SECTION I - PRODUCT IDENTIFICATION
Gold metal, powder and pieces

MANUFACTURER NAME AND ADDRESS:
Kurt J. Lesker Co  
P.O. Box 10  
1925 Route 51  
Clairton, PA 15025

TELEPHONE NUMBERS:
CHEMTREC (800)424-9300  
(703)527-3887 (outside USA)

DATES:
Date Created: 06/27/2006  
Revision: 06/25/2008

UPC/EAN: 231-165-9
SYNONYMS
Gold metal; burnish gold; colloidal gold; gold flake; gold leaf; gold powder; magnesium gold purple; shell gold.

CHEMICAL FAMILY: Metal

DOT HAZARD LABEL: No data.

FORMULA: Au

MOLECULAR WEIGHT: 196.97

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION
Gold metal, powder and pieces

HAZARDOUS COMPONENTS (CHEMICAL NAME)

<table>
<thead>
<tr>
<th>NAME:</th>
<th>Gold metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS #:</td>
<td>7440-57-5</td>
</tr>
<tr>
<td>OSHA PEL:</td>
<td>NE</td>
</tr>
<tr>
<td>OTHER LIMITS:</td>
<td>NE</td>
</tr>
<tr>
<td>SEC.302 (EHS):</td>
<td>No</td>
</tr>
<tr>
<td>SEC.313:</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NAME:</th>
<th>See SECTION 16-Other Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS #:</td>
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</tbody>
</table>

SECTION III - PHYSICAL/ CHEMICAL CHARACTERISTICS
Gold metal, powder and pieces

PHYSICAL STATES: [ ] Gas , [ ] Liquid , [ X ] Solid

BOILING POINT: 2700.00 C (4892.0 F) to 3080.00

MELTING POINT: 1064.40 C (1947.9 F)
SPECIFIC GRAVITY (WATER = 1): 19.3 g/cc
DENSITY: No data.
VAPOR PRESSURE (VS. AIR OR MM HG): 1 mm at 1869.0 C (3396.2 F)
VAPOR DENSITY (VS. AIR = 1): No data.
EVAPORATION RATE (VS BUTYL ACETATE=1): No data.
SOLUBILITY IN WATER: insoluble
PERCENT VOLATILE: N.A.
PH: No data.
APPEARANCE AND ODOR
Yellow, ductile metal or powder, no odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA
Gold metal, powder and pieces

FLASH PT: N.A. METHOD USED: No data.
EXPLOSIVE LIMITS: LEL: NA UEL: NA
EXTINGUISHING MEDIA
USE: Not applicable. Use suitable extinguishing media for surrounding materials and type of fire.

SPECIAL FIRE FIGHTING PROCEDURES
Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Extremely inactive; not attacked by acids, air or oxygen.
Superficially attacked by aqueous halogen at room temperature.
React with aqua regia, with mixtures containing chlorides, bromides, or iodides if they can generate nascent halogens.
Reacts with many oxidizing mixtures especially those containing halogens.
Reacts with alkali cyanides, solutions of thiocyanates and double cyanides.
Does not corrode in air but is tarnished by sulfur.
Finely divided gold with hydrogen peroxide may explode.

SECTION V - REACTIVITY DATA
Gold metal, powder and pieces

STABILITY: Unstable [ ] Stable [ X ]
CONDITIONS TO AVOID - INSTABILITY
None

INCOMPATIBILITY - MATERIALS TO AVOID
Mixtures containing chlorides, bromides or iodides; alkali cyanides; thyocyanate solutions; double cyanides; hydrogen peroxide; halogens; ammonia

HAZARDOUS DECOMPOSITION OR BYPRODUCTS
Fumes of gold, nascent halogens, carbon monoxide, carbon dioxide

**HAZARDOUS POLYMERIZATION:** Will occur [ ] Will not occur [ X ]

**CONDITIONS TO AVOID - HAZARDOUS POLYMERIZATION**
None

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**SECTION VI - HEALTH HAZARD DATA**

