This Material Safety Data Sheet has been prepared to comply with the EC Directive, Canadian WHMIS and OSHA Hazard Communication Regulations.

SECTION 1: IDENTIFICATION

PRODUCT NAME: MERCURY STANDARD

PRODUCT NUMBER: 4050-0120  MSDS NUMBER: 4099-1461  REVISION NUMBER: 6

MSDS DATE OF PREPARATION/REVISION: 06-05-99

SECTION 2: COMPOSITION

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>CAS#</th>
<th>PERCENTAGE</th>
<th>EXPOSURE LIMITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercuric Chloride</td>
<td>7487-94-7</td>
<td>0.1</td>
<td>0.1 mg/m3 PEL-C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.025 mg/m3 TLV-TWA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin</td>
</tr>
<tr>
<td>Nitric Acid</td>
<td>7697-37-2</td>
<td>3.0</td>
<td>2 ppm PEL-TWA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 ppm TLV-TWA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4 ppm TLV-STEL</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>96.9</td>
<td>None Established</td>
</tr>
</tbody>
</table>

Note: The Permissible Exposure Limits (PEL) reported above are the pre-1989 limits that were reinstated by OSHA June 30, 1993 following a decision by the 11th Circuit Court of Appeals. These PELs are those now being enforced by Federal OSHA. Be aware that more restrictive exposure limits may be enforced by some states, agencies or other authorities. The enforced PEL may not be adequate to ensure worker safety, so Bacharach, Inc. recommends that the lowest recommended exposure limit always be observed as reasonable worker protection.
SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
Colorless liquid with no odor. May cause burns to the eyes and skin. Prolonged absorption may result in mercury poisoning.

ACUTE HEALTH HAZARDS:

EYE CONTACT: May cause chemical burns and permanent damage.

SKIN CONTACT: May cause burns. Mercury compounds are absorbed through the skin.

INHALATION: May cause irritation of the nose, throat and respiratory tract. High concentrations may produce pulmonary edema.

INGESTION: May cause gastrointestinal corrosion with vomiting, severe pain, perforation of the esophagus or stomach, shock and death possible.

CHRONIC HEALTH EFFECTS: Prolonged absorption of mercury compounds may cause mercury poisoning with symptoms of tremors, salivation, inflammation of the mouth, loosening of the teeth, weight loss, hallucinations, peripheral neuropathy and kidney damage. Mercury compounds are known to cause adverse reproductive effects in laboratory animals.

CARCINOGEN STATUS: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP or OSHA.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with pre-existing skin diseases may be at increased risk from exposure.

SEE SECTION 11 - TOXICOLOGICAL INFORMATION FOR ADDITIONAL DATA

SECTION 4: FIRST AID

EYE CONTACT: Flush thoroughly with copious amounts of running water for 20 minutes, lifting the lids occasionally. Get immediate medical attention.

SKIN CONTACT: Flush thoroughly with water, 20 minutes, remove contaminated clothing and launder before re-use. Get medical attention if irritation develops.

INHALATION: Remove victim to fresh air and give artificial respiration if needed. Get immediate medical attention.

INGESTION: Never give anything by mouth to an unconscious or convulsing person. Immediately give the victim 1 to 2 glasses of water to drink. Get immediate medical attention.
SECTION 5: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A  TEST METHOD: N/A
AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS:  LEL: N/A  UEL: N/A

EXTINGUISHING MEDIA: This material is not combustible. Use any media that is appropriate for the surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear NIOSH approved positive pressure self contained breathing apparatus and full protective clothing. Use water to keep exposed containers cool.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known.

HAZARDOUS COMBUSTION PRODUCTS: Oxides of nitrogen and mercury.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Wear suitable protective equipment. Dike and contain with inert absorbent. Neutralize with soda ash and absorb. Place in suitable container. Wash residue with water.

SECTION 7: HANDLING AND STORAGE

WORK PRACTICES: Do not breathe mists. Prevent contact with the eyes, skin & clothing. Wear recommended protective clothing. Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep containers tightly closed when not in use.

SPECIAL PRECAUTIONS: Corrosive and toxic! Empty containers retain residues and may be hazardous-follow all precautions when handling.

STORAGE: Store in a cool, well ventilated area, away from bases and other incompatible materials. Keep container tightly closed.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: Use general or local exhaust ventilation as needed to maintain concentrations below the TLV.

RESPIRATORY PROTECTION: If concentrations exceed the TLV use approved dust/mist/acid gas respirator. For higher concentrations (greater than 10 times the TLV) a supplied air or self-contained respirator may be required.

