

SAFETY DATA SHEET

1. Identification

Product identifier: Mercury, 1,000 µg/mL or 10,000 µg/mL

Other means of identification

Product No.: 6459, 5768

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax:
Contact Person: Environmental Health & Safety
e-mail: info@avantormaterials.com

Emergency telephone number:

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard Classification

Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Toxic to reproduction	Category 1B
Specific Target Organ Toxicity - Repeated Exposure	Category 1

Environmental Hazards

Acute hazards to the aquatic environment	Category 1
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Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Causes skin irritation.
Causes serious eye damage.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life.

Precautionary Statement

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Do not eat, drink or smoke when using this product. Avoid release to the environment.

Response: IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. 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/doctor. IF exposed or concerned: Get medical advice/attention. Specific treatment (see this label). Collect spillage.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
NITRIC ACID		7697-37-2	1 - 5%
MERCURY		7439-97-6	<1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

Inhalation: Move to fresh air. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin Contact: Wash the skin immediately with soap and water. If skin irritation or an allergic skin reaction develops, get medical attention. Wash contaminated clothing before reuse.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately. In case of irritation from airborne exposure, move to fresh air.

Most important symptoms/effects, acute and delayed

Symptoms: Harmful if swallowed. Causes serious eye damage. Irritating to eyes, respiratory system and skin.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: In case of fire and/or explosion do not breathe fumes.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: May burn, but does not ignite readily.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No unusual fire or explosion hazards noted.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Keep upwind. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. See Section 8 of the MSDS for Personal Protective Equipment.

Methods and material for containment and cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Dike far ahead of larger spill for later recovery and disposal. Clean surface thoroughly to remove residual contamination.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Use personal protective equipment as required. Do not taste or swallow. Do not eat, drink or smoke when using the product. Do not get in eyes and avoid contact with skin and clothing. Avoid breathing mist. Wash hands thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Conditions for safe storage, including any incompatibilities: Keep away from food, drink and animal feeding stuffs. Keep container tightly closed. Store in a cool and well-ventilated place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
NITRIC ACID	STEL	4 ppm	US. ACGIH Threshold Limit Values (2011)
	TWA	2 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	4 ppm 10 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	2 ppm 5 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	2 ppm 5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	4 ppm 10 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	2 ppm 5 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
MERCURY - Vapor. - as Hg	REL	0.05 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	TWA	0.05 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
MERCURY	Ceiling	0.1 mg/m3	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
MERCURY - as Hg	TWA	0.025 mg/m3	US. ACGIH Threshold Limit Values (03 2013)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
MERCURY (Total inorganic mercury: Sampling time: Prior to shift.)	20 µg/g (Creatinine in urine)	ACGIH BEL (03 2014)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

Eye/face protection: Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection

Hand Protection: Wear protective gloves.

Other: Wear suitable protective clothing.

Respiratory Protection:	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.
Hygiene measures:	Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state:	Liquid
Form:	Liquid
Color:	Colorless
Odor:	Odorless
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	Estimated 0 °C
Initial boiling point and boiling range:	Estimated 100 °C
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	Estimated 1.0 (20 °C)
Solubility(ies)	
Solubility in water:	Completely Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	Hazardous polymerization does not occur.
Conditions to Avoid:	Contact with incompatible materials. Heat.
Incompatible Materials:	Strong bases. Organic compounds. Powdered metal.
SDS_US - SDSMIX000415	

**Hazardous Decomposition
Products:**

By heating and fire, toxic vapors/gases may be formed.

11. Toxicological information**Information on likely routes of exposure**

Ingestion:	May cause irritation of the gastrointestinal tract.
Inhalation:	May cause irritation to the respiratory system.
Skin Contact:	Causes skin irritation.
Eye contact:	Causes serious eye damage.

Information on toxicological effects**Acute toxicity (list all possible routes of exposure)**

Oral Product:	No data available.
Dermal Product:	No data available.
Inhalation Product:	No data available.
Specified substance(s): NITRIC ACID	LC 50 (Rat, 4 h): 65 mg/l

Repeated Dose Toxicity Product:	No data available.
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Skin Corrosion/Irritation Product:	Causes skin irritation.
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Serious Eye Damage/Eye Irritation Product:	Causes serious eye damage.
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Respiratory or Skin Sensitization Product:	Not a skin sensitizer.
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Carcinogenicity Product:	This substance has no evidence of carcinogenic properties.
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IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro Product:	No mutagenic components identified
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In vivo Product:	No mutagenic components identified
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Reproductive Toxicity

Product: May damage fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

Product: None known.

