

SAFETY DATA SHEET

Section 1: Identification

Product name: Mercury(II) oxide
Product use: For laboratory research purposes.
Supplier: Trace Sciences International
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Richmond Hill, ON L4B 3N6
CANADA
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Section 2: Hazard(s) Identification

2.1 GHS Classification

Acute toxicity, Oral (Category 2), H300
Acute toxicity, Inhalation (Category 2), H330
Acute toxicity, Dermal (Category 1), H310
Specific target organ toxicity - repeated exposure (Category 2), H373
Short-term (acute) aquatic hazard (Category 1), H400
Long-term (chronic) aquatic hazard (Category 1), H410

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s):

H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s):

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P262 Do not get in eyes, on skin, or on clothing.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284 Wear respiratory protection.
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.
P302 + P352 + P310 IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER or doctor/ physician.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P314 Get medical advice/ attention if you feel unwell.
P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.
P391 Collect spillage.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

Section 3: Composition/ Information on Ingredients

Formula : HgO
Molecular Weight : 216.59 g/mol

Material	CAS-No.	EC-No.	Index-No.	Concentration
Mercury(II) oxide	21908-53-2	244-654-7	080-002-00-6	<=100%

Section 4: First-Aid Measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move person out of dangerous area if safe to do so.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15 minutes. Use chemical shower if available. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Remove contacts if possible.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5: Fire-Fighting Measures

5.1 Conditions of flammability

Not flammable or combustible.

5.2 Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.3 Hazardous combustion products

Hazardous decomposition products formed under fire conditions: Mercury/mercury oxides.

5.4 Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.5 Further information

No data available

Section 6: Accidental Release Measures

6.1 Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage

Light sensitive.

Keep container tightly closed in a dry and well-ventilated place.

Section 8: Exposure Controls/Personal Protection

8.1 Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Mercury(II) oxide	21908-53-2	TWA	0.025 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWAEV	0.025 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	0.025 mg/m ³	Canada. British Columbia OEL
		TWA	0.025 mg/m ³	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.

Remarks

Substance may be readily absorbed through intact skin.
 Contributes significantly to the overall exposure by the skin route.
 Adverse reproductive effect.

8.2 Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Impervious clothing, flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Specific engineering controls

Use mechanical exhaust or laboratory fume hood to avoid exposure.

Section 9: Physical and Chemical Properties

Appearance

Form	Powder
Colour	No data available

Safety Data

pH	No data available
Melting point/freezing point	500 °C (932 °F)
Boiling point	No data available
Flash point	Not applicable
Flammability (solid, gas)	No data available
Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	No data available
Density	11.1 g/cm ³ at 20 °C (68 °F)
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

Section 10: Stability and Reactivity

10.1 Chemical stability

Stable under recommended storage conditions

10.2 Possibility of hazardous reactions

Risk of explosion with:

Nitrates, chlorine, boron compounds, hypophosphites, various alloys, potassium, magnesium, sodium, phosphorus, reducing agents, sulfur, iodine with methanol, butadiene with ethanol, iodine, hydrocarbons with chlorine, hydrogen peroxide with nitric acid

Risk of ignition or formation of inflammable gases or vapours with:

Alcohols, nitrates, halogens, semimetallic halides, hydrazine and derivatives, light metals, nonmetals, nonmetallic hydrogen compounds, hydrogen peroxide, nitric acid, reducing agents, ozone

Violent reactions possible with:
Alkali metals, ozone, sulfur trioxide, mercaptans

10.3 Conditions to avoid

No data available

10.4 Materials to avoid

Hypophosphoric acid, fuels, and combustible materials (wood, paper, oil, etc.). Explosive with sulfur. Forms explosive mercury fulminate fulminate with alcohols. Forms heat-and shock-sensitive explosive yellow precipitate with phosphine. Solutions of mercuric nitrate form heat- or shock-sensitive acetylide with acetylene, which is explosive on contact with sulfuric acid. Explosive mixture with potassium cyanide when heated under confinement. Exothermic reaction with possible violent reaction with unsaturated or aromatic hydrocarbons, reducing agents.

10.5 Hazardous decomposition products

See section 5

Section 11: Toxicological Information

Acute toxicity

Oral

LD50 Oral - Rat - 18 mg/kg
Remarks: (RTECS)

Inhalation

LC50 Inhalation - 4 h - 0.051 mg/l
(Expert judgment)

Dermal

LD50 Dermal - Rat - 315 mg/kg
(Expert judgment)

Other information on acute toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

Sensitisation possible in predisposed persons.

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

Laboratory experiments have shown teratogenic effects.
Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

May cause damage to organs through prolonged or repeated exposure – Kidney.

Aspiration hazard

No data available

Signs and Symptoms of Exposure

Mercury compounds have a cytotoxic and protoplasmatoxic effect. Intoxication symptoms: acute: contact with eye causes severe lesions. Swallowing and inhalation of dusts damages mucous membranes of gastrointestinal and respiratory tract (metallic taste, nausea, vomiting, abdominal pain, bloody diarrhoea, intestinal burns, glottal oedema, aspiration pneumonia); drop in blood pressure, cardiac dysrhythmia, circulatory collapse, and renal failure; chronic: inflammation of the mouth with loss of teeth and mercurial line. The principal signs manifest themselves in the CNS (impaired speech, vision, hearing, and sensitivity, loss of memory, irritability, hallucinations, delirium inter alia).

Additional Information

RTECS: OW8750000

Section 12: Ecological Information

12.1 Toxicity

Toxicity to fish

Mortality LC50 - Cyprinus carpio (Carp) - 0.16 mg/l - 96 h

The value is given in analogy to the following substances: Mercury dichloride

Toxicity to daphnia and other aquatic invertebrates

NOEC - Daphnia magna (Water flea) - 0.001 mg/l - 21

The value is given in analogy to the following substances: Mercury dichloride

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

Section 13: Disposal Considerations

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

Section 14: Transport Information

IATA

UN number: UN1641 Class: 6.1 Packing group: II
Proper shipping name: Mercury oxide

Section 15: Regulatory Information

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

Section 16: Other Information

Further information

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