



MATERIAL SAFETY DATA SHEET  
COMPLIES WITH 29 CFR 1910.1200.  
OSHA HAZARD COMMUNICATION RULE

DATE OF LAST REVISION: 03-00

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## CHEMICAL IDENTITY

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|                        |                                          |
|------------------------|------------------------------------------|
| LABEL IDENTITY         | <b>GOLD - TIN</b>                        |
| CHEMICAL NAME/SYNONYMS | <b>ALLOY</b>                             |
| FORMULA                | <b>AuSn</b>                              |
| CHEMICAL FAMILY        | <b>METAL</b>                             |
| CAS REGISTRY NUMBER    | <b>GOLD = 7440-57-5; TIN = 7440-31-5</b> |
| HAZARDOUS INGREDIENTS  | <b>NOT ESTABLISHED</b>                   |

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## PHYSICAL AND CHEMICAL PROPERTIES

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|----------------------|---------------------------------|
| COLOR, FORM AND ODOR | <b>Silver/gray, odorless</b>    |
| VAPOR DENSITY        | <b>Varies</b>                   |
| VAPOR PRESSURE       | <b>Varies</b>                   |
| VOLATILE BY WEIGHT   | <b>Essentially zero</b>         |
| SOLUBILITY IN WATER  | <b>Insoluble</b>                |
| MELTING POINT        | <b>280° C = 80% Au / 20% Sn</b> |
| SPECIFIC GRAVITY     | <b>Varies</b>                   |

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## FIRE AND EXPLOSION HAZARD DATA

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| FLASH POINT                      | <b>Non-flammable as a solid</b>                                                                                                                                                                                              |
| FLAMMABILITY                     | <b>Non-flammable</b>                                                                                                                                                                                                         |
| EXTINGUISHING MEDIA              | <b>This material is non-combustible. Use appropriate extinguishing agent for surrounding fires. Do not use water to extinguish fires around operations involving molten metal, due to the potential for steam explosion.</b> |
| SPECIAL FIRE FIGHTING PROCEDURES | <b>Self contained breathing apparatus should be worn when fighting metal dust fires. High levels of dust or fine particles in the air may ignite or explode.</b>                                                             |
| UNUSUAL FIRE & EXPLOSION HAZARDS | <b>None known</b>                                                                                                                                                                                                            |



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### HEALTH HAZARD INFORMATION

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|                 |             |            |
|-----------------|-------------|------------|
| ROUTES OF ENTRY | INHALATION: | <b>Yes</b> |
|                 | SKIN:       | <b>Yes</b> |
|                 | INGESTION:  | <b>ND</b>  |

TARGET ORGANS **Lungs**

#### MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:

**Individuals who may have had allergic reactions to metals or sensitivity, may encounter rash or dermatitis, if skin contact with this product occurs. Persons with impaired pulmonary functions, may incur further impairment if dust or fumes are inhaled.**

#### EFFECTS OF OVEREXPOSURE (acute and chronic):

**Tin – Inhalation; dust or fumes may cause an apparent benign pneumoconiosis Called stannosis, which is reported not to be disabling.**

**Gold – Generally none toxic. Skin; may cause contact dermatitis.**

#### EMERGENCY FIRST AID PROCEDURES:

INGESTION

INHALATION

**Obtain medical attention at once.**

**Breathing difficulty, caused by inhalation of dust or fumes requires removal to fresh air. If breathing has stopped perform artificial respiration and seek medical attention at once.**

SKIN CONTACT

**Skin cuts and abrasions can be treated by standard first aid. Skin contamination with dust or powder can be removed with soap and water. If irritation persists obtain medical assistance.**



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### EYE CONTACT

**Dust or powder should be flushed from the eyes with running water for 15 minutes. If irritation persists obtain medical assistance.**

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### REACTIVITY DATA

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|                                        |                                                       |
|----------------------------------------|-------------------------------------------------------|
| STABILITY                              | <b>Stable</b>                                         |
| CONDITIONS CONTRIBUTING TO UNSTABILITY | <b>None known</b>                                     |
| INCOMPATIBILITY (MATERIALS TO AVOID)   | <b>Acetylene, Ammonia, Acids and Strong oxidizers</b> |
| HAZARDOUS DECOMPOSITION PRODUCTS       | <b>None under proper usage conditions.</b>            |
| HAZARDOUS POLYMERIZATION               | <b>Will Not Occur</b>                                 |
| CONDITIONS TO AVOID                    | <b>Conditions which create dust or fumes</b>          |

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### SAFE HANDLING AND USE

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#### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

**In solid form this material poses no special clean up problems. Use normal clean-up procedures; wet sweeping or HEPA vacuum, for clean-up of dust or powder. Do not use compressed air for cleaning.**

#### WASTE DISPOSAL METHOD:

**Because of its high intrinsic value this material should be reclaimed. Dispose of in accordance with all applicable Federal, State and Local Regulations**

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### SPECIAL PROTECTIVE INFORMATION

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|----------------------------|---------------------------------------------------------------------------------------------------------------|
| RESPIRATORY PROTECTION     | <b>Use an appropriate NIOSH approved respirator if airborne dust concentration exceed the PEL or TLV.</b>     |
| LOCAL EXHAUST              | <b>Recommended, when cutting, grinding or melting or any other operation where dust or fumes are created.</b> |
| PROTECTIVE GLOVES          | <b>Recommended to prevent mechanical irritation.</b>                                                          |
| EYE PROTECTION             | <b>Safety glasses are recommended.</b>                                                                        |
| OTHER PROTECTIVE EQUIPMENT | <b>Eye wash fountain should be readily available in areas of use or handling.</b>                             |



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## GOLD - TIN MATERIAL SAFETY DATA SHEET

GENERAL: **Recommended.**  
EXPOSURE LIMITES: **Not established for product as whole.**

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### SPECIAL PRECAUTIONS

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#### PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE:

**In solid form this material poses no special problems. Store metal in a dry area.  
Do not store adjacent to acids**

TRANSPORTATION REQUIREMENTS DOT CLASS: **None**  
UN NUMBER: **None**  
PRODUCT RQ: **None**  
DOT SHIPPING NAME: **Not Regulated**  
TECHNICAL SHIPPING NAME: **Metal Alloy**

PRECAUTIONARY LABELING **NONE**

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THE ABOVE INFORMATION IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, SINCE DATA, SAFETY STANDARDS AND GOVERNMENT REGULATIONS ARE SUBJECT TO CHANGE THE CONDITIONS OF HANDLING AND USE, OR MISUSE ARE BEYOND OUR CONTROL, **ANGSTROM SCIENCES** MAKE NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR THE RELIANCE THEREON. USER SHOULD SATISFY HIMSELF THAT HE HAS ALL CURRENT DATA RELEVANT TO HIS PARTICULAR USE.

**NA= NOT APPLICABLE**

**ND= NO DATA FOUND**