MATERIAL SAFETY DATA SHEET
GENIUM PUBLISHING CORPORATION
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SECTION 1. MATERIAL IDENTIFICATION
MATERIAL NAME: MERCURIC CHLORIDE
OTHER DESIGNATIONS: Mercury(II) Chloride; Mercuric Bichloride; Corrosive Sublimate; HgCl₂, CAS #7546-30-7.
SUPPLIER: Available from several suppliers, including:
Klatt Chemical Company
PO Box 896
Evanston, IL 60201
(312) 475-6976
Aakash Chemical & Dystuff, Inc.
1701 S. First Avenue, Suite 306
Maywood, IL 60153
(312) 344-4855

SECTION 2. INGREDIENTS AND HAZARDS
MERCURIC CHLORIDE, HgCl₂
* Current (1985-86) ACGIH TLV for inorganic mercury compounds.
The OSHA PEL for "mercury" is 0.1 mg/m³ as a ceiling concentration.
In its 1973 Criteria Document on Inorganic Mercury, NIOSH recommended a
PEL of 0.05 mgHg/m³ as an 8 hour TWA for all inorganic mercury compounds.

<table>
<thead>
<tr>
<th>%</th>
<th>HAZARD DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ca 99</td>
<td>8 hr TWA: 0.1 mg/m³ as Hg (skin)*</td>
</tr>
<tr>
<td></td>
<td>Human, oral:</td>
</tr>
<tr>
<td></td>
<td>LDLo: 29 mg/kg</td>
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<tr>
<td></td>
<td>Rat, oral:</td>
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<tr>
<td></td>
<td>LD50: 1 mg/kg</td>
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<tr>
<td></td>
<td>Rabbit, skin</td>
</tr>
<tr>
<td></td>
<td>500 mg/24 hr - severe irritation</td>
</tr>
<tr>
<td></td>
<td>Rabbit, eye</td>
</tr>
<tr>
<td></td>
<td>0.050 mg/24 hr - severe irritation</td>
</tr>
</tbody>
</table>

SECTION 3. PHYSICAL DATA
Melting point ............... 276°C
Boiling point ............... 302°C
Specific gravity @ 25°C ... 5.44
Solubility in water, g/100cc:
@ 20°C ............... 6.9
@ 100°C ............... 48

APPEARANCE & ODOR: Colorless crystals or white powder. No odor.

SECTION 4. FIRE AND EXPLOSION DATA
Flash Point and Method .... N/A
Autoignition Temp. .......... N/A
Flammability Limits in Air ... N/A

This material is not combustible. Use extinguishing agents suitable for the surrounding fire. CAUTION: The use of water may result in the spread of HgCl₂ contamination because of its solubility.

Highly toxic fumes/vapors can be evolved under fire conditions. Firefighters should wear positive pressure self-contained breathing apparatus when fighting fires involving this material. Full protective gear should be worn to prevent skin and eye contact.

SECTION 5. REACTIVITY DATA
This material is stable in closed containers at room temperature. It has an appreciable vapor pressure above 100°C and volatilizes (vapors are highly toxic!) without decomposition at 300°C. It is soluble in water, alcohols, organic acids, acetone, and other organics.

Incompatible materials include phosphorus, antimony, arsenic, silver salts, alkali metals and sulfides, acetylene, ammonia, oxalic acid, metal oxalates, metal sulfides and metal phosphates. Contact with these materials may create an explosion hazard.*

* REF: Data source #8, page 313.
### SECTION 6. HEALTH HAZARD INFORMATION

Mercuric chloride is highly poisonous by inhalation and ingestion. Mercuric salts are also readily absorbed through the skin. Acute inhalation overexposure can cause irritation to the mucous membranes of the respiratory tract, abdominal pain, vomiting, diarrhea, inflammation of the gums (gingivitis) and mouth (stomatitis). Symptoms of chronic toxicity include psychic and emotional disturbances (excitability, anxiety, depression, indecision, insomnia), nervous system effects (muscular tremors, incoordination), gingivitis, stomatitis, and kidney damage. Ingestion of HgCl₂ can cause severe irritation of the GI tract, difficult swallowing, nausea, vomiting, abdominal pain, diarrhea and shock. Death may occur following ingestion of 1-4 grams or less.

