

MATERIAL SAFETY DATA SHEET**MERCURIC IODIDE**

PRODUCT CODE NUMBER(S): 5080-1

PRODUCT IDENTIFICATION**Chemical Name and Synonyms:** *Mercuric iodide red; Mercuric iodide; mercury iodide***Chemical Family:** *Inorganic salt***Chemical Formula:** *HgI₂***Product Use:** *Laboratory reagent***Manufacturer's Name and Address:***Caledon Laboratories Ltd.
40 Armstrong Avenue
Georgetown, Ontario L7G 4R9***Telephone No:** *(905) 877-0101***Fax No:** *(905) 877-6666***Emergency Telephone No:** *CANUTEC (613) 996-6666***HAZARDOUS INGREDIENTS OF MATERIALS**

<i>Ingredients</i>	<i>%</i>	<i>TLV Units</i>	<i>CAS No.</i>
<i>Mercuric iodide red</i>	<i>>99</i>	<i>0.025 mg/m³ (skin, Hg)</i>	<i>7774-29-0</i>

PHYSICAL DATA**Physical State:** *Solid***Odour and Appearance:** *Red powder; odourless***Odour Threshold (ppm):** *Not available***Vapour Pressure (mm Hg):** *Not available***Vapour Density (Air = 1):** *Not available***Evaporation Rate:** *Not available***Boiling Point (degrees C):** *350°C (sublimes)***Melting Point (degrees C):** *259°C***pH:** *Not available***Specific Gravity:** *6.36***Coefficient of Water/Oil distribution:** *Not available***SHIPPING DESCRIPTION****UN:** *1638***T.D.G. Class:** *6.1***Pkg. Group:** *II***REACTIVITY DATA****Chemical Stability:** *Stable***Incompatibility with other substances:** *Strong oxidizing agents. May react violently or explosively with bromides, chlorides, ammonia, alkalis, cyanides, copper and lead salts, iodoform, hydrogen peroxide. Violent reaction with ClF₃. Strong explosion on contact with sodium or potassium.***Reactivity:** *Avoid excessive heat, generation of dust, all incompatible materials, exposure to light.***Hazardous Decomposition Products:** *Mercury vapour, mercury oxides, iodine, hydrogen iodide.***FIRE AND EXPLOSION DATA****Flammability:** *Non combustible***Extinguishing Media:** *Use an extinguisher appropriate to the surrounding material that is burning. Move containers from fire area if it can be done without risk. Use water spray or fog to cool containers and disperse vapours. Fight fire from upwind, from a safe distance. Firefighters must wear protective equipment (positive pressure full facepiece self-contained breathing apparatus) and clothing (chemical splash suit) sufficient to prevent inhalation of vapours and contact with skin and eyes.***Flash Point (Method Used):** *Not applicable***Autoignition Temperature:** *Not applicable***Upper Flammable Limit (% by volume):** *Not applicable***Lower Flammable Limit (% by volume):** *Not applicable***Hazardous Combustion Products:** *Toxic fumes of mercury, mercury oxides, iodine, hydrogen iodide.***Sensitivity to Impact:** *None Identified***Sensitivity to Static discharge:** *None Identified***TOXICOLOGICAL PROPERTIES AND HEALTH DATA****Toxicological Data:****LD₅₀:** *(oral, rat) 18 mg/kg***LC₅₀:** *Not available***Effects of Acute Exposure to Product:****Inhaled:** *Dust and vapour are extremely destructive and very toxic. Can cause burns and severe respiratory tract damage with sore throat, coughing, pain, tightness in chest, breathing difficulties, shortness of breath, bronchitis and pneumonitis. Readily absorbed, causing systemic mercury poisoning, with headache, muscle weakness, anorexia, gastrointestinal disturbance, rapid and weak pulse, shallow breathing, paleness, ringing in the ears, liver changes, fever, kidney damage, exhaustion and collapse. Delayed death may occur due to renal failure.***In contact with skin:** *Skin contact may cause irritation, dermatitis or sensitivity. Readily absorbed through the skin in toxic amounts, with symptoms as in "Inhaled".***In contact with eyes:** *Dust or solutions can cause irritation and even ulceration of the conjunctiva and cornea with permanent eye damage.***Ingested:** *Very toxic. Average lethal dose for inorganic mercury salts ~1g. Ingestion may cause burning of the mouth and pharynx, abdominal pain, vomiting, bloody diarrhea, and systemic poisoning, with symptoms as in "Inhaled".***Effects of Chronic Exposure to Product:***Danger of cumulative and irreversible effects. Chronic exposure through any route will damage central nervous system, brain, liver, kidneys, and cause symptoms such as headache, tremors, personality and behaviour changes, loosening*

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ing of teeth, loss of appetite, ulceration of skin, impaired memory, digestive disorders, skin rashes. Can cause skin sensitization. Repeated skin contact can cause skin to turn grey in colour. Persons with pre-existing nervous, kidney, or respiratory disorders, or known sensitivity to mercury may be more susceptible to the effects of this substance.

