

SECTION 1 Identification**Product Name:** PlasmaCAL Single element calibration standard for ICP-AES and ICP-MS**Matrix:** 4% nitric acid

containing the following elements:

1000 µg/ml: Beryllium (Be)

Catalogue Number: 140-051-04x**Recommended Use:** Laboratory Chemical

Instrument Calibration. This product is intended for laboratory testing. This product shall be used by trained personnel only.

Restriction on use:

Do not use this product outside of a laboratory. This product should not be used by untrained personnel.

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In the event of a transport emergency, call Chemtrec (24 h): 1-703-527-3887

In the event of medical emergency, call your local poison centre or equivalent.

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SECTION 2 Hazards Identification**Emergency Overview****GHS****Harmonized Classification – Annex VI of Regulation (EC) No 1272/2008 (CLP Regulation)****Classification:** (Nitric Acid)
Irritant - Category 2
(Beryllium Compound)
Carcinogen- Category 1B**Pictograms:****Signal Word:** Danger**Hazard Statements****H315:** Causes skin irritation.**H319:** Causes serious eye irritation.**H350:** May cause cancer.

H372: Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P260: Do not breathe dust/fume/gas/mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313: IF exposed or concerned: Get medical advice/attention.

P314: Get medical advice/attention if you feel unwell.

P332+P313: If skin irritation occurs: Get medical advice/attention.

P337+P313: If eye irritation persists: Get medical advice/attention.

P362: Take off contaminated clothing and wash before reuse.

P405: Store locked up.

P501: Dispose of contents/container to an approved waste disposal site and according to federal, regional and local government requirements.

SECTION 3 Composition and Information on Ingredients

CAS No.	Chemical Name	Percent	Classification ((EC) No 1272/2008)
7697-37-2	Nitric acid	4%	Oxid. Liq. 2 - H272 Skin Corr. 1A - H314
19049-40-2	Beryllium Acetate basic	1.1%	(See below)
7732-18-5	Water	90-100%	Not Classified
The preparation also contains water and trace amounts (< 0.001%) of Beryllium Compounds			various metals and metallic salts. Acute Tox. 3 * - H301, Skin Sens. 1 - H317, Acute Tox. 2 * - H330, STOT SE 3 - H335, Carc. 1B - H350, STOT RE 1 - H372

SECTION 4 First Aid Measures

In case of contact:

Eye: Immediately flush eyes with plenty of water for at least 15 minutes, holding the eyelids open. Neutral saline may be used as soon as it is available. Do NOT interrupt flushing. If irritation persists, repeat flushing. Get medical aid immediately.

Skin: Immediately flush skin with plenty of water for at least 30 minutes while removing contaminated clothing and shoes. Do NOT interrupt flushing. Get medical aid immediately.

Ingestion: For a precaution: Never give anything by mouth to an unconscious person. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Do NOT induce vomiting. Get medical aid immediately.

Inhalation: Take proper precautions to ensure your own safety before attempting rescue (e.g., wear appropriate protective equipment). If breathing, move person into fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid immediately.

Most important Symptoms: Causes skin irritation.
Causes serious eye irritation.

Notes to Physician/Doctor: Treat symptomatically and supportively.

SECTION 5 Fire-fighting Measures

Fire Hazard Summary:

Product does not burn. May react with many metals. Generates heat when mixed with water. Firefighters should wear self-contained respirator and full protective gear. During a fire, irritating and toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Whichever is most appropriate for the surrounding fire. Use flooding quantities of water spray or fog.

Extinguishing Media to be Avoided: DO NOT use dry chemical powders containing sodium bicarbonate, potassium bicarbonate, sodium carbonate, calcium carbonate, ammonium phosphate, or ammonium sulfate. Nitric acid may react violently with these extinguishing agents.

Combustion and Thermal Decomposition Products: Nitrogen oxides.

