M1612 - 02
Effective: 03/09/92

J.T. BAKER INC., 222 Red School Lane, Phillipsburg, NJ 08865

---------------------------------------------------------------------
SECTION I - PRODUCT IDENTIFICATION
---------------------------------------------------------------------

Product Name: Mercury Bichloride
Common Synonyms: Mercury (II) Chloride; Mercury Bichloride; Mercuric Bichloride
Chemical Family: Mercury Compounds
Formula: HgCl₂
Formula Wt.: 271.50
CAS No.: 7487-94-7
NIOSH/RTECS No.: 0U9100000
Product Use: Laboratory Reagent
Product Codes: 2580, 2578

---------------------------------------------------------------------
PRECAUTIONARY LABELING
---------------------------------------------------------------------

BAKER SAF-T-DATA* System

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>REACTIVITY</th>
<th>CONTACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

EXTREME
NONE
NONE
SEVERE

Laboratory Protective Equipment

- GOGGLES
- LAB CONT
- VENT HOOD
- PROPER GLOVES

U.S. Precautionary Labeling

POISON! DANGER!
EXCEPTIONAL CONTACT HAZARD: READ MATERIAL SAFETY DATA SHEET. MAY BE FATAL IF SWALLOWED.
Do not get in eyes, on skin, on clothing. Avoid breathing dust. Keep in tightly closed container. Use with adequate ventilation. Wash thoroughly after handling.

Continued on Page: 2
PRECAUTIONARY LABELING (CONTINUED)

International Labeling

Avoid contact with eyes. After contact with skin, wash immediately with plenty of water. Keep container tightly closed.

SAF-T-DATA* Storage Color Code: Blue (health)

SECTION II - COMPONENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>Weight %</th>
<th>OSHA/PEL</th>
<th>ACGIH/TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury Bichloride</td>
<td>7487-94-7</td>
<td>30-100</td>
<td>0.1 mg/m³</td>
<td>0.1 mg/m³</td>
</tr>
</tbody>
</table>

SECTION III - PHYSICAL DATA

Boiling Point: 302°C (575°F)
(at 760 mm Hg)

Melting Point: 276°C (528°F)
(at 760 mm Hg)

Specific Gravity: 5.44
(H₂O=1)

Solubility(H₂O): Moderate (1-10%)

% Volatiles by Volume: 0
(21°C)

pH: N/A

Odor Threshold (ppm): N/A

Physical State: Solid

Coefficient Water/Oil Distribution: N/A

Appearance & Odor: White crystalline solid.
== SECTION IV - FIRE AND EXPLOSION HAZARD DATA ==

Flash Point (Closed Cup): N/A
Autoignition Temperature: N/A
Flammable Limits: Upper - N/A  Lower - N/A

Fire Extinguishing Media
Use extinguishing media appropriate for surrounding fire.

Special Fire-Fighting Procedures
Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode.

Unusual Fire & Explosion Hazards
None identified.

Toxic Gases Produced
hydrogen chloride

Explosion Data-Sensitivity to Mechanical Impact
None identified.

Explosion Data-Sensitivity to Static Discharge
None identified.

== SECTION V - HEALTH HAZARD DATA ==

Threshold Limit Value (TLV/TWA): 0.1 mg/m³
Short-Term Exposure Limit (STEL): Not Established
Permissible Exposure Limit (PEL): Not Established

Toxicity of components

Oral Rat LD₅₀ for Mercury Bichloride  1 mg/kg
Intraperitoneal Mouse LD₅₀ for Mercury Bichloride  5 mg/kg
Subcutaneous Rat LD₅₀ for Mercury Bichloride  14 mg/kg
Carcinogenicity: NTP: No  IARC: No  Z List: No  OSHA Reg: No

Continued on Page: 4
Carcinogenicity
None identified.

Reproductive Effects
None identified.

Effects of Overexposure

INHALATION: headache, coughing, dizziness, difficult breathing, and may be fatal

SKIN CONTACT: severe irritation or burns

EYE CONTACT: severe irritation or burns

SKIN ABSORPTION: none identified

INGESTION: nausea, vomiting

CHRONIC EFFECTS: mercury build-up in the brain, liver, and kidneys, headache, shakes, loose teeth, loss of appetite, skin ulceration, impaired memory

Target Organs
none identified

Medical Conditions Generally Aggravated by Exposure
none identified

Primary Routes of Entry
none indicated

Emergency and First Aid Procedures

INGESTION: CALL A PHYSICIAN. If swallowed, if conscious, immediately induce vomiting.

INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes.
EYE CONTACT: In case of eye contact, immediately flush with plenty of water for at least 15 minutes.

SARA/TITLE III HAZARD CATEGORIES and LISTS

Acute: Yes Chronic: Yes Flammability: No Pressure: No Reactivity: No

Extremely Hazardous Substance: Yes Contains Mercuric Chloride (RQ = 1 LB, TPQ = 500/10,000 LBS)
CERCLA Hazardous Substance: Yes Contains Mercury (RQ = 1 LB)
SARA 313 Toxic Chemicals: Yes Contains Mercury
Generic Class: Generic Class Removed from CFR: 7/1/91
TSCA Inventory: Yes

SECTION VI - REACTIVITY DATA

Stability: Stable
Hazardous Polymerization: Will not occur

Conditions to Avoid: light
Incompatibles: none identified
Decomposition Products: hydrogen chloride

SECTION VII - SPILL & DISPOSAL PROCEDURES

Steps to be Taken in the Event of a Spill or Discharge
Wear self-contained breathing apparatus and full protective clothing. With clean shovel, carefully place material into clean, dry container and cover; remove from area. Flush spill area with water.

Disposal Procedure
Dispose in accordance with all applicable federal, state, and local environmental regulations.

EPA Hazardous Waste Number: D009 (EP Toxic Waste)
M1612 -02 Mercury Bichloride Page: 6
Effective: 03/09/92
Issued: 07/10/93

SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT

Ventilation: Use general or local exhaust ventilation to meet TLV requirements.

Respiratory Protection: None required where adequate ventilation conditions exist. If airborne concentration exceeds TLV, a self-contained breathing apparatus is advised.

Eye/Skin Protection: Safety goggles, uniform, apron, rubber gloves are recommended.

SECTION IX - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA Storage Color Code: Blue (health)

Storage Requirements
Keep product out of light. Keep container tightly closed. Store in secure poison area.

SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

Domestic (D.O.T.)

Proper Shipping Name: Mercuric chloride
Hazard Class: 6.1
UN/NA: UN1624
Labels: POISON
Regulatory References: 49CFR 172.101

Packaging Group: II

International (I.M.O.)

Proper Shipping Name: Mercuric chloride
Hazard Class: 6.1
UN: UN1624 Marine Pollutants: No
Labels: POISON
Regulatory References: 49CFR 172.12(b); IMDG Code

I.M.O. Page: 6158
Packaging Group: II

AIR (I.C.A.O.)

Proper Shipping Name: Mercuric chloride
Hazard Class: 6.1
UN: UN1624

Packaging Group: II
M1612 -02
Effective: 03/09/92

Mercury Bichloride

SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (CONTINUED)

Labels: POISON
Regulatory References: 49CFR 172.101; ICAO== We believe the transportation data and references contained herein to be factual and the opinion of qualified experts. The data is meant as a guide to the overall classification of the product and is not package size specific, nor should it be taken as a warranty or representation for which the company assumes legal responsibility.== The information is offered solely for your consideration, investigation, and verification. Any use of the information must be determined by the user to be in accordance with applicable Federal, State, and Local laws and regulations. See shipper requirements 49CFR 172.3 and employee training 49CFR 173.1.

U.S. Customs Harmonization Number: 282739000002

N/A = Not Applicable or Not Available
N/E = Not Established

The information in this Material Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) and the Canadian WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the precautions and dangers of this chemical for his or her particular application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes.
Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, Baker cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. Baker warrants that the chemical meets the specifications set forth on the label. BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.
The user should recognize that this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. READ ALL PRECAUTIONARY INFORMATION. As new documented general safety information becomes available, Baker will periodically revise this Material Safety Data Sheet.

Continued on Page: 8
M1612 -02
Effective: 03/09/92

MERCURY BICHLORIDE

Note: CHEMTREC, CANUTEC, and NATIONAL RESPONSE CENTER emergency telephone numbers are to be used ONLY in the event of CHEMICAL EMERGENCIES involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to Customer Service (1-800-JTBAKER) for assistance.

COPYRIGHT 1993 J.T. BAKER INC.
* TRADEMARKS OF J.T. BAKER INC.

Approved by Quality Assurance Department.