



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	MERCURIC IODIDE
Version #	01
Revision date	01-09-2012
CAS #	7774-29-0
Product Codes	J.T.Baker: 2608, 2610
Synonym(s)	Mercury biniodide; mercury (II) iodide; mercury diiodide
Manufacturer	Avantor Performance Materials, Inc.
Address	3477 Corporate Parkway Suite #200 Center Valley, PA 18034 US
Customer Service	855-282-6867
24 Hour Emergency	908-859-2151
Chemtrec	800-424-9300

2. Hazards Identification

Emergency overview	DANGER May be fatal if inhaled, absorbed through skin, or swallowed. Irritating to eyes, respiratory system and skin. Causes brain, central/peripheral nervous system, kidney, and gastrointestinal tract damage. May cause reproductive effects. Prolonged exposure may cause chronic effects.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Ingestion. Inhalation. Skin contact. Eye contact.
Eyes	Strongly irritating. Prolonged contact may cause burns.
Skin	This product may be fatal if it is absorbed through the skin. Strongly irritating. Prolonged contact may cause burns.
Inhalation	May be fatal if inhaled. Dust irritates the respiratory system, and may cause coughing and difficulties in breathing. Can cause nervous system damage.
Ingestion	May be fatal if swallowed. Ingestion may cause severe irritation of the mouth, the esophagus and the gastrointestinal tract. Can cause nervous system damage.
Target organs	Eyes. Skin. Respiratory system. Brain. Nervous System. Kidneys. Reproductive organs. Gastrointestinal tract. Thyroid.
Chronic effects	May cause adverse reproductive effects - such as birth defects, miscarriages, or infertility based on animal data. Can cause nervous system damage. Brain damage. Can cause thyroid damage.
Potential environmental effects	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
MERCURIC IODIDE	7774-29-0	99 - 100

4. First Aid Measures

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

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 clothing separately before reuse. Destroy or thoroughly clean contaminated shoes.
Inhalation	Move to fresh air. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.
Notes to physician	Treat symptomatically. Symptoms may be delayed. Keep victim under observation.
General advice	In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Show this safety data sheet to the doctor in attendance. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Flammable properties	The product is not flammable.
Extinguishing media	
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	None known.
Protection of firefighters	
Specific hazards arising from the chemical	Fire may produce irritating, corrosive and/or toxic gases.
Protective equipment and precautions for firefighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.
Specific methods	In the event of fire and/or explosion do not breathe fumes. Use water spray to cool unopened containers. Cool containers exposed to flames with water until well after the fire is out.

6. Accidental Release Measures

Personal precautions	Wear appropriate protective equipment and clothing during clean-up. Keep unnecessary personnel away. Keep upwind. Ventilate the area. Do not inhale vapor, fumes, or dust from the spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not discharge into drains, water courses or onto the ground.
Methods for containment	If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Prevent entry into waterways, sewer, basements or confined areas.
Methods for cleaning up	Avoid dust formation. Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Large Spills: Collect dust or particulates using a vacuum cleaner with a HEPA filter. Reduce airborne dust and prevent scattering by moistening with water. Never return spills in original containers for re-use. Clean contaminated surface thoroughly. Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling	Wear appropriate personal protective equipment. Do not get in eyes, on skin, on clothing. Do not breathe dust. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment.
Storage	Keep tightly closed in a dry, cool and well-ventilated place.

8. Exposure Controls / Personal Protection

ACGIH

Material	Type	Value	Form
MERCURIC IODIDE (7774-29-0)	BEL	35.0000 µg/g	Inhalable fraction and vapor.
		15.0000 µg/l	
	TWA	0.0250 mg/m ³	
		0.0100 ppm	

Engineering controls 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.

Personal protective equipment

Eye / face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection Wear appropriate chemical resistant clothing. Wear appropriate chemical resistant gloves.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: High-efficiency particulate respirator with full facepiece.

General hygiene considerations 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 and protective equipment to remove contaminants.

9. Physical & Chemical Properties

Appearance	Powder.
Color	Red.
Odor	Odorless.
Odor threshold	Not available.
Physical state	Solid.
Form	Powder.
pH	Not available.
Melting point	498.2 °F (259 °C)
Freezing point	498.2 °F (259 °C)
Boiling point	662 °F (350 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Specific gravity	6.36 @ 25°C/4°C
Relative density	Not available.
Solubility (water)	Slight.
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Molecular weight	454.9 g/mol
Molecular formula	Hg-I ₂

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under normal temperature conditions.
Conditions to avoid	Light. Heat.
Incompatible materials	Alkalies. Ammonia. Cyanides. Bromine. Chlorinated compounds. Hydrogen peroxide (H2O2). Inorganic salts.
Hazardous decomposition products	May include oxides of Mercury. Iodine.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