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained respirator and full protective gear.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAZARD IDENTIFICATION

Health: 1 – Exposure would cause irritation with only minor residual injury.
Flammability: 0
Reactivity: 0
Special Hazard:

SECTION 6 Accidental Release Measures

Spill Precautions:

Personal precautions: Use personal protective equipment.

Protective equipment and emergency procedures: Ensure adequate ventilation. Evacuate personnel to safe areas.

Clean-up:

SMALL SPILLS: Soak up spill with absorbent material which does not react with spilled chemical. Put material in suitable, covered, labeled containers. Flush area with large quantities of water. Contaminated absorbent material will pose the same hazards as the spilled product.

LARGE SPILLS: Evacuate area. Contact fire and emergency services and supplier for advice.

SECTION 7 Handling and Storage

Handling:

Use only with adequate ventilation and/or personal protective equipment. Wash thoroughly after using. Avoid contact with skin and eyes. Avoid generating vapors or mists. Avoid contact with all incompatible materials. When diluting, always add acid to cold water slowly and in small amounts. Never use hot water and never add water to the acid.

Storage:

Store in a tightly closed container in a cool, well ventilated and dry area.

Store at room temperature, unless stated otherwise.

Store away from incompatible materials, heated areas, sparks, and flames. Do not store in metal or glass containers.

Additional Information:

The mixture is intended for use in a laboratory. The mixture as supplied is stable under normal laboratory conditions.

SECTION 8 Exposure Controls and Personal Protection

EXPOSURE GUIDELINES

NIOSH: 2 ppm TWA (5 mg/m³ TWA); 4 ppm STEL (10 mg/m³ STEL)

ACGIH: 2 ppm TWA (5.2 mg/m³ TWA); 4 ppm STEL (10 mg/m³ STEL)

OSHA Final PEL: 2 ppm TWA (5 mg/m³ TWA)

Beryllium Acetate

ACGIH: 0.01 mg/m³ STEL

Preventive Measures:

Eye / Face protection: Eye-wash station in proximity. Avoid contact with skin and eyes.

Skin protection: Wear suitable clothing and gloves. Refer to OSHA's protection regulations in 29 CFR 1910.133 or European Standard EN166.

Inhalation / Ventilation: Use in a chemical fume hood.

Personal Hygiene: Do not eat or drink in work areas. Wash hands thoroughly after handling this material. Maintain good housekeeping. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Appropriate Engineering Controls: Use laboratory fumehoods in case of insufficient ventilation.

SECTION 9 Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Clear / Colorless
Odor	Odorless
Property Values	
pH VALUE	<1
Melting Point/Range	No data available
Boiling Point/Range	c. 100 °C
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Relative Density	c. 1.022
Specific Gravity	No data available
Water Solubility	Soluble
Partition coefficient: n-octanol/water	No data available
Auto ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available

SECTION 10 Stability and Reactivity

Reactivity: No data available.

Chemical stability: Stable at room temperature and conditions of use.

Incompatible Materials: Reacts with bases.

Conditions to avoid: High temperatures.
Hazardous Decomposition Products: Nitrogen oxides.
Hazardous Polymerization: None reported.

SECTION 11 Toxicological Information

Potential Health Effects

Eye: Eye irritation with possible burns.
Skin: Skin irritation with possible burns.
Ingestion: May be harmful if ingested.
Inhalation: None expected.

Effects of Short-Term (Acute) Exposure

LD50/LC50: Fatal dose for humans: 5-10 ml conc. HNO₃
LC50 (lethal concentration, 50% kill) Inhalation, rat – 260 mg/m³/30M

A component of this preparation is toxic. Beryllium Acetate.

