

## Au Wire Bonding and Brazing

According to Regulation (EC) No.1907/2006 (REACH) with its amendment Regulation (EC) No.453/2010  
Date of issue: May 30, 2015

Version: 1.4

### SECTION 1: Chemical product and company identification

#### 1.1 Product Identifier

Product form : Article  
Product Name : Au Wire Bonding- and Brazing products

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1 Relevant identified uses

Industrial/Professional use spec. : Industrial  
For professional use only  
Use of the substance/mixture : Wire bonding, Brazing  
Function or use category : Brazing agent

##### 1.2.2 Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Coining, Inc.  
15 Mercedes Drive  
Montvale, NJ 07645  
Tel: +1(201)7914020  
[www.coininginc.com](http://www.coininginc.com)  
[martin.oud@ametek.com](mailto:martin.oud@ametek.com)

#### 1.4. Emergency Telephone Number

Emergency Number : CHEMTREC: 800-424-9300 for US/703-527-3887 outside US  
For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call  
CHEMTREC-Day of Night.

### SECTION 2: Hazards identification

#### 2.1. Classification of the Substances or Mixture

Classification according to Directive 67/548/EEC, Regulation (EC)No1272/2008-CLP  
Not classified

#### Adverse physicochemical, human health and environmental effects

No additional information available.

#### 2.2. Label Elements

Labeling according to Directive 67/548/EEC, Regulation (EC)No1272/2008-CLP  
No labeling applicable

#### 2.3. Other hazards

No additional information available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

# Safety Data Sheet

According to Regulation (EC) No.1907/2006 (REACH) with its amendment Regulation (EC) No.453/2010

Date of issue: May 30, 2015

Version: 1.4

## 3.2. Mixture

Name	Product Identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Gold	(CAS No) 7440-57-5 (EC no) 231-165-9;933-944-5	99.95-100	Not classified

Full text of H- and EUH-phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show there label where possible).
- First-aid measures after inhalation : When symptoms occur; go into open air and ventilate suspected area.
- First-aid measures after skin contact : Removal of solidified molten material from skin requires medical assistance. Cool skin rapidly with cold water after contact with molten product
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting.

### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Under normal conditions of use not expected to present a significant hazard. Under milling, or physical alteration metal dusts may be produced that cause irritation of the respiratory tract, skin, and may be harmful. Molten material may release toxic and irritating fumes.
- Symptoms/injuries after inhalation : Not expected to be a primary route of exposure. The primary acute health hazard associated with this product would be the potential for exposure to fumes during metal processing operations. Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.
- Symptoms/injuries after skin contact : Skin contact is not considered a potential route of exposure. The primary acute health hazard associated with this product would be the potential for exposure to fumes during metal processing operations. Where possible allow molten material to solidify naturally. Removal of solidified molten material from skin requires medical assistance.
- Symptoms/injuries after eye contact : Not expected to be a primary route of exposure. Dust generated from material cutting may cause a slight irritation. Slivers may be generated, which could cause mechanical irritation or injure the eye.
- Symptoms/injuries after ingestion : Ingestion is not considered a potential route of exposure.
- Chronic symptoms : None known

### 4.3. Indication of any immediate medical attention and special treatment needed

# Safety Data Sheet

According to Regulation (EC) No.1907/2006 (REACH) with its amendment Regulation (EC) No.453/2010

Date of issue: May 30, 2015

Version: 1.4

If medical advice is needed, have product container or label at hand.

## SECTION 5: Fire fighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Does not burn. Use extinguishing media appropriate for surrounding fire

Unsuitable extinguishing media : None known.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Dust, chips, or ribbons can be ignited more easily, by an ignition source, by improper machining, or by spontaneous combustion if finely divided and damp

### 5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Handle in accordance with good industrial hygiene and safety practice.

#### 6.1.1. For non-emergency personnel

Protective equipment : Use appropriate personal protection equipment (PPE)

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area

### 6.2. Environmental precautions

Avoid release to the environment

### 6.3. Methods and material for containment and clean up

For containment : If metal is in molten form, allow cooling and collecting as a solid. If the metal is in solid form collect for remelting purposes.

Methods for cleaning up : Clear up spills. Immediately and dispose of waste safely.

### 6.4 Reference to other sections

See heading 8, exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

# Safety Data Sheet

According to Regulation (EC) No.1907/2006 (REACH) with its amendment Regulation (EC) No.453/2010

Date of issue: May 30, 2015

Version: 1.4

## 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry, cool and well-ventilated place.

Incompatible products : strong acid; Aqua regia

## 7.3. Specific end use(s)

Wire bonding and brazing.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Gold (7440-57-5)		
USA	ACGIH TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>

### 8.2. Exposure controls

Appropriate engineering controls : Ensure adequate ventilation, especially in confined areas.

Personal protective equipment : Protective goggles. Insulated gloves



Hand protection : If material is hot, wear thermally resistant protective gloves.

Eye protection : During metal processing, chemical goggles or safety glasses.

Respiratory protection : During metal processing, wear approved mask.

