

Safety Data Sheet

according to 29 CFR 1910.1200(g)

PlasmaCAL – Custom Standard

Revision date: 01/20/2026

Product code: AC18.19630

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2. Hazard(s) identification

Classification of the chemical

29 CFR Part 1910.1200

- Corrosive to metals: Met. Corr. 1
- Carcinogenicity: Carc. 1B
- Reproductive toxicity: Repr. 1A
- Skin corrosion/irritation: Skin Corr. 1A
- Serious eye damage/eye irritation: Eye Dam. 1
- Respiratory or skin sensitization: Skin Sens. 1

Label elements

29 CFR Part 1910.1200

Signal word: Danger

Pictograms:



Hazard statements

- May be corrosive to metals
- Causes severe skin burns and eye damage
- May cause an allergic skin reaction
- May cause cancer
- May damage the unborn child; suspected of damaging fertility

Precautionary statements

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Keep only in original container.
- Do not breathe dust/fume/gas/mist/vapors/spray.
- Contaminated work clothing must not be allowed out of the workplace.
- Wear protective gloves/protective clothing and 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.
- Wash contaminated clothing before reuse.
- If inhaled: Remove person to fresh air and keep comfortable for breathing.
- Immediately 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.
- If exposed or concerned: Get medical advice/attention.
- Absorb spillage to prevent material damage.
- Store locked up.
- 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

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Relevant ingredients

CAS No	Components	Quantity
7697-37-2	nitric acid	5 %
-	chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex	0.769 %
-	Lead compounds	0.16 %
7440-02-0	nickel	0.1 %
7440-43-9	cadmium	0.1 %

Further Information

Contains the following substances of very high concern (SVHC) which are subject to authorisation according to Annex XIV of REACH: chromium (VI) compounds

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

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, both acute and delayed

Causes burns.

Irritant

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

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Specific hazards arising from the chemical

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/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

Read label before use. Handle and open container with care.

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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 vapor or spray. 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 vapor or spray.

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.

Store in a place accessible by authorized persons only.

8. Exposure controls/personal protection

Control parameters

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Exposure limits

CAS No	Substance	ppm	mg/m ³	Category	Origin
7429-90-5	Aluminum (total)	-	10	TWA (8 h)	REL
7429-90-5	Aluminum Metal (as Al) Respirable fraction	-	5	TWA (8 h)	REL
7429-90-5	Aluminum metal (respirable fraction)	-	1	TWA (8 h)	ACGIH-2025
7440-43-9	Cadmium (as Cd)	-	0.005	TWA (8 h)	REL
7440-43-9	Cadmium (total particulate)	-	0.01	TWA (8 h)	ACGIH-2025
7440-43-9	Cadmium dust (as Cd)	-	-	as low as possible	REL
7440-43-9	Cadmium dust	-	0.2	TWA (8 h)	REL
		-	C 0.6	Ceiling	REL
7440-43-9	Cadmium fume	-	0.1	TWA (8 h)	REL
		-	C 0.3	Ceiling	REL
7440-02-0	Nickel elemental (inhalable fraction)	-	1.5	TWA (8 h)	ACGIH-2025
7440-02-0	Nickel metal and other compounds (as Ni)	0.015	-	TWA (8 h)	REL
7440-02-0	Nickel, metal and insoluble compounds (as Ni)	-	1	TWA (8 h)	REL
7440-02-0	Nickel, soluble compounds (as Ni)	-	1	TWA (8 h)	REL
7697-37-2	Nitric acid	2	5	TWA (8 h)	REL
		2	5	TWA (8 h)	REL
		4	10	STEL (15 min)	REL
7697-37-2	Nitric acid	2	5.2	TWA (8 h)	ACGIH-2025
		4	10	STEL (15 min)	ACGIH-2025

Biological Exposure Indices (BEI-ACGIH)

CAS No	Substance	Determinant	Value	Test material	Sampling time
7440-02-0	NICKEL	Nickel	5 µg/L	urine	Post-shift at end of workweek
7440-43-9	CADMIUM	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

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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 the protective agents should 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. 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:	clear	
Odor:	odorless	
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 explosion limits:		No data available
Upper explosion 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
Vapor pressure:		No data available
Vapor pressure:		No data available
Density (at 22.2 °C):		1.049 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

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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:

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: Fire fighting measures

Further information

No data available

11. Toxicological information

Route(s) of Entry

There are no data available on the mixture itself.