Effects of Long-Term (Chronic) Exposure

Respiratory or skin sensitization: No information found.
Germ Cell Mutagenicity: No component of this product at levels greater than 0.1% is classified as a mutagen.
Reproductive Toxicity: No component of this product at levels greater than 0.1% is classified for reproductive toxicity.
STOT- Single exposure: Causes severe skin burns and eye damage (Nitric Acid).
STOT- Repeated exposure: No definitive information available on target organs toxicity, repeated exposure.
Aspiration Hazard: No information found.
Carcinogenicity: Not listed as a carcinogen by NTP, or CA Prop 65. A component of this preparation, beryllium acetate basic, may cause chemical pneumonitis if inhaled. Effects may be delayed. Beryllium acetate is recognized as a carcinogen in humans.
Component listed in the National Toxicology Program ARC (12th Report on carcinogens): Beryllium and Beryllium Compounds.
Component appearing in the list (June 22, 2012) of chemicals known to the state of California to cause cancer or reproductive toxicity (California Proposition 65): Beryllium and Beryllium Compounds

Signs and symptoms of exposure:

Eye: In contact with the eyes, nitric acid produced severe burns. Depending on the concentration and duration of contact with the eye, these burns may result in adhesions between tarsal and bulbar conjunctivae, permanent corneal opacification, and visual impairment leading to blindness.
Skin: Dilute solutions of nitric acid produced mild epidermal irritation and can harden the epithelium without producing corrosion seen after contact with more concentrated solutions.
Inhalation: Symptoms from breathing in (inhaling) concentrated nitric acid may include: bluish colored lips and fingernails, chest tightness, choking, coughing, coughing up blood,

dizziness, low blood pressure, rapid pulse, shortness of breath, and weakness.

Ingestion:

Symptoms from swallowing nitric acid may include: severe abdominal pain, burns to skin or mouth, fever, severe mouth pain, rapid drop in blood pressure, throat swelling (which leads to breathing difficulty), severe throat pain, and bloody vomiting.

SECTION 12 Ecological Information

Eco- toxicity: no information about this preparation is available.

Mobility in soil: no information about this preparation is available.

Persistence and degradability: no information about this preparation is available.

Bioaccumulative potential: no information about this preparation is available.

SECTION 13 Disposal Considerations

Product disposal:

The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material, run off and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional and local authority requirements. Contact a licensed professional waste disposal service to dispose of this material.

Review federal, provincial and local government requirements prior to disposal. Store material for disposal as indicated in Storage Conditions.

Contaminated packaging: Dispose of as unused product.

SECTION 14 Transport Information

IDMG (sea):

UN-Number:	3264	Class:	8
Packing group:	III		
Proper shipping name:	Corrosive liquid, acidic, inorganic, n.o.s. (nitric acid)		
Marine pollutant:	No		

ADR/DOT (road):

UN-Number:	3264	Class:	8
Packing group:	III		
Proper shipping name:	Corrosive liquid, acidic, inorganic, n.o.s. (nitric acid)		
Marine pollutant:	No		

ICAO/IATA (air):

UN-Number:	3264	Class:	8
Packing group:	III		
Proper shipping name:	Corrosive liquid, acidic, inorganic, n.o.s. (nitric acid)		
Marine pollutant:	No		

SECTION 15 Regulatory Information

US Federal:

TSCA Listed on the TSCA Inventory (Nitric Acid 70%).

US State:

California Prop. 65 See Section 11.

Canada

WHMIS Classifications: E – Corrosive material
D2B – Materials causing other toxic effects.

EU

Classifications: Carc. – carcinogenic, Xi - Irritant
Risk Phrase(s): R 36/ 38- Irritating to eyes and skin.
R45- May cause cancer.
R49- Danger of serious damage to health by prolonged exposure.

SECTION 16 Other Information

Revised: May 06, 2019
Date of previous revision (s): January 31, 2018

Hazard Indications (H) Regulation (EC) No 1272/2008 quoted in Sections 3.

Oxid. Liq. 2 Oxidizing Liquids, Oxidizing Solids
Skin Corr. 1A Skin Corrosion/ Irritation

H272 May intensify fire; oxidizer.
H314 Causes severe skin burns and eye damage.

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