



MATERIAL SAFETY DATA SHEET
Mercury (II) Oxide

Section 1 - Chemical Product and Company Identification

MSDS Name: Mercury (II) Oxide
Catalog Numbers: M/3050/48, M/3100/48
Synonyms: Mercuric Oxide Red; Mercuric Oxide Yellow; Mercury(II) Oxide.
Company Identification: Fisher Scientific UK
 Bishop Meadow Road, Loughborough
 Leics. LE11 5RG
For information in Europe, call: (01509) 231166
Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#
21908-53-2	Mercury (II) Oxide	ca 100	244-654-7

Hazard Symbols: T+ N



Risk Phrases: 26/27/28 33 50/53

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Very toxic by inhalation, in contact with skin and if swallowed. Danger of cumulative effects. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Potential Health Effects

Eye: May cause eye irritation. Contact may cause ulceration of the conjunctiva and cornea.
Skin: May cause mild skin irritation. Harmful if absorbed through the skin.
Ingestion: May be fatal if swallowed. May cause severe and permanent damage to the digestive tract. Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. Inorganic mercury compounds may cause central and peripheral nervous system effects.
Inhalation: May cause respiratory tract irritation. May cause abdominal pain, nausea, vomiting, and inflammation of the gums and mouth. Acute exposure to high concentrations of mercury vapors may cause severe respiratory tract irritation. May cause liver damage.
Chronic: Overexposure may cause delayed kidney injury. Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated exposure can cause psychic abnormalities such as anxiety, depression and excitability. May cause adverse nervous system effects including muscle tremors and incoordination. May cause reproductive and fetal effects.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

- Skin:** Get medical aid immediately. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
- Ingestion:** Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.
- Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.
- Notes to Physician:**
- Antidote:** The use of Dimercaprol or BAL (British Anti-Lewisite) as a chelating agent should be determined by qualified medical personnel.

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. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Containers may explode when heated. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
- Extinguishing Media:** Do NOT get water inside containers. Do NOT use straight streams of water. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use water spray, fog or regular foam. Cool containers with flooding quantities of water until well after fire is out.

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. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. If sweeping is necessary, use a dust suppressant agent. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

- Handling:** Wash thoroughly after handling. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Minimize dust generation and accumulation. Wash clothing before reuse.
- Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

CAS# 21908-53-2:

- Belgium - TWA: (mercury inorganic compounds): 0.025 mg/m³ TWA (as Hg)
- France - VME: (mercury inorganic compounds): 0.1 mg/m³ VME (as Hg)
- Germany: (mercury inorganic compounds): 0.1 mg/m³ VME (as Hg) Germany: (mercury inorganic compounds): skin notation
- Malaysia: (mercury inorganic compounds): 0.025 mg/m³ TWA (as Hg)
- Netherlands: (mercury inorganic compounds): 0.02 mg/m³ MAC

Russia: (mercury inorganic compounds): 0.05 mg/m³ TWA (aerosol, as Hg)
Russia: (mercury inorganic compounds): 0.2 mg/m³ STEL (aerosol, as Hg)
Spain: (mercury inorganic compounds): 0.025 mg/m³ VLA-ED (as Hg)

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 gloves to prevent skin exposure.
- Clothing:** Wear appropriate protective clothing to prevent skin exposure.
- Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

- Physical State:** Solid
- Color:** red or yellow
- Odor:** odorless
- pH:** Not available
- Vapor Pressure:** Not available
- Viscosity:** Not available
- Boiling Point:** Not available
- Freezing/Melting Point:** 500 deg C (932.00°F)
- Autoignition Temperature:** Not available.
- Flash Point:** Not available
- Explosion Limits: Lower:** Not available
- Explosion Limits: Upper:** Not available
- Decomposition Temperature:** Not available
- Solubility in water:** 0.053 g/L at 25°C
- Specific Gravity/Density:** 11.1 at 20°C
- Molecular Formula:** HgO
- Molecular Weight:** 216.5894

Section 10 - Stability and Reactivity

- Chemical Stability:** Stable at room temperature in closed containers under normal storage and handling conditions.
- Conditions to Avoid:** Incompatible materials, dust generation, excess heat.
- Incompatibilities with Other Materials** Not available
- Hazardous Decomposition Products** Mercury/mercury oxides, oxygen.
- Hazardous Polymerization** Has not been reported.

Section 11 - Toxicological Information

- RTECS#:** CAS# 21908-53-2: OW8750000
- LD50/LC50:** 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.

Section 12 - Ecological Information

Ecotoxicity: Not available

Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	MERCURY OXIDE	MERCURY OXIDE	MERCURY OXIDE
Hazard Class:	6.1	6.1	6.1
UN Number:	1641	1641	1641
Packing Group:	II	II	II

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T+ N

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 28 After contact with skin, wash immediately with...

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

US Federal

TSCA

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

Section 16 - Other Information

MSDS Creation Date: 4/29/1999

Revision #5 Date 11/08/2007

Revisions were made in Sections: 9

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