
Advice on safe handling

- If handled uncovered, arrangements with local exhaust ventilation have to be used.
- Read label before use. Handle and open container with care.
- When using do not eat, drink, smoke, sniff. Keep container tightly closed.
- Use personal protection equipment. Use extractor hood (laboratory).
- Provide adequate ventilation. Do not inhale fog/steam/aerosol.
- Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Further information on handling

- Draw up and observe skin protection programme.
- Wash hands and face before breaks and after work and take a shower if necessary.
- Take off immediately all contaminated clothing and wash it before reuse.

PlasmaCAL custom calibration standard for ICP-AES and ICP-MS

Revision: 23.08.2023

Product code: AC18.09280

Page 5 of 10

Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels

- Keep container tightly closed.
- Provide adequate ventilation as well as local exhaustion at critical locations.
- Keep in a cool place.

Hints on joint storage

- Take national regulations into account.

Further information on storage conditions

- Unsuitable container/equipment material: Metal

Specific end use(s)

- Laboratory chemicals

8. Exposure controls/Personal protection
Control parameters
Exposure limits (ACGIH)

CAS No	Chemical name	ppm	mg/m ³	Category	Origin
7647-01-0	Hydrogen chloride	2		Peak	ACGIH-2025

DNEL/DMEL values

CAS No	Chemical name	Exposure route	Effect	Value
7647-01-0	Hydrochloric acid			
	Worker DNEL, long-term	inhalation	local	8 mg/m ³
	Worker DNEL, acute	inhalation	local	15 mg/m ³
	Consumer DNEL, long-term	inhalation	local	8 mg/m ³
	Consumer DNEL, acute	inhalation	local	15 mg/m ³

Exposure controls
Appropriate engineering controls

- Technical measures and the application of suitable work processes have priority over personal protection equipment.
- If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Individual protection measures, such as personal protective equipment
Eye/face protection

- Suitable eye protection:
- Face protection shield
- goggles.

Hand protection

- When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

- Wear suitable protective clothing.
- Protective clothing acid-resistant

PlasmaCAL custom calibration standard for ICP-AES and ICP-MS

Revision: 23.08.2023

Product code: AC18.09280

Page 6 of 10

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Thermal hazards

No data available

Environmental exposure controls

Do not allow to enter into surface water or drains.

9. Physical and chemical properties
Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	colourless
Odour:	stinging
Odour threshold:	No data available
Melting point/freezing point:	-18 °C
Boiling point or initial boiling point and boiling range:	103 °C
Flammability:	No data available
Lower explosive limits:	No data available
Upper explosive limits:	No data available
Flash point:	X
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
pH-Value (at 20 °C):	<1
Viscosity / kinematic:	No data available
Water solubility:	easily soluble
Solubility in other solvents	
not determined	
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density (at 20 °C):	1,017 g/cm ³
Relative density:	No data available
Bulk density:	No data available
Relative vapour density:	No data available
Particle characteristics:	No data available

Other information
Information with regard to physical hazard classes

Explosive properties

No data available

Sustained combustibility:

No data available

Self-ignition temperature

Solid:

not applicable

Gas:

not applicable

Oxidizing properties

No data available

Other safety characteristics

PlasmaCAL custom calibration standard for ICP-AES and ICP-MS

Revision: 23.08.2023

Product code: AC18.09280

Page 7 of 10

Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	0%
Solid content:	0%
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	No data available
Flow time:	No data available

Further Information

Corrosive to metals

10. Stability and reactivity

Reactivity

Corrosive to metals.

Chemical stability

The product is stable under storage at normal ambient temperatures.

Possibility of hazardous reactions

Alkali (lye)

Conditions to avoid

Heat

Incompatible materials

Keep away from: Metal.

The product develops hydrogen in an aqueous solution in contact with metals.

Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Further information

No data available

11. Toxicological information

Information on toxicological effects

Toxicokinetics, metabolism and distribution

There are no data available on the mixture itself.