**FIRST AID:**
- **EYE CONTACT:** Immediately flush eyes, including under eyelids, with large amounts of water. Get prompt medical attention (In-plant, paramedic, community).
- **SKIN CONTACT:** Remove contaminated clothing immediately. Thoroughly wash contaminated area with soap and water. Seek medical attention if irritation or other symptoms develop.
- **INHALATION:** Remove from exposure. Restore/aid breathing as required. Get prompt medical attention.
- **INGESTION:** Immediately give person a large quantity of water to drink and induce vomiting. Repeat. Keep person warm and at rest. Get medical help immediately. (Do not give anything by mouth or induce vomiting if the person is unconscious).

### SECTION 7. SPILL, LEAK AND DISPOSAL PROCEDURES

Notify safety/environmental personnel of spills. Ventilate spill area. Clean-up personnel should wear respiratory protective equipment, gloves, goggles, and protective clothing. Carefully scoop up spilled material into a suitable container. Minimize dust generation. Absorb solution spills on an inert material. Wash area with dilute calcium sulfide solution. Do not allow release of HgCl₂ to drains or waterways.

**DISPOSAL:** Reclaim material when possible. Unsalvageable waste may be disposed of in approved containers in a secured chemical waste landfill. Do not allow release of HgCl₂ solutions without prior treatment (such as precipitation as the sulfide) to remove mercury to allowable levels. Contact supplier or licensed chemical waste disposal contractor for instruction on the treatment/disposal of this material. Follow Local, State and Federal regulations.

**EPA HAZARDOUS WASTE NUMBER:** D009 (EP Toxicity; 40 CFR 261.24).

### SECTION 8. SPECIAL PROTECTION INFORMATION

Provide general and local exhaust ventilation as required to meet the TLV. NIOSH-approved respirators should be worn during nonroutine and emergency operations and whenever the TLV is exceeded. NIOSH recommends a full facepiece gas mask with high-efficiency filter and canister containing iodine-impregnated charcoal for concentrations up to 5 mg/m³. Above 5 mg/m³, positive pressure supplied air respirator or self-contained breathing apparatus are recommended.

Wear chemical safety goggles, gloves and protective clothing (aprons, coveralls, etc.) when handling this material. Launder contaminated clothing before reuse.

Eyewash stations, safety showers and washing facilities should be readily accessible to workers handling this material.

Contact lenses pose a special hazard; soft lenses absorb and all lenses concentrate irritants.

### SECTION 9. SPECIAL PRECAUTIONS AND COMMENTS

Store in tightly closed containers in a cool, dry, well-ventilated location away from incompatibles. Protect containers from physical damage. Maintain good housekeeping practice to prevent accumulation of dust. Use techniques that minimize dust generation. Clean up spills promptly. Employees should be trained in safe handling procedures for this highly toxic material. Workers should follow good personal hygiene practices: wash thoroughly after handling, before eating, drinking, and smoking and after the workshift. Promptly remove contaminated clothing and wash any area of the skin that comes in contact with this material.

Preplacement and periodic medical exams of exposed workers are recommended with emphasis on CNS involvement, kidney dysfunction, and other symptoms of mercury toxicity. Urinary mercury determinations are often used as a measure of Hg absorption. Levels of 0.1 to 0.5 mgHg/L are considered significant.

**DOT CLASS:** Poison B  **LABEL:** Poison  **SHIPPING NAME:** Mercuric Chloride, solid

**DOT ID #:** UN 1624

**DATA SOURCE(S) CODE (See Glossary)** 2, 4, 8, 12, 14, 19, 43, 44, 49, 55, 58, 60 V.

**APPROVALS**
- INDUST. HYGIENE/SAFETY: Dec 85
- MEDICAL REVIEW: Aug 85

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