



## Safety Data Sheet

according to WHMIS

## PlasmaCAL ICP/ICPMS Standard – Aluminum 10000 mcg/ml (Al)

Revision: 04.02.2025

Product code: AC18.01332

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**2. Hazard identification****Classification of the substance or mixture****WHMIS 2015**

Corrosive to metals: Met. Corr. 1

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Dam. 1

**Label elements****WHMIS 2015**

Signal word: Danger

Pictograms:

**Hazard statements**

May be corrosive to metals.

Causes skin irritation.

Causes serious eye damage.

**Precautionary statements**

Keep only in original packaging.

Wash hands and face thoroughly after handling.

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

IF ON SKIN: Wash with plenty of water.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

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.

Absorb spillage to prevent material damage.

Store in a corrosion resistant container with a resistant inner liner.

**Other hazards**

No data available

**3. Composition/information on ingredients****Mixtures****Relevant ingredients**

CAS No	Chemical name	Quantity
7784-27-2	Aluminium nitrate-9-hydrate	10 - < 30 % (*)
7697-37-2	nitric acid	1 - < 5 % (*)

(\*) The actual concentration is withheld as a trade secret.

**Further Information**

No data available

**4. First-aid measures****Description of first aid measures**

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**General information**

Self-protection of the first aider  
Take off immediately all contaminated clothing and wash it before reuse.

**After inhalation**

Provide fresh air.  
Call a physician immediately.

**After contact with skin**

Wash immediately with: Water  
Take off immediately all contaminated clothing and wash it before reuse.  
Call a physician immediately.

**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.  
Protect uninjured eye.

**After ingestion**

Rinse mouth immediately and drink plenty of water.  
Do NOT induce vomiting. Do not allow a neutralisation agent to be drunk.  
Call a physician immediately.

**Most important symptoms and effects, whether acute or delayed**

Causes burns.  
Irritant

**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:  
Nitrogen oxides (NO<sub>x</sub>)

**Special protective equipment and precautions for fire-fighters**

In case of fire: Wear self-contained breathing apparatus.  
In case of fire and/or explosion do not breathe fumes.  
Avoid contact with skin, eyes and clothes.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.  
Move undamaged containers from immediate hazard area if it can be done safely.  
Use water spray jet to protect personnel and to cool endangered containers.

**6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

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**General advice**

Do not breathe vapour/aerosol. Corrosive to metals.

**For non-emergency personnel**

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

**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).  
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).  
Collect in closed and suitable containers for disposal.

**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**

Read label before use. Handle and open container with care.  
When using do not eat, drink, smoke, sniff. Use personal protection equipment.  
Provide adequate ventilation. Avoid contact with skin, eyes and clothes.  
Do not breathe vapour/aerosol. Use extractor hood (laboratory).

**Advice on protection against fire and explosion**

Usual measures for fire prevention.

**Advice on general occupational hygiene**

Keep away from food, drink and animal feedingstuffs. 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. Avoid: aerosol or mist formation Do not breathe vapour/aerosol.

**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**

Corrosive to metals.

Unsuitable container/equipment material: Metal

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

**Hints on joint storage**

National regulations

**Further information on storage conditions**

Keep container tightly closed.

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

CAS No	Chemical name	ppm	mg/m <sup>3</sup>	Category	Origin
7697-37-2	Nitric acid	2	5.2	TWA (8 h)	ACGIH-2025
		4	10	STEL (15 min)	ACGIH-2025

**Additional advice on limit values**

Observe in addition any national regulations!

**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.

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

goggles

Wear eye/face protection.

**Hand protection**

Tested protective gloves must be worn

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.

**Skin protection**

Wear suitable protective clothing. Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

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.

**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.

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**9. Physical and chemical properties**

**Information on basic physical and chemical properties**

Physical state:	Liquid	
Colour:	colourless	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		No data available
Lower explosive limits:		No data available
Upper explosive limits:		No data available
Flash point:		No data available
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		No data available
Viscosity / kinematic:		No data available
Water solubility:		completely miscible
Solubility in other solvents		
No data available		
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 22 °C):		1.077 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	
Solid:	No data available
Gas:	No data available
Oxidizing properties	
Oxidising agent	

**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:	

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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)

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

**Conditions to avoid**

No data available

**Incompatible materials**

Cellulose

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.

**ATEmix calculated**

ATE (oral) &gt; 2000 mg/kg; ATE (dermal) &gt; 2000 mg/kg; ATE (inhalation vapour) &gt; 50 mg/l; ATE (inhalation dust/mist) &gt; 5 mg/l

CAS No	Chemical name				
	Route of exposure	Dose	Species	Source	Method
7697-37-2	nitric acid				
	inhalation vapour	ATE 2,65 mg/l			

**Irritation and corrosivity**

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye damage.

**Sensitizing effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

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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**

There are no data available on the mixture itself.

**12. Ecological information****Persistence and degradability**

The methods for determining the biological degradability are not applicable to inorganic substances.

**Bioaccumulative potential**

There are no data available on the mixture itself.

**Mobility in soil**

There are no data available on the mixture itself.

**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.

**Further information**

Do not allow to enter into surface water or drains.

**13. Disposal considerations****Waste treatment methods****Disposal recommendations**

Dispose of contents/container to hazardous or special waste collection point.

Do not allow to enter into surface water or drains.

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.

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## 14. Transport information

## Canadian TDG

<b>UN number:</b>	UN 3264
<b>Proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
<b>Hazard classes:</b>	8
<b>Packing group:</b>	III
Hazard label:	8
Limited quantity:	5 L

## Marine transport (IMDG)

<b>UN number or ID number:</b>	UN 3264
<b>United Nations proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
<b>Transport hazard class(es):</b>	8
<b>Packing group:</b>	III
Hazard label:	8
Special Provisions:	223 274
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-A, S-B
Segregation group:	1 - acids

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

<b>UN number or ID number:</b>	UN 3264
<b>United Nations proper shipping name:</b>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
<b>Transport hazard class(es):</b>	8
<b>Packing group:</b>	III
Hazard label:	8
Special Provisions:	A3 A803
Limited quantity Passenger:	1 L
Passenger LQ:	Y841
Excepted quantity:	E1
IATA-packing instructions - Passenger:	852
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	856
IATA-max. quantity - Cargo:	60 L

## Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

## 15. Regulatory information

## Canadian regulations

## 16. Other information

## 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.

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The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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