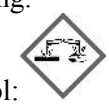
Section 1. Product and Company Identification

Product Identification:	1500 µg Pd/mL- 1000 µg $Mg(NO_3)_2$/mL in 10% HNO_3 + Tr HCl
SDS Number:	MM-9101
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
Labeling:



Symbol:
Signal Word: **Danger.**
Hazard Statement: **Causes severe skin burns and eye damage.**
Precautionary Statement: **Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling.**

Section 3. Composition

Component	CAS/EINECS Registry #	Percent Concentration
Palladium	7440-05-3/ 231-115-6	0.15
Magnesium Nitrate Hexahydrate ($Mg(NO_3)_2 \cdot 6H_2O$)	13446-18-9/233-826-7	0.1
Nitric Acid	7697-37-2/231-714-2	10
Hydrochloric Acid	7647-01-0/231-595-7	<0.01
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.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a physician. May cause nausea, vomiting, and diarrhea.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
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. NO_x compounds can be released in event 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. Remove source of ignition if hydrogen is a hazard. Cover the spill with sodium bicarbonate or a soda ash-slaked lime mixture (50:50) to neutralize the acid. 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. Local exhaust ventilation is preferred because it can control contaminant emissions at the source, preventing dispersion into the general work area. Ensure the availability of eyewash stations and safety showers.

Respiratory Protection: Provide approved respiratory apparatus for non-routine or emergency use. Use an approved filter and 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
Palladium	Not Available	Not Available
Magnesium Nitrate Hexahydrate	Not Available	Not Available
Nitric Acid	2 mg/kg	5 mg/m^3
Hydrochloric Acid	C 5ppm C 7 mg/m^3	C 5ppm C 7 mg/m^3

Section 9. Physical and Chemical Properties

Appearance: Clear, dark brown liquid

Physical State: 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: (H_2O = 1): Approximately 1.0
Solubility in H_2O: Complete
Auto ignition temperature: N/A
Decomposition temperature: N/A
Molecular Weight: N/A

Section 10. Stability and Reactivity

Stability Indicator: YES
Conditions to Avoid: Metals, chlorine, organic materials, strong alkali, cyanides.
Incompatibles: Organic materials, strong reducing agents.
Hazardous Decomposition Products: NO_x compounds including nitric oxide (NO), nitrogen dioxide (NO_2), nitrous oxide (N_2O) and nitric acid mist or vapor.
Hazardous Polymerization: None expected

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.
RTECS# :
HNO_3-QU5775000 Pd-RT3480500 $Mg(NO_3)_2$-OM3756000 HCl-MW4025000
Toxicity Data:
LD_{LO} Oral, Human: (Nitric Acid) 430 mg/kg; LD_{50} Oral, Rat: ($Mg(NO_3)_2$) 5440 mg/kg. LD_{50} Oral, Rabbit: (Hydrochloric Acid) 900 mg/kg.

Section 12. Ecological Information

Ecotoxicological information: Do not allow material to reach ground water, water bodies, or sewage system.

Section 13. Disposal Considerations

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: R23/24/25, R34 Toxic by inhalation, skin contact, or ingestion. Causes burns.
Safety Phrases: S36/37/39 Wear suitable protective clothing, gloves and eye/face protection
WHMIS Information (Canada): E: Corrosive

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.