Acute toxicity

Based on available data, the classification criteria are not met.

Pulmonary oedema

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

Inhalation effect: Damage to the respiratory tract.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

Irritation and corrosivity

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

PlasmaCAL custom calibration standard for ICP-AES and ICP-MS

Revision: 23.08.2023

Product code: AC18.09280

Page 8 of 10

Sensitizing effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

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.

Information on likely routes of exposure

There are no data available on the mixture itself.

Specific effects in experiment on an animal

There are no data available on the mixture itself.

Additional information on tests

There are no data available on the mixture itself.

Practical experience

There are no data available on the mixture itself.

Information on other hazards
Endocrine disrupting properties

There are no data available on the mixture itself.

Other information

There are no data available on the mixture itself.

Further information

Irritant — skin irritation and eye damage

Cough

Dyspnoea

12. Ecological information
Ecotoxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7647-01-0	Hydrochloric acid					
	Acute fish toxicity	LC50	862 mg/l	96 h	Leuciscus idus	

Persistence and degradability

There are no data available on the mixture itself.

Bioaccumulative potential

There are no data available on the mixture itself.

Mobility in soil

There are no data available on the mixture itself.

Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

PlasmaCAL custom calibration standard for ICP-AES and ICP-MS

Revision: 23.08.2023

Product code: AC18.09280

Page 9 of 10

Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

Other adverse effects

Discharge into the environment must be avoided.
 Harmful effect due to pH shift.
 Forms corrosive mixtures with water even if diluted.

Further information

Do not empty into drains.

13. Disposal considerations

Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
 Send to a physico-chemical treatment facility under observation of official regulations.
 Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.
 Waste codes/waste designations according to EWC/AVV

14. Transport information

Land transport (ADR/RID)

UN number or ID number: No dangerous good in sense of this transport regulation.
United Nations proper shipping name: No dangerous good in sense of this transport regulation.
Transport hazard class(es): No dangerous good in sense of this transport regulation.
Packing group: No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

UN number or ID number: No dangerous good in sense of this transport regulation.
United Nations proper shipping name: No dangerous good in sense of this transport regulation.
Transport hazard class(es): No dangerous good in sense of this transport regulation.
Packing group: No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

UN number or ID number: No dangerous good in sense of this transport regulation.
United Nations proper shipping name: No dangerous good in sense of this transport regulation.
Transport hazard class(es): No dangerous good in sense of this transport regulation.
Packing group: No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

UN number or ID number: No dangerous good in sense of this transport regulation.
United Nations proper shipping name: No dangerous good in sense of this transport regulation.
Transport hazard class(es): No dangerous good in sense of this transport regulation.
Packing group: No dangerous good in sense of this transport regulation.

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

Special precautions for user

No dangerous good in sense of this transport regulation.

PlasmaCAL custom calibration standard for ICP-AES and ICP-MS

Revision: 23.08.2023

Product code: AC18.09280

Page 10 of 10

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No dangerous good in sense of this transport regulation.

15. Regulatory information
Safety, health and environmental regulations/legislation specific for the substance or mixture
EU Regulatory information

Information according to Directive 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

National regulatory information

 Employment restrictions: Observe employment restrictions for young people.
 Water hazard class (D): 1 - slightly hazardous to water

16. Other information
Abbreviations and acronyms

Met. Corr. 1: Corrosive to metals
 Skin Corr. 1B: Skin corrosion
 Eye Dam. 1: Serious eye damage
 STOT SE 3: Specific target organ toxicity - single exposure
 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 Harmonized 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
 LC50: Lethal concentration, 50%
 LD50: Lethal dose, 50%

Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data

Relevant H statements (number and full text)

H290 May be corrosive to metals.
 H314 Causes severe skin burns and eye damage.
 H318 Causes serious eye damage.
 H335 May cause respiratory irritation.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. Provide appropriate information, instructions and training to users

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)