

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

Revision date: 08/23/2023

Product code: AC18.09280

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**1. Identification**
**Product identifier**

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

**Recommended use of the chemical and restrictions on use**
**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	
<b>Emergency phone number:</b>	+1 703-741-5970 (CHEMTREC)	

**Further Information**

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

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**2. Hazard(s) identification**

**Classification of the chemical**

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 container.
- P390 Absorb spillage to prevent material damage.
- P406 Store in corrosive resistant container with a resistant inner liner.

**Hazards not otherwise classified**

No data available

**3. Composition/information on ingredients**

**Mixtures**

**Chemical characterization**

Mixtures in aqueous solution

**Relevant ingredients**

CAS No	Components			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 and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Components	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).

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**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, both acute and delayed**

Irritant — skin irritation and eye damage  
Cough  
Dyspnoea

**Indication of any 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 chemical**

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.

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**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/vapors/spray.

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment (PPE): 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/vapors/spray.
- Wear breathing apparatus if exposed to vapors/dusts/aerosols.

**Reference to other sections**

- Safe handling: see section 7
- Personal protection equipment (PPE): 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 the protective agents should 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.

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**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**

CAS No	Substance	ppm	mg/m <sup>3</sup>	Category	Origin
7647-01-0	Hydrogen chloride	C 5	C 7	Ceiling	PEL
		C 5	C 7	Ceiling	REL
		2		Peak	ACGIH-2025

**DNEL/DMEL values**

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

**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/fume/vapor/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.

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**Skin protection**

Wear suitable protective clothing.  
Protective clothing acid-resistant

**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. A respiratory protection program that meets OSHA's 29 CFR 1910.134 requirements must be followed whenever workplace conditions warrant a respirator's use.

**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
Color:	colorless
Odor:	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 explosion limits:	No data available
Upper explosion 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
Vapor pressure:	No data available
Vapor pressure:	No data available
Density (at 20 °C):	1,017 g/cm <sup>3</sup>
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	

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Solid: not applicable  
 Gas: not applicable  
 Oxidizing properties  
 No data available

**Other safety characteristics**

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: Fire fighting 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 irritations in the mouth, throat, esophagus and gastrointestinal tract.

Inhalation effect: Damage to the respiratory tract.

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**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.

**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.

**Specific target organ toxicity (STOT) - single exposure**

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

**Specific target organ toxicity (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.

**Route(s) of Entry**

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	Components					
	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.

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**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.

**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)**

<b><u>UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>Packing group:</u></b>	No dangerous good in sense of this transport regulation.

**Inland waterways transport (ADN)**

<b><u>UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>Packing group:</u></b>	No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)**

<b><u>UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>Packing group:</u></b>	No dangerous good in sense of this transport regulation.

**Air transport (ICAO-TI/IATA-DGR)**

<b><u>UN number or ID number:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>UN proper shipping name:</u></b>	No dangerous good in sense of this transport regulation.
<b><u>Transport hazard class(es):</u></b>	No dangerous good in sense of this transport regulation.
<b><u>Packing group:</u></b>	No dangerous good in sense of this transport regulation.

**Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**Special precautions for user**

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No dangerous good in sense of this transport regulation.

**Transport in bulk according to Annex II of MARPOL 73/78 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: 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 (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

**Other data**

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.)*