

Safety Data Sheet

according to WHMIS

Plasma CAL - Custom ICP-ICP/MS Standard

Revision: 30.12.2025

Product code: AC18.23212

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2. Hazard identification

Classification of the substance or mixture

WHMIS 2015

- Corrosive to metals: Met. Corr. 1
- Carcinogenicity: Carc. 1A
- Reproductive toxicity: Repr. 1A
- Acute toxicity: Acute Tox. 4 (inhalation)
- Skin corrosion/irritation: Skin Corr. 1A
- Serious eye damage/eye irritation: Eye Dam. 1
- Respiratory or skin sensitization: Resp. Sens. 1
- Respiratory or skin sensitization: Skin Sens. 1
- Specific target organ toxicity - repeated exposure: STOT RE 1

Label elements

WHMIS 2015

Signal word: Danger

Pictograms:



Hazard statements

- May be corrosive to metals.
- Causes severe skin burns and eye damage.
- May cause an allergic skin reaction.
- Harmful if inhaled.
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- May cause cancer.
- May damage fertility or the unborn child.
- Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

- Dispose of contents/container to hazardous or special waste collection point.
- IF ON SKIN: Wash with plenty of water.
- Wash hands thoroughly after handling.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Keep only in original packaging.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Contaminated work clothing should not be allowed out of the workplace.
- Wear protective gloves/protective clothing and eye protection/face protection.
- Wear respiratory protection.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- Take off contaminated clothing and wash it before reuse.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
- Continue rinsing.

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Immediately call a POISON CENTER/doctor.
 IF exposed or concerned: Get medical advice/attention.
 Absorb spillage to prevent material damage.
 Store locked up.
 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
7697-37-2	nitric acid	3 - < 7 % (*)
19049-40-2	Beryllium acetate	0.5 - < 1.5 % (*)
7803-55-6	ammonium trioxovanadate	0.1 - < 1 % (*)
12044-50-7	"diarsenic pentaoxide; arsenic pentoxide; arsenic oxide"	0.1 - < 1 % (*)
10099-74-8	lead dinitrate	0.1 - < 1 % (*)
7789-18-6	Caesium nitrate	0.1 - < 1 % (*)
7440-48-4	cobalt	0.1 - < 1 % (*)
7440-02-0	nickel	0.1 - < 1 % (*)
7440-43-9	cadmium	0.1 - < 1 % (*)

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

Further Information

Contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: lead dinitrate; cadmium

4. First-aid measures

Description of first aid measures

General information

Self-protection of the first aider

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.

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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_x)

Special protective equipment and precautions for fire-fighters

In case of fire: Wear self-contained breathing apparatus.
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.

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).

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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

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.

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

To follow: National regulations

Further information on storage conditions

Keep container tightly closed.

8. Exposure controls/Personal protection

Control parameters

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Exposure limits (ACGIH)

CAS No	Chemical name	ppm	mg/m ³	Category	Origin
7440-43-9	Cadmium (total particulate)	-	0.01	TWA (8 h)	ACGIH-2025
7440-48-4	Cobalt (inhalable particulate matter)		0.02	TWA (8 h)	ACGIH-2025
7440-02-0	Nickel elemental (inhalable fraction)		1.5	TWA (8 h)	ACGIH-2025
7697-37-2	Nitric acid	2	5.2	TWA (8 h)	ACGIH-2025
		4	10	STEL (15 min)	ACGIH-2025

Biological limit values

CAS No	Chemical name	Parameter	Value	Test material	Sampling time
7440-48-4	COBALT (ACGIH 2025)	Cobalt	15 µg/L	urine	End of shift at end of workweek
7440-02-0	NICKEL (ACGIH 2025)	Nickel	5 µg/L	urine	Post-shift at end of workweek
7440-43-9	CADMIUM (ACGIH 2025)	Cadmium (creatinine)	5 µg/g	urine	Not critical
		Cadmium	5 µg/L	blood	Not critical

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

Wear suitable gloves. 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. 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:		No data available
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:		No data available
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	
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:	

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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

Harmful if inhaled.

ATEmix calculated

ATE (oral) > 5000 mg/kg; ATE (dermal) > 2000 mg/kg

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CAS No	Chemical name				
	Route of exposure	Dose	Species	Source	Method
7697-37-2	nitric acid				
	inhalation vapour	ATE 2,65 mg/l			
19049-40-2	Beryllium acetate				
	oral	ATE 100 mg/kg			
	inhalation vapour	ATE 0,5 mg/l			
	inhalation dust/mist	ATE 0,05 mg/l			
7803-55-6	ammonium trioxovanadate				
	oral	LD50 218,1 mg/kg	Rat	Study report (1992)	OECD Guideline 401
	dermal	LD50 > 2500 mg/kg	Rat	Study report (1992)	OECD Guideline 402
	inhalation vapour	ATE 11 mg/l			
	inhalation (4 h) dust/mist	LC50 2,61 mg/l	Rat	Study report (1992)	OECD Guideline 403
12044-50-7	"diarsenic pentaoxide; arsenic pentoxide; arsenic oxide"				
	oral	ATE 5 mg/kg			
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			
10099-74-8	lead dinitrate				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2003)	OECD Guideline 423
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2003)	OECD Guideline 402
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 mg/l			
7789-18-6	Caesium nitrate				
	oral	ATE 500 mg/kg			
7440-48-4	cobalt				
	oral	ATE 500 mg/kg			
	inhalation vapour	ATE 0,5 mg/l			
	inhalation dust/mist	ATE 0,05 mg/l			
7440-43-9	cadmium				
	inhalation vapour	ATE 0,5 mg/l			
	inhalation dust/mist	ATE 0,05 mg/l			

Irritation and corrosivity

Skin corrosion/irritation: Causes severe skin burns and eye damage.

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

Sensitizing effects

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (cobalt)

May cause an allergic skin reaction. (Beryllium acetate; lead dinitrate; cobalt; nickel)

Carcinogenic/mutagenic/toxic effects for reproduction

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May cause cancer. (Beryllium acetate; "diarsenic pentaoxide; arsenic pentoxide; arsenic oxide"; cobalt; cadmium)

May damage fertility or the unborn child. (lead dinitrate; cobalt)

Germ cell mutagenicity: 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

Causes damage to organs through prolonged or repeated exposure. (Beryllium acetate)

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

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 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

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.

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

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

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Contaminated packaging

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

14. Transport information
Canadian TDG

UN number:	UN 3264
Proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
Hazard classes:	8
Packing group:	III
Hazard label:	8
Special Provisions:	16
Limited quantity:	5 L

Marine transport (IMDG)

UN number or ID number:	UN 3264
United Nations proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
Transport hazard class(es):	8
Packing group:	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)

UN number or ID number:	UN 3264
United Nations proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
Transport hazard class(es):	8
Packing group:	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

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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.

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.

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