Product	Test Results
MERCURIC IODIDE (7774-29-0)	Acute Dermal LD50 Rat: 75 mg/kg Acute Oral LD50 Rat: 18 mg/kg
Sensitization	Not a skin sensitizer.
US ACGIH Threshold Limit Values: Skin designation	
MERCURIC IODIDE (CAS 7774-29-0)	Can be absorbed through the skin.
Acute effects	May be fatal if inhaled, absorbed through skin, or swallowed.
Local effects	Irritating to eyes, respiratory system and skin. Causes brain, central/peripheral nervous system, kidney, and gastrointestinal tract damage.
Chronic effects	Can cause thyroid damage. Brain damage. Central and/or peripheral nervous system damage.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
IARC Monographs. Overall Evaluation of Carcinogenicity	
MERCURIC IODIDE (CAS 7774-29-0)	3 Not classifiable as to carcinogenicity to humans.
Skin corrosion/irritation	Strongly irritating. Prolonged contact may cause burns.
Epidemiology	No epidemiological data is available for this product.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Neurological effects	Central and/or peripheral nervous system damage.
Reproductive effects	Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. The relevance to humans is uncertain.
Symptoms and target organs	Irritant effects. Cough. Shortness of breath. Decrease in motor functions. Renal injury.
Further information	Danger of very serious irreversible effects. Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Product	Test Results
MERCURIC IODIDE (7774-29-0)	LD50 Red algae (Plumaria elegans): 0.156 mg/l 18.00 hours
Ecotoxicity	Very toxic to aquatic life with long lasting effects.
Persistence and degradability	The product is not readily biodegradable.
Partition coefficient (n-octanol/water)	Not available

13. Disposal Considerations

Waste codes	D009: Waste Mercury
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Disposal instructions

Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.

Contaminated packaging

Since emptied containers retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

DOT**Basic shipping requirements:**

UN number UN1638
Proper shipping name MERCURY IODIDE
Hazard class 6.1
Packing group II

Additional information:

Special provisions IB2, IP2, IP4, T3, TP33

Basic shipping requirements:

Labels required 6.1
Additional information:
Packaging exceptions 153
Packaging non bulk 212
Packaging bulk 242
Reportable quantity 1
ERG number 151

IATA**Basic shipping requirements:**

UN number 1638
Proper shipping name MERCURY IODIDE
Hazard class 6.1
Packing group II

Additional information:

ERG code 6L

IMDG**Basic shipping requirements:**

UN number 1638
Proper shipping name MERCURY IODIDE
Hazard class 6.1
Packing group II



DOT



IATA



IMDG

15. Regulatory Information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
 All components are on the U.S. EPA TSCA Inventory List.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

MERCURIC IODIDE (CAS 7774-29-0)	1.0 % N458 Substance is not eligible for the de minimis exemption except for the purposes of supplier notification requirements.
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US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Reportable threshold

MERCURIC IODIDE (CAS 7774-29-0)	10 LBS N458
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US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

MERCURIC IODIDE (CAS 7774-29-0)	Listed. N458
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CERCLA (Superfund) reportable quantity

MERCURIC IODIDE: 1.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
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Section 311 hazardous chemical	Yes
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Clean Air Act (CAA)	HAPS list Urban HAPS list
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Clean Water Act (CWA)	Priority pollutant Toxic pollutant
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Safe Drinking Water Act (SDWA)	0.002 mg/l 0.002 mg/l
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Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations	WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
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US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

MERCURIC IODIDE (CAS 7774-29-0)	Listed.
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US - California Proposition 65 - CRT: Listed date/Developmental toxin

MERCURIC IODIDE (CAS 7774-29-0)	Listed: July 1, 1990 Developmental toxin.
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US - New Jersey Community RTK (EHS Survey): Reportable threshold

MERCURIC IODIDE (CAS 7774-29-0)	500 LBS
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Saf-T-Data

Health: 4 - Extreme (Poison)

Flammability: 0 - None

Reactivity: 1 - Slight

Contact: 3 - Severe (Life)

Lab Protective Equip: D - GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

Storage Color Code: B - Blue (Health)

16. Labeling Info

Label Hazard Warning

DANGER

May be fatal if inhaled, absorbed through skin, or swallowed. Irritating to eyes, respiratory system and skin. Causes brain, central nervous system, peripheral nervous system, kidney, and gastrointestinal tract damage. May cause reproductive effects. Prolonged exposure may cause chronic effects.

Label Precautions

Do not get in eyes, on skin, or on clothing. Do not breathe dust. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling. Container must be kept tightly closed.

Label First Aid

Immediately flush eyes with plenty of water for at least 15 minutes. Immediately flush skin with plenty of water. If gas/fume/vapor/dust/mist from the material is inhaled, remove the affected person immediately to fresh air. Call a physician or poison control center immediately. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. 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. Do not use mouth-to-mouth method if victim inhaled the substance.

17. Other Information

NFPA ratings

Health: 3

Flammability: 0

Instability: 0

Disclaimer

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Issue date

01-09-2012