MATERIAL SAFETY DATA SHEET

Section 1- PRODUCT IDENTIFICATION

<table>
<thead>
<tr>
<th>COMPOSITION</th>
<th>PRODUCT NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ag</td>
<td>Silver</td>
</tr>
</tbody>
</table>

Section 2- HAZARDOUS INGREDIENTS

Note: Products under normal conditions do not represent an inhalation, ingestion or contact health hazard.

<table>
<thead>
<tr>
<th>MATERIAL OR COMPONENT</th>
<th>CAS NUMBER</th>
<th>WT%</th>
<th>OSHA PEL (Mg/M3)</th>
<th>ACGIH TLV(MG/M3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver</td>
<td>7440-22-4</td>
<td>100</td>
<td>0.01MG/M3</td>
<td>0.01 MG/M3</td>
</tr>
</tbody>
</table>

Section 3- PHYSICAL DATA

<table>
<thead>
<tr>
<th>MATERIAL IS (AT NORMAL CONDITIONS)</th>
<th>APPEARANCE AND ODOR</th>
<th>MELTING POINT (BASE METAL)</th>
<th>SPECIFIC GRAVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid □ Solid □ Gas □ Other</td>
<td>Soft, ductile, malleable, lustrous, white metal; odorless</td>
<td>1763F (962C)</td>
<td>10.5</td>
</tr>
</tbody>
</table>

Section 4- FIRE AND EXPLOSION

<table>
<thead>
<tr>
<th>Flash Point (Method Used)</th>
<th>Flammable Limits</th>
<th>LEL</th>
<th>UEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

EXTINGUISHING MEDIA

Dry powder class for metal fires – water, foam, etc.

SPECIAL FIRE FIGHTING PROCEDURES

Use any procedure suitable for surrounding fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Moderate hazard in contact with strong oxidizers – react with concentrated oxidizing acids.
### Section 5- Reactivity Data

<table>
<thead>
<tr>
<th>Stability</th>
<th>Incompatibility (Materials to Avoid)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable</td>
<td>Acetylene, ammonia, chlorine trifluoride, ethanol and nitric acid, ethyleneimine and hydrogen peroxide</td>
</tr>
</tbody>
</table>

**Conditions to Avoid**
- None Reported

**Hazardous Decomposition Products**

### Section 6- Health Hazard Guide

**Major Exposure Hazard**
- □Inhalation  □Skin  □Skin Absorption  □Eye Contact  □Ingestion

**Effects of Overexposure**

None from silver metal. Silver salts may stain skin and eyes and irritate skin. May cause conjunctivae which could lead to possible blindness. Silver may also corrode skin, eyes and intestinal tract.

Silver is cumulative when ingested but produces no constitutional symptoms. Skin, throat and eyes may develop a slate grey color.

Continued exposure causes argyria, rarely seen at present, with pigmentation of conjunctiva, skin and other organs. Irritation of septum, throat and skin.

**Emergency & First Aid Procedures**

**Inhalation:** Remove from exposed area to fresh air immediately. If breathing has stopped, perform artificial respiration. Call a physician.

**Skin Contact:** Flush skin with water until no evidence of the chemical remains. Call a physician.

**Eye Contact:** Irrigate eyes with water, occasionally lifting upper and lower lids, until no evidence of the chemical remains. Call a physician.

**Ingestion:** If swallowed, give salt water and induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person. Call a physician.

### Section 7- Spill Or Leak Procedures

**Spill Or Leak Procedures**

Slight hazard during clean-up. Collect dust so as to cause minimum airborne dust and loss. Secure to prevent theft or loss.

**Waste Disposal Methods**

Collect scrap for resale value. Non-recoverable silver is considered hazardous waste to be treated according to RCRA 40 CFR 261-265.

### Section 8- Special Protection

**Respiratory**

High efficiency particulate respirator. For higher concentrations use full face supplied air respirator.
VENTILATION
Local exhaust required for melting, casting and etching. Mechanical adequate to maintain PEL.

EYE PROTECTION & PROTECTIVE CLOTHING
Wear protective clothing. Contact lenses should not be worn when airborne dust is present. Use protective gloves for heat and/or stain protection. Wear goggles or face shield for eye protection.

Section 9- SPECIAL PRECAUTIONS
Handling and storage:
Storage and/or handling involve no hazard.

Hygienic Practices:
Shower before changing into street clothes. Wash hands before eating, drinking or smoking.

Use special vacuum cleaners and dust collectors with high efficiency filters to collect dust or powders.

Operations which generate dust and/or fume should be done inside a fume hood or process enclosure.

Use normal protective equipment and hoods when dissolving or etching silver.

The information in this MSDS was obtained from sources, which we believe are reliable. However, the information is provided without any representation or warranty, express or implied, regarding the accuracy or correctness.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.