GLOVES: Impervious such as rubber or neoprene.

EYE PROTECTION: Chemical safety goggles and/or face shield recommended. Do not wear contact lenses.

OTHER PROTECTIVE EQUIPMENT: Protective apron or lab coat. Safety shower and eye wash in the work area.
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Colorless liquid with no odor. N/A

pH: <1
BOILING POINT: Not available
SPECIFIC GRAVITY: Approx. 1.0
MELTING POINT: Not available
VAPOR PRESSURE: 14 mmHg @ 20°C (water)
SOLUBILITY IN WATER: Complete
PERCENT VOLATILE: 96.9%
COEFFICIENT WATER/OIL: Not available

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable
CONDITIONS TO AVOID: Avoid excessive heat.
INCOMPATIBILITY: Strong bases, metals, and all chemicals that are reactive with mineral acids.
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of nitrogen, mercury.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA: LD50 mercuric chloride: 1 mg/kg oral rat. LC50 nitric acid: 67 ppm 4hr inhalation rat.
IRRITANCY DATA: This material is corrosive to all tissues.
SENSITIZATION: This material is not known to cause sensitization in animals or humans.
REPRODUCTIVE TOXICITY: Mercury compounds have been reported to cause reproductive toxicity in laboratory animals.

TERATOGENICITY: Mercury compounds have been reported to cause teratogenic effects in laboratory animals.

MUTAGENICITY: Mercuric chloride has been found to be mutagenic in some test systems.
SYNERGISTIC EFFECTS: There are no chemicals known to cause any additive adverse health effects.
SECTION 12: ECOLOGICAL INFORMATION

The ecological effects of this product have not been evaluated.

SECTION 13: DISPOSAL

Dispose in accordance with all local, state and federal regulations.

RCRA HAZARDOUS WASTE CODES: D002, D009

SECTION 14: TRANSPORTATION DATA

US DOT SHIPPING NAME: NITRIC ACID MIXTURE, (NITRIC ACID 3%), 8, UN 2031, PG II
DOT LABELS REQUIRED: CORROSIVE
EMERGENCY RESPONSE GUIDE NUMBER: 157

IATA SHIPPING NAME: NITRIC ACID MIXTURE, (NITRIC ACID 3%), UN 2031, PG II
IATA LABELS REQUIRED: CORROSIVE (CARGO AIRCRAFT 1-30 LITERS)

SECTION 15: OTHER REGULATORY INFORMATION

SARA 311/312: Hazard Categories for SARA Section 311/312 Reporting:
Acute health, chronic health.

SARA 313: This product contains the following chemicals subject to Annual Release
Reporting Requirements under SARA Section 313 (40 CFR 372):
Nitric acid 3%
Mercuric chloride 0.1%

CERCLA SECTION 103 REPORTABLE QUANTITY: 1000 lbs (Mercury Compounds - 1 lb)

CALIFORNIA PROPOSITION 65: This product contains the following substances known to
the State of California to cause Cancer and/or Reproductive Harm: Mercury compound
(mercuric chloride - 0.1%).

US TOXIC SUBSTANCES CONTROL ACT: All of the components of this product are listed on
the EPA TSCA Inventory.

EUROPEAN INVENTORY OF COMMERCIAL CHEMICAL SUBSTANCES: All of the components of this
product are listed on the EINECS Inventory.

JAPAN MITI: All of the components of this product are existing chemical substances as
defined in the Chemical Substance Control Law.

CANADIAN ENVIRONMENTAL PROTECTION ACT: All of the components of this product are
listed on the Canadian Domestic Substances List.

CANADIAN WHMIS CLASSIFICATION: Class D - Division 2A (Very Toxic Material Causing
Other Toxic Effects), Class E - Corrosive Material.

EUROPEAN COMMUNITY LABELING CLASSIFICATION: Harmful (Xn)

EUROPEAN COMMUNITY RISK AND SAFETY PHRASES: R22, R36/38, S24/24, S26, S28

N/D=Not Determined 5  N/A=Not Applicable
SECTION 16: OTHER INFORMATION

NFPA HAZARD RATING: HEALTH: 3  FIRE: 0  REACTIVITY: 0

DATE OF LATEST MSDS REVISION: 06-05-99
REVISION SUMMARY: Revised Exposure Limits, Section 2, EU Classification, Section 15.

The preceding information is believed to be correct and current as of the date of preparation of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Bacharach, Inc., it is the users obligation to assure safe use of this product.