

Safety Data Sheet

Section 1. Product and Company Identification

Product Identification: 1000 µg/mL Mercury in 2% HNO₃ + 40-60% Proprietary ingredient
SDS Number: 100033-1D
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
Reproductive toxicity, Category 1

Labeling:



Symbol:

Signal Word: Danger.

Hazard Statement: Causes severe skin burns and eye damage. May damage fertility or the unborn child.

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.

The toxicological effects of Diphenylmercury have not been fully investigated.

Section 3. Composition

Component	CAS/EINECS Registry #	Percent Concentration
Diphenyl mercury ((C ₆ H ₅) ₂ Hg)	587-85-9/209606-1	0.1 (as Hg)
Nitric Acid	7697-37-2/ 231-714-2	2
Proprietary Solvent	Proprietary	40-60
Water, deionized	7732-18-5/ 231-791-2	Balance

Section 4. First Aid Measures

IF ON SKIN (or hair): Danger through skin absorption. 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. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

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IF exposed or concerned: Get medical attention/advice.

Target Organs: Eyes, skin, respiratory system. Increases risk of lung, liver, kidney, and bladder cancer with prolonged exposure.

Chronic exposure may cause permanent central nervous system damage, fatigue, weight loss, tremors, personality changes, and immunologic glomerular disease.

Section 5. Fire Fighting Measures

Fire & Explosion hazards: Containers can build up pressure if exposed to heat and/or fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Extremely flammable liquid and vapor. Vapor may cause flash fire. Vapors are heavier than air and may travel to a source of ignition and flash back.

Extinguishing Media: Use dry chemical, carbon dioxide, or appropriate foam. Water may be ineffective because it will not cool material below its flash point.

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 exhaust ventilation or other engineering controls to keep any buildup of airborne contaminants below their respective threshold limit value. 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
Diphenylmercury	0.1 mg/m ³	0.1mg/m ³ C
Nitric Acid	2 mg/kg	5 mg/m ³

Section 9. Physical and Chemical Properties

Physical State: Liquid

Color: Clear, colorless liquid

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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: 200.59 (Hg)

Section 10. Stability and Reactivity

Stability Indicator: Stable under normal temperature and pressure.
 Conditions to Avoid: Metals, chlorine, organic materials, strong alkali, cyanides, heat.
 Incompatibles: Strong reducing agents.
 Hazardous Decomposition Products: NO_x compounds including nitric oxide (NO), nitrogen dioxide (NO₂), nitrous oxide (N₂O), nitric acid mist or vapor, carbon monoxide, carbon dioxide, mercury, mercury oxide, and toxic metal oxide fumes.
 Hazardous Polymerization: Does not polymerize.

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#

HNO₃; QU5775000

((C₆H₅)₂Hg); OW3150000

LD_{LO} Oral, Human: (Nitric Acid) 430 mg/kg.

TC_{LO} Inhalation, Rat: (Mercury) 1 mg/m³ per 24hrs for 5wks continually; LD_{LO} Oral, Rat: (Diphenylmercury) 500 mg/kg.

Section 12. Ecological Information

Ecotoxicological information: Do not allow material to reach ground water, water bodies, or sewage system. Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Section 13. Disposal Considerations

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

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Section 14. Transport Information

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

D.O.T. Shipping Name: Flammable liquid, corrosive, n.o.s. (Ketone, Nitric acid Solution)

D.O.T. Hazard Class: 3, (8)

U.N./N.A. Number: 2924

Packing Group: II

D.O.T. Label: Flammable (3), 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: Yes (Mercury-U151)

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

Risk Phrases: R11. R23/24/25. R33. R50/53. R67. Highly flammable. Toxic by inhalation, skin contact, or if ingested. Danger of cumulative effects. Very toxic to aquatic organisms/may cause long term adverse effects in the aquatic environment. Vapours may cause drowsiness and dizziness.

Safety Phrases: S16. S36/37/39 Keep away from sources of ignition-NO SMOKING. Wear suitable protective clothing, gloves and eye/face protection

WHMIS Information (Canada): E: Corrosive

D1A: Very Toxic Material Causing Immediate and Serious Toxic Effects

D2A: Very 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 SDS was prepared carefully and represents the best data currently available to us; however, HPS does not certify the data on the SDS. Certified values for this material are given only on the Certificate of Analysis.

Theodore C. Rains, Ph.D.