

Safety Data Sheet

Section 1. Product and Company Identification

Product Identification: 10,000 µg/mL Beryllium in 4%HNO₃
MSDS Number: 10M5-1
Recommended Use: For Laboratory Use.
Company Identification: High-Purity Standards
P.O. Box 41727
Charleston, SC 29423
Telephone: (843) 767-7900
FAX: (843) 767-7906

In case of emergency call INFOTRAC: 800-535-5053

Section 2. Hazard Identification

Classification:

Skin Corrosion/Irritation, Category 1
Serious Eye Damage/ Eye Irritation, Category 1
Carcinogenicity, Inhalation, Category 1B
Acute toxicity, Inhalation, Category 3
Specific Target Organ Toxicity, Chronic, Category 1

Labeling:



Symbol:

Signal Word: Danger.

Hazard Statement: Causes severe skin burns and eye damage. May cause cancer by inhalation. Toxic if inhaled. May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure.

Precautionary Statement: Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapours/spray. Use only in a well-ventilated area.

Section 3. Composition

Component	CAS/EINECS Registry #	Percent Concentration
Beryllium Acetate (Be ₄ O(C ₂ H ₃ O ₂) ₆)	19049-40-2/242-785-4	1 (as Be)
Nitric Acid	7697-37-2/ 231-714-2	4.0
Water, deionized	7732-18-5/ 231-791-2	Balance

Section 4. First Aid Measures

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Call a physician if irritation develops.

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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IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

IF exposed or concerned: Get medical attention.

Target Organs: Eyes, skin.

Section 5. Fire Fighting Measures

Fire & Explosion hazards: While nitric acid is not combustible, it is a strong oxidizing agent that can react with combustible materials; however, it is present in limited quantities in this solution. NO_x compounds can be released in case of fire.

Extinguishing Media: Use any extinguishing media that is suitable for the surrounding area. Use a water spray to dilute nitric acid and to absorb liberated nitrogen oxides.

Specific Methods: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Section 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Do not allow to enter drainage systems or water ways. Dike area and dilute spill with water and neutralize with soda ash, limestone, etc. Place the neutralized material into containers suitable for eventual disposal, reclamation, or destruction. Always dispose of in accordance with local regulations.

Section 7. Handling and Storage

Store in a cool, dry, ventilated storage area with acid resistant floors and good drainage. Keep out of direct sunlight and away from heat, water, and incompatible materials. When diluting, the acid should always be added slowly to water and in small amounts. Refer to Section 8 for personal handling instructions.

Section 8. Exposure Controls and Personal Protection

Engineering Controls: Provide general and local (e.g., fume hood) ventilation systems to maintain airborne concentrations below the TLV. Ensure the availability of eyewash stations and safety showers.

Respiratory Protection: Provide approved respiratory apparatus for non-routine or emergency use. Use an approved vapor respirator when the vapor or mist concentrations are high. If necessary, refer to the NIOSH document Guide to the Selection and Use of Particulate Respirators Certified under 42 CFR 84 for selection and use of respirators certified by NIOSH.

Personal Protection: Wear proper gloves, safety glasses with side shields, lab coat/apron.

Exposure Limits:

Component	ACGIH TLV	OSHA PEL
Beryllium Acetate	0.002 mg/m ³	0.002 mg/m ³
Nitric Acid	2 mg/kg	5 mg/m ³

Section 9. Physical and Chemical Properties

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Physical State: Liquid
 Color: Clear, colorless liquid
 Odor: Odorless to a faint pungent odor
 Odor threshold: None
 pH: <2
 Melting point: N/A
 Freezing Point: N/A
 Boiling Point: Approximately 100°C
 Flash point: N/A
 Evaporation rate: N/A
 Flammability: N/A
 Explosion limits: N/A
 Vapor Pressure (mm): N/A
 Vapor Density (air+1): N/A
 Relative density: (H₂O = 1): Approximately 1.0
 Solubility in H₂O: Complete
 Auto ignition temperature: N/A
 Decomposition temperature: N/A
 Molecular Weight: 9.01 (Be)

Section 10. Stability and Reactivity

Stability Indicator: Decomposes slowly to release oxygen.
 Conditions to Avoid: Metals, chlorine, organic materials, strong alkali, cyanides.
 Incompatibles: Strong reducing agents.
 Hazardous Decomposition Products: NO_x compounds including nitric oxide (NO), nitrogen dioxide (NO₂), nitrous oxide (N₂O) and nitric acid mist or vapor.
 Hazardous Polymerization: Will not occur.

Section 11. Toxicological Information

May affect skin, mucous membranes and eyes. Swallowing may lead to a negative effect on mouth and throat and to the risk of perforation or the corrosion of esophagus and stomach. Beryllium is considered a carcinogen.
RTECS#
 HNO₃; QU5775000
 Be₄O(C₂H₃O₂)₆; DS1750000
 LD_{LO} Oral, Human: (Nitric Acid) 430 mg/kg.
 TD_{LO} Intratracheal, Rat: (Beryllium Acetate) 13 mg/kg.

Section 12. Ecological Information

Ecotoxicological information: Do not allow material to reach ground water, water bodies, or sewage system. Beryllium and its compounds are considered to have high acute and chronic toxicity to aquatic life. Beryllium is more toxic in soft water than in hard water.

Section 13. Disposal Considerations

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General: Follow Federal, state and local regulations for waste.

Section 14. Transport Information

D.O.T. Classification: Hazardous by IATA and 49CFR regulations (based on concentration of acid).

D.O.T. Shipping Name: Corrosive liquid, Acidic, Inorganic, n.o.s. (Nitric Acid Solution)

D.O.T. Hazard Class: 8

U.N./N.A. Number: 3264

Packing Group: II

D.O.T. Label: Corrosive (8)

Section 15. Regulations (Not meant to be all inclusive-selected regulation listed)

TSCA Status: Components of this solution are listed on the TSCA Inventory.

RCRA Status: No.

SARA: Subject to the reporting requirements of Section 313 of SARA Title III and of 40 CFR 372

Risk Phrases: R36/38 Irritating to eyes and skin.

Safety Phrases: S36/37/39 Wear suitable protective clothing, gloves and eye/face protection

WHMIS Information (Canada): E: Corrosive

D2A: Very Toxic Material Causing Other Toxic Effects

D2B: Toxic Material Causing Other Toxic Effects

Section 16. Other Information

HPS products are intended for laboratory use only. All products should be handled and used by trained professional personnel only. The responsibility for the safe handling and use of these products rests solely with the buyer and/or user. The MSDS was prepared carefully and represents the best data currently available to us; however, HPS does not certify the data on the MSDS. Certified values for this material are given only on the Certificate of Analysis.

Theodore C. Rains, Ph.D.