Information on toxicological effects

Toxicokinetics, metabolism and distribution

There are no data available on the mixture itself.

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Acute toxicity

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

ATEmix calculated

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

CAS No	Components				
	Exposure route	Dose	Species	Source	Method
7697-37-2	nitric acid				
	inhalation vapour	ATE 2,65 mg/l			
-	Lead compounds				
	oral	ATE 500 mg/kg			
	inhalation vapour	ATE 11 mg/l			
	inhalation dust/mist	ATE 1,5 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 an allergic skin reaction (chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex; nickel)

Carcinogenic/mutagenic/toxic effects for reproduction

May cause cancer (chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex; cadmium)

May damage the unborn child; suspected of damaging fertility (Lead compounds)

Germ cell mutagenicity: 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.

Carcinogenicity (OSHA): Cadmium (CAS 7440-43-9) is listed.

Carcinogenicity (IARC): Metallic Nickel (CAS 7440-02-0) is listed in group 2B. Cadmium (CAS 7440-43-9) is listed in group 1.

Carcinogenicity (NTP): Metallic Nickel (CAS 7440-02-0) is listed in group RAHC. Cadmium (CAS 7440-43-9) is listed in group Known.

Aspiration hazard

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

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

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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.

Contaminated packaging

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

14. Transport information

U.S. DOT 49 CFR 172.101

<u>UN number or ID number:</u>	UN 3264
<u>Proper shipping name:</u>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
<u>Transport hazard class(es):</u>	8
<u>Packing group:</u>	III
Hazard label:	8
Special Provisions:	IB3, T7, TP1, TP28
Limited quantity:	60 L

Marine transport (IMDG)

<u>UN number or ID number:</u>	UN 3264
<u>UN proper shipping name:</u>	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (nitric acid)
<u>Transport hazard class(es):</u>	8
<u>Packing group:</u>	III
Hazard label:	8
Special Provisions:	223 274
Limited quantity:	5 L

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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
UN 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
U.S. Regulations
National regulatory information

SARA Section 302 Extremely hazardous substances:

Nitric acid (conc. < 80%) (7697-37-2): Reportable quantity = 1,000 lbs., Threshold planning quantity = 1,000 lbs.

SARA Section 304 CERCLA:

Nitric acid (conc. < 80%) (7697-37-2): Reportable quantity = 1,000 (454) lbs. (kg)

Nickel (7440-02-0): Reportable quantity = 100 (45.4) lbs. (kg)

Cadmium (7440-43-9): Reportable quantity = 10 (4.54) lbs. (kg)

SARA Section 311/312 Hazards:

Nitric acid (conc. < 80%) (7697-37-2): Fire hazard, Immediate (acute) health hazard

Aluminum (fume or dust) (7429-90-5): Fire hazard, Reactive

chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex (-): Delayed (chronic) health hazard, Immediate (acute) health hazard

Lead compounds (-): Immediate (acute) health hazard, Delayed (chronic) health hazard

Nickel (7440-02-0): Delayed (chronic) health hazard, Immediate (acute) health hazard

Cadmium (7440-43-9): Delayed (chronic) health hazard, Immediate (acute) health hazard

SARA Section 313 Toxic release inventory:

Nitric acid (conc. < 80%) (7697-37-2): De minimis limit = 1.0 %, Reportable threshold = Standard

Aluminum (fume or dust) (7429-90-5): De minimis limit = 1.0 %, Reportable threshold = Standard

Nickel (7440-02-0): De minimis limit = 0.1 %, Reportable threshold = Standard

Cadmium (7440-43-9): De minimis limit = 0.1 %, Reportable threshold = Standard

Clean Air Act Section 112(b):

Nickel (7440-02-0), Cadmium (7440-43-9)

State Regulations
Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)

WARNING: This product can expose you to chemicals including Lead compounds (cancer); Nickel (Metallic) (cancer); Cadmium (cancer, developmental, reproductive), which are known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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16. Other information

Changes

Revision date: 01/20/2026

Revision No: 1,01

This data sheet contains changes from the previous version in section(s): 1,2,3,7,9,11.

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.

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.)