**Gold metal, powder and pieces**

**ROUTE(S) OF ENTRY:** Inhalation? No , Skin? No , Eyes? No , Ingestion? No , Other: N

**HEALTH HAZARDS (ACUTE AND CHRONIC)**

Gold poisoning is rare. The few recorded cases of fatalities are the result of therapeutic overdose. Human systemic effects are similar to those of arsenic exposure and include: violent diarrhea, gastritis, colitis, dermatitis, blood dyscrasias, leukopenia, aganulocytosis and a plastic anemia. The therapeutic use of gold compounds has been associated with serious effects at the kidney, liver, and other vital organs. Generally, gold compounds are poorly absorbed when ingested. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

**INHALATION:**
Acute: May cause irritation to mucous membranes. Chronic: Long exposure time may cause dyspnea, hyperventilation on exertion, cough, sputum and chronic bronchitis.

**INGESTION:**
Acute: May cause gastrointestinal tract irritation.
Chronic: No chronic health effects recorded.

**SKIN:** Acute: May cause abbrasive irritation. May cause an allergic reaction.
Chronic: May cause dermatitis.

**EYE:**
Acute: May cause irritation.
Chronic: May cause conjunctivitis.

**TARGET ORGANS:** No target organs recorded.

**CARCINOGENICITY:** NTP? No , IARC Monographs? No , OSHA Regulated? No

**CARCINOGENICITY/OTHER INFORMATION**
Questionable carcinogen with experimental tumorigenic data by implantation.

**RECOMMENDED EXPOSURE LIMITS:** See “Section II” **LD 50/LC 50:** Not Established

**SIGNS AND SYMPTOMS OF EXPOSURE**
INHALATION: May cause a red, dry throat, sneezing and difficulty breathing. INGESTION: May cause nausea and vomiting.

**SKIN:** May cause redness, dryness and itching.

**EYE:** May cause redness, burning, inflammation and watering.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**
None recorded.
EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Remove victim to fresh air; keep warm and quiet; give oxygen if breathing is difficult and seek medical attention if symptoms persist.

INGESTION: Give 1-2 glasses of milk or water and induce vomiting; seek medical attention if symptoms persist. Never induce vomiting or give anything by mouth to an unconscious person.

SKIN: Remove contaminated clothing; brush material off skin; wash affected area with mild soap and water; seek medical attention if symptoms persist.

EYE: Flush eyes with lukewarm water, lifting upper and lower eyelids, for at least 15 minutes. Seek medical attention if symptoms persist.

NOTE TO PHYSICIAN
No data available.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE
Gold metal, powder and pieces

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Wear appropriate respiratory and protective equipment specified in section VIII-control measures. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

WASTE DISPOSAL METHOD
Dispose of in accordance with local, state and federal regulations.

HAZARD LABEL INFORMATION:
Store in cool, dry area
Store in tightly sealed container
Wash thoroughly after handling

PRECAUTIONS TO BE TAKEN IN HANDLING
None

PRECAUTIONS TO BE TAKEN IN STORING
None

OTHER PRECAUTIONS
None

SECTION VIII- CONTROL MEASURES
Gold metal, powder and pieces

PROTECTIVE EQUIPMENT SUMMARY - HAZARD LABEL INFORMATION:
NIOSH approved respirator
Impervious gloves
Safety glasses
Clothes to prevent skin contact

RESPIRATORY EQUIPMENT (SPECIFY TYPE)
NIOSH approved respirator

VENTILATION
Good general ventilation should be sufficient to control airborne levels.
EYE PROTECTION
Safety glasses

PROTECTIVE GLOVES
Rubber gloves

OTHER PROTECTIVE CLOTHING
Protective gear suitable to prevent contamination

WORK/HYGIENIC/MAINTENANCE PRACTICES
Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.

SECTION IX - ADDITIONAL COMMENTS
Gold metal, powder and pieces

Control of Substances Hazardous to Health Regulations
EH40 Occupational Exposure Limits

Maximum Exposure Limit: NE
Occupational Exposure Standard: NE

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Abbreviations used: NA=Not Applicable NE: Not Established