Carcinogenicity: No information available

Teratogenicity: No information specific to mercuric iodide is available, but other inorganic mercury compounds have been shown to retard fetal growth in animal testing.

Reproductive Effects: May cause adverse reproductive effects (RTECS No. OW5250000).

Mutagenicity: No information specific to mercuric iodide is available, but other inorganic mercury compounds have been shown to be mutagenic in bacterial and mammalian assays (WHO, Geneva, 1991).

Synergistic Products: None found

PREVENTIVE MEASURES

Engineering Controls: Local exhaust ventilation required.

Respiratory Protection: Dust/mist mask. NIOSH/MSHA approved full facepiece respirator with dust/mist filter for up to 50x TLV or the maximum use specified by the respirator supplier, whichever is lowest. For high or unknown concentrations, as in fire or spill conditions, positive-pressure, full face-piece self-contained breathing apparatus.

Eye Protection: Chemical safety goggles and face shield if any risk of splashing or dusting is present.

Skin Protection: Impervious protective gloves and other clothing, apron, sleeves, coveralls, sufficient to prevent all contact.

Other Personal Protective Equipment: Safety shower and eye-wash fountain in work area.

Leak and Spill Procedure: Evacuate and ventilate area of spill. Cleanup personnel must be thoroughly trained in the handling of hazardous materials, and must wear protective equipment and clothing sufficient to prevent inhalation of dusts or fumes and contact with skin and eyes. Do not touch or inhale spilled material. Avoid raising dust. Mix with sand, 10 to 20 times by weight, transfer carefully into container and arrange removal by disposal company. Prevent from entering sewers, storm drains, or other waterways; dangerous if allowed to enter drinking water sources. Wash site of spillage thoroughly with water and detergent.

Waste Disposal: Follow all federal, provincial and local regulations for disposal.

Handling Procedures and Equipment: TOXIC; CUMULATIVE, POSSIBLE TERATOGEN, MUTAGEN. Workers handling this product must be thoroughly trained in its hazards and its safe use, and must wear appropriate protective equipment and clothing. Keep away from combustible or organic materials, and all sources of heat and ignition. Keep work areas free of extraneous or incompatible materials. Use the smallest amounts possible for the purpose, in designated areas with adequate ventilation. Maintain good housekeeping procedures to avoid accumulation of dust. Avoid all contact and inhalation of dust or fumes. Keep containers closed when not in use and when empty. Empty containers may contain hazardous residues; treat with caution. Wash thoroughly after working with this product.

Storage Requirements: Store in suitable, labelled containers, in a cool, dry, well-ventilated area, out of direct sunlight, and away from all incompatible materials. Protect from light. Keep containers tightly closed when not in use and when

empty. Protect from damage, and inspect frequently for signs of leaking.

FIRST AID MEASURES

Specific Measures:

Eyes: Flush thoroughly with gently running water for at least fifteen (15) minutes, holding eyelids open while flushing. Take care not to flush contaminated water into unaffected eye. Wear protective gloves to avoid contact during first aid procedures. Get medical attention.

Skin: Remove contaminated clothing, including watches, rings, belts, and shoes. Rescuer should wear impervious gloves to avoid contact with this chemical. Wash skin with plenty of running water for at least fifteen (15) minutes. Get medical attention. Decontaminate clothing and leather goods (shoes, belts) before reuse, or discard.

Inhalation: Remove to fresh air. Give oxygen and get medical attention for any breathing difficulty. If breathing has stopped begin artificial respiration immediately.

Ingestion: If the person is conscious, alert, and not convulsing, give large quantities (2 to 4 glasses) of water to drink immediately. After the water has been swallowed encourage vomiting (under medical supervision) by touching the back of throat with finger or by administering syrup of ipecac. Get medical attention immediately (show label if possible).

REFERENCES USED

CCINFO disc: MSDS's, May 2007

Budavari: The Merck Index, 12th ed., 1997

Royal Society of Chemistry: Chemical Safety Data Sheets, Vol. 4b, 1991

Suppliers' Material Safety Data Sheets

ADDITIONAL INFORMATION

Date Issued: June 28, 1991

Revision: May 2010

MSDS: 5080-1

Proposed WHMIS Designation: D1A; D2A; D2B

Prepared by: Caledon Laboratories Ltd. (905) 877-0101
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