Material Safety Data Sheet
Mercury(II) oxide

MSDS# 13850

Section 1 - Chemical Product and Company Identification

MSDS Name: Mercury(II) oxide
Catalog Numbers: AC199990000, AC199990050, AC199991000, AC199995000, AC205730000, AC205730050
AC205730050, AC205731000, AC205735000, AC316790000, AC316791000, AC413670000
AC413670000, AC413671000, M173I-100, M174I-100, M174I-50, M174I-500
Synonyms: Mercuric oxide.
Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
For information in the US, call: 201-796-7100
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#: 21908-53-2
Chemical Name: Mercury(II) oxide
%: 98+
EINECS#: 244-654-7

Hazard Symbols: T+
Risk Phrases: 26/27/28 33 50/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Danger! Oxidizer. May cause digestive tract irritation with nausea, vomiting, and diarrhea. Contact with other material may cause fire. May be fatal if inhaled, absorbed through the skin or swallowed. Danger of cumulative effects. May cause eye, skin, and respiratory tract irritation. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Target Organs: Respiratory system, gastrointestinal system, eyes, skin.

Potential Health Effects
Eye: May cause eye irritation. Contact may cause ulceration of the conjunctiva and cornea.
Skin: May cause skin irritation. May be fatal if absorbed through the skin.
Ingestion: May be fatal if swallowed. Causes gastrointestinal irritation with nausea, vomiting and diarrhea.
Inhalation: May be fatal if inhaled. May cause respiratory tract irritation. May cause abdominal pain, nausea, vomiting, and inflammation of the gums and mouth.
Chronic: Adverse reproductive effects have been reported in animals. There is a danger of cumulative effects. Limited evidence of a carcinogenic effect.

Section 4 - First Aid Measures
Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
POISON material. In case of contact, get medical aid immediately. Immediately flush eyes or skin with plenty
**Skin:**
of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

**Ingestion:**
POISON material. If swallowed, get medical aid immediately. Only induce vomiting if directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. SPEED IS ESSENTIAL, OBTAIN MEDICAL AID IMMEDIATELY. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**Inhalation:**
Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:**
Vacuum or sweep up material and place into a suitable disposal container. Wear a self contained breathing apparatus and appropriate personal protection. Avoid generating dusty conditions. Provide ventilation. Evacuate unnecessary personnel. Do not let this chemical enter the environment.

**Notes to Physician:**

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**Section 5 - Fire Fighting Measures**

**General Information:**
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Oxidizer. Greatly increases the burning rate of combustible materials.

**Extinguishing Media:**
Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

**Autoignition Temperature:**
Not available.

**Flash Point:**
Not available

**Explosion Limits:**
Lower: Not available

**Explosion Limits:**
Upper: Not available

**NFPA Rating:**

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**Section 6 - Accidental Release Measures**

**General Information:**
Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:**
Vacuum or sweep up material and place into a suitable disposal container. Wear a self contained breathing apparatus and appropriate personal protection. Avoid generating dusty conditions. Provide ventilation. Evacuate unnecessary personnel. Do not let this chemical enter the environment.

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**Section 7 - Handling and Storage**

**Handling:**
Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale.

**Storage:**
Store in a cool, dry place. Store in a tightly closed container. Store protected from light.

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**Section 8 - Exposure Controls, Personal Protection**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
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<tbody>
<tr>
<td>Mercury(II) oxide</td>
<td>0.025 mg/m3 TWA</td>
<td>0.05 mg/m3 TWA</td>
<td>none listed</td>
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<td>(as Hg) (listed)</td>
<td>(vapor, except)</td>
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<td>compounds).Skin</td>
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<td>significant</td>
<td>mg/m3 IDLH (as)</td>
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<td>contribution to</td>
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<td>overall exposure</td>
<td>Organo(alkyl)</td>
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<td>inorganic</td>
<td>compounds).</td>
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</table>

**OSHA Vacated PELs:**
Mercury(II) oxide: None listed

**Engineering Controls:**
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Crystalline powder
Color: yellow - red
Odor: none reported
pH: Not available
Vapor Pressure: Not available
Vapor Density: Not available
Evaporation Rate: Not available
Viscosity: Not available
Boiling Point: Not available
Freezing/Melting Point: 500 deg C (decom)
Decomposition Temperature: Not available
Solubility in water: Not available.
Specific Gravity/Density: Not available.
Molecular Formula: HgO
Molecular Weight: 216.59

Section 10 - Stability and Reactivity

Chemical Stability: Light sensitive.
Conditions to Avoid: Incompatible materials, light, dust generation, excess heat.
Incompatibilities with Other Materials: Reducing agents, active metals, liquid chlorine, magnesium, phosphorus, sulfur, potassium, hydrogen peroxide, sodium.
Hazardous Decomposition Products: Mercury/mercury oxides, oxygen.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 21908-53-2: OW8750000
RTECS: CAS# 21908-53-2: Oral, mouse: LD50 = 16 mg/kg; Oral, rat: LD50 = 18 mg/kg; Skin, rat: LD50 = 315 mg/kg.
Carcinogenicity: Mercury(II) oxide - IARC: Group 3 (not classifiable)
Other: See actual entry in RTECS for complete information.

Ecotoxicity: Not available
Other: Do not empty into drains.

Section 12 - Ecological Information

Ecotoxicity: Not available
Other: Disperse in a manner consistent with federal, state, and local regulations.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T+

Risk Phrases:
- R 26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.
- R 33 Danger of cumulative effects.
- R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:
- S 13 Keep away from food, drink and animal feeding stuffs.
- S 28A After contact with skin, wash immediately with plenty of water.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 60 This material and its container must be disposed of as hazardous waste.
- S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 21908-53-2: 3

Canada

CAS# 21908-53-2 is listed on Canada's DSL List

Canadian WHMIS Classifications: D1A, D2A

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 21908-53-2 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

CAS# 21908-53-2 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 4/29/1999
Revision #6 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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