

SAFETY DATA SHEET

1. Identification

Product identifier: MERCURIC OXIDE

Other means of identification

Product No.: 2630, 2620

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

Acute toxicity (Oral)	Category 2
Acute toxicity (Dermal)	Category 1
Acute toxicity (Inhalation - dust and mist)	Category 2
Specific target organ toxicity - repeated exposure	Category 2

Environmental hazards

Acute hazards to the aquatic environment	Category 1
Chronic hazards to the aquatic environment	Category 1

Label elements

Hazard symbol:



Signal word: Danger

Hazard statement: Fatal if swallowed, in contact with skin or if inhaled.
May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention: Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wear respiratory protection. Avoid release to the environment.

Response: Specific treatment is urgent (see this label). IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/physician. Take off immediately all contaminated clothing and wash it before reuse. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell. Collect spillage.

Storage: Store in a well-ventilated place. Keep container tightly closed. 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

Substances

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
MERCURY OXIDE		21908-53-2	90 - 100%

* 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: Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Inhalation: Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration.

Skin contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention immediately.

Most important symptoms/effects, acute and delayed

Symptoms: Fatal if swallowed. Fatal in contact with skin. Fatal if inhaled.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General fire hazards: May ignite other combustible materials.

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: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

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. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Shovel up and place in a container for salvage or disposal. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures: Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. 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 get in eyes, on skin, on clothing. Do not breathe dust/fume/mist. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment.

Conditions for safe storage, including any incompatibilities:

Keep container tightly closed. Keep in a cool, well-ventilated place. Store in a dry place. Protect from light.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
MERCURY OXIDE - as Hg	TWA	0.025 mg/m3	US. ACGIH Threshold Limit Values (03 2013)
MERCURY OXIDE - Vapor. - as Hg	Ceil_Time	0.1 ppm	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
MERCURY OXIDE - as Hg	Ceiling	0.1 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

Biological limit values

Chemical identity	Exposure Limit values	Source
MERCURY OXIDE (Total inorganic mercury: Sampling time: Prior to shift.)	20 µg/g (Creatinine in urine)	ACGIH BEL (02 2013)

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:

Chemical resistant gloves

Other:

Wear suitable protective clothing.

Respiratory protection:

In case of inadequate ventilation use suitable respirator.

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 to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

Physical state:

Solid

Form:

Powder.

Color:

Red-orange

Odor:

Odorless

Odor threshold:

No data available.

pH:

No data available.

Melting point/freezing point:

500 °C

Initial boiling point and boiling range:

No data available.

Flash Point:	No data available.
Evaporation rate:	0.6 (butyl acetate=1)
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:	11.14 (20 °C)
Solubility(ies)	
Solubility in water:	Insoluble in water
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.
Other information	
Molecular weight:	216.59 g/mol (HgO)

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:	Excessive heat. Contact with incompatible materials. Light.
Incompatible materials:	Strong reducing agents. Chlorine. Hydrogen peroxide (H ₂ O ₂)
Hazardous decomposition products:	Toxic metal fumes may form when heated to decomposition.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	Fatal if swallowed.
Inhalation:	Fatal if inhaled.
Skin contact:	Fatal in contact with skin.
Eye contact:	May irritate eyes.

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.

Repeated dose toxicity
Product: No data available.

Skin corrosion/irritation
Product: May cause skin irritation.

Serious eye damage/eye irritation
Product: May irritate eyes.

Respiratory or skin sensitization
Product: Not a skin sensitizer.

Carcinogenicity
Product: This substance has no evidence of carcinogenic properties.

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

In vivo
Product: No mutagenic components identified

Reproductive toxicity
Product: No components toxic to reproduction

Specific target organ toxicity - single exposure
Product: No data available.

Specific target organ toxicity - repeated exposure
Product: May cause 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.

Aquatic invertebrates
Product: No data available.

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.

Known or predicted distribution to environmental compartments

MERCURY OXIDE No data available.

Known or predicted distribution to environmental compartments

MERCURY OXIDE No data available.

Other adverse effects:

Very toxic to aquatic life with long lasting effects.

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 1641
UN proper shipping name:	Mercury oxide
Transport hazard class(es)	
Class(es):	6.1
Label(s):	6.1
Packing group:	II
Marine Pollutant:	Yes

IMDG

UN number: UN 1641
 UN proper shipping name: MERCURY OXIDE
 Transport hazard class(es)
 Class(es): 6.1
 Label(s): 6.1
 EmS No.: F-A, S-A
 Packing group: II
 Marine Pollutant: Yes

IATA

UN number: UN 1641
 Proper Shipping Name: Mercury oxide
 Transport hazard class(es):
 Class(es): 6.1
 Label(s): 6.1
 Marine Pollutant: Yes
 Packing group: II

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

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):

MERCURY OXIDE 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
MERCURY OXIDE	500 lbs.	- - -

SARA 304 Emergency release notification

Chemical identity	RQ
MERCURY OXIDE	1 lbs.

SARA 311/312 Hazardous chemical

Chemical identity	Threshold Planning Quantity
MERCURY OXIDE	500lbs

SARA 313 (TRI reporting)

Chemical identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
MERCURY OXIDE	10 lbs	

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

None present or none present in regulated quantities.

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

None present or none present in regulated quantities.

Disclaimer:

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