Specific Target Organ Toxicity - Repeated Exposure

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

Aspiration Hazard

Product: Not classified

Other Effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

NITRIC ACID LC 50 (Fish, 48 h): 100 - 330 mg/l Mortality
LC 50 (Starfish (Asterias rubens), 48 h): 100 - 330 mg/l Mortality

MERCURY LC 50 (Medaka, high-eyes (Oryzias latipes), 72 h): 1.4 mg/l Mortality
LC 50 (Nile tilapia (Tilapia nilotica), 72 h): 3.71 mg/l Mortality
LC 50 (Snake-head catfish (Channa striata), 72 h): 6.148 mg/l Mortality
LC 50 (Snake-head catfish (Channa striata), 90 d): 1.571 mg/l Mortality
LC 50 (Snake-head catfish (Channa striata), 90 d): 6.355 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

NITRIC ACID LC 50 (Cockle (Cerastoderma edule), 48 h): 330 - 1,000 mg/l Mortality
LC 50 (Green or European shore crab (Carcinus maenas), 48 h): 180 mg/l Mortality

MERCURY LC 50 (Freshwater prawn (Caridina rajadhari), 24 h): 0.00912 mg/l Mortality
LC 50 (Calanoid copepod (Acartia tonsa), 24 h): 0.0175 mg/l Mortality
LC 50 (Calanoid copepod (Acartia tonsa), 24 h): 0.02 mg/l Mortality
LC 50 (Calanoid copepod (Acartia tonsa), 24 h): 0.022 mg/l Mortality
LC 50 (Rotifer (Brachionus calyciflorus), 24 h): 0.054 - 0.066 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: There are no data on the degradability of this product.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential
Bioconcentration Factor (BCF)

Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: Very toxic to aquatic life.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information
DOT

UN Number: UN 3264
UN Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s.(NITRIC ACID)
Transport Hazard Class(es)
Class(es): 8
Label(s): 8
Packing Group: III
Marine Pollutant: No

IMDG

UN Number: UN 3264
UN Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(NITRIC ACID)
Transport Hazard Class(es)
Class(es): 8
Label(s): 8
EmS No.: F-A, S-B
Packing Group: III
Marine Pollutant: No

IATA

UN Number: UN 3264
Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s.(NITRIC ACID)
Transport Hazard Class(es):
Class(es): 8
Label(s): 8
Marine Pollutant: No
Packing Group: III

15. Regulatory information
US Federal Regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

SDS_US - SDSMIX000415

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

NITRIC ACID Reportable quantity: 1000 lbs.
MERCURY Reportable quantity: 1 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories
☒ Acute (Immediate) ☒ Chronic (Delayed) ☐ Fire ☐ Reactive ☐ Pressure Generating

SARA 302 Extremely Hazardous Substance

Chemical Identity	RQ	Threshold Planning Quantity
NITRIC ACID	1000 lbs.	1000 lbs.

SARA 304 Emergency Release Notification

Chemical Identity	RQ
NITRIC ACID	1000 lbs.
MERCURY	1 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
NITRIC ACID	500lbs
MERCURY	500 lbs

SARA 313 (TRI Reporting)

Chemical Identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
NITRIC ACID	10000 lbs	25000 lbs.
MERCURY	10 lbs	

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

NITRIC ACID Reportable quantity: 1000 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

NITRIC ACID Threshold quantity: 15000 lbs

US State Regulations
US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

MERCURY Developmental toxin.

US. New Jersey Worker and Community Right-to-Know Act

NITRIC ACID Listed

US. Massachusetts RTK - Substance List

NITRIC ACID Listed

US. Pennsylvania RTK - Hazardous Substances

NITRIC ACID Listed

US. Rhode Island RTK

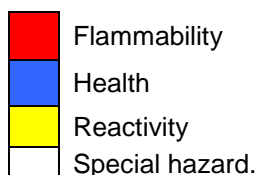
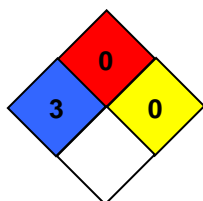
NITRIC ACID Listed

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue Date:	11-10-2014
Revision Date:	No data available.
Version #:	1.0
Further Information:	No data available.

Disclaimer:

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