Other information : When using, do not eat, drink or smoke.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basis physical and chemical properties

Physical state : Solid

Appearance : Wire, ribbon, preforms, squares, rings, discs

Color : Gold

Odor : Odorless

Odor threshold : Not applicable

pH : Neutral

Relative evaporation rate (butylacetate=1) : Not applicable

Melting point : 1063°C

Freezing point : 1063°C

Boiling point : 2970°C

Flash point : No data available

Self ignition temperature : No data available

Decomposition temperature : No data available

# Safety Data Sheet

According to Regulation (EC) No.1907/2006 (REACH) with its amendment Regulation (EC) No.453/2010

Date of issue: May 30, 2015

Version: 1.4

Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor pressure at 20°C	: No data available
Relative density	: No data available
Solubility	: Insoluble
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

**9.2 Other information:** No other information available.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: Hazardous reactions will not occur under normal conditions.
<b>10.2 Chemical stability</b>	: Stable under normal conditions.
<b>10.3 Possibility of hazardous reactions</b>	: Hazardous polymerization will not occur.
<b>10.4 Conditions to avoid</b>	: Contact with mercury and or aqua regia.
<b>10.5 Incompatible materials</b>	: Strong acids (aqua regia)
<b>10.6. Hazardous decomposition products</b>	: No data available.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity	: Not classified
Irritation	: Not classified
Corrosivity	: Not classified
Sensitization	: Not classified
Repeated dose toxicity	: Not classified
Carcinogenicity	: Not classified
Mutagenicity	: Not classified
Toxicity for reproduction	: Not classified

## SECTION 12: Ecological information

<b>12.1 Toxicity</b>	: Not classified
<b>12.2 Persistence and degradability</b>	: Not established
<b>12.3 Bioaccumulative potential</b>	: Not established
<b>12.4 Mobility in soil</b>	: No additional information available.

# Safety Data Sheet

According to Regulation (EC) No.1907/2006 (REACH) with its amendment Regulation (EC) No.453/2010

Date of issue: May 30, 2015

Version: 1.4

**12.5 Results of PBT and vPvB assessment:** No additional information available.

**12.6 Other adverse effects** : Not established

## SECTION 13: Disposal information

### 13.1 Waste treatment methods

Waste disposal recommendations : Dispose of waste material in accordance with all local, regional, national and international regulations.

## SECTION 14: Transport information

**14.1. UN number** : Not regulated for transport.

**14.2. UN proper shipping name** : Not applicable.

**14.3. Transport hazard class(es)** : Not applicable.

**14.4. Packing group** : Not applicable.

### 14.5. Environmental hazards

Other information : No supplementary information available.

**14.6. Special precaution for user** : Not applicable

**14.6.1. Overland transport** : Not regulated for transport.

**14.6.2. Air transport** : Not regulated for transport.

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

## SECTION 15: Regulatory information

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

### 15.1.1. EU-Regulations

Authorizations and/or restrictions on use (Annex XVII): No candidate substance for REACH restrictions.

**15.1.2. National regulations** : No additional information available.

**15.2 Chemical safety assessment** :No chemical safety assessment has been carried out.

## SECTION 16: Other information

Other information : This Safety Data Sheet has been established in accordance with the applicable European Union legislation. Classification in accordance with calculation methods of regulation (EC)1272/2008 CLP/EC 1999/45 DPD.

Full text of H- and EUH-phrases:

Acute Tox.1 (Inhalation: dust, mist)	Acute toxicity (inhalation: dust, mist) Category 1
Acute Tox.2 (Dermal)	Acute toxicity (dermal) Category 2
Acute Tox.3 (Oral)	Acute toxicity (oral) Category 2
Aquatic Acute 1	Hazardous to the aquatic environment-Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment-Chronic Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment-Chronic Hazard Category 3
Carc.2	Carcinogenicity Category 2

# Safety Data Sheet

According to Regulation (EC) No.1907/2006 (REACH) with its amendment Regulation (EC) No.453/2010

Date of issue: May 30, 2015

Version: 1.4

Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Sol. 1	Flammable solids Category 1
Pyr. Sol. 1	Pyrophoric solids Category 1
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Sens. 1	Skin sensitization Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT Se 3	Specific target organ toxicity (single exposure) Category 3
H228	Flammable solid
H250	Catches fire spontaneously if exposed to air
H300	Fatal if swallowed
H310	Fatal in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H330	Fatal if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

## SDS EU CLP (REACH ANNEX II)

*This information is based on our current knowledge and is intended to describe the product for the purpose of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

### STATEMENT OF LIABILITY-DISCLAIMER

*To the best of the COINING, INC's knowledge, the information and recommendations contained in this publication are reliable and accurate as of the date prepared. However, accuracy, suitability, or completeness are not guaranteed, and no warranty, guarantee, or representation, expressed or implied, is made by COINING, INC. as to the absolute correctness or sufficiency of any representation contained in this and other publications; COINING, INC. assumes no responsibility in connection therewith; nor can it be assumed that all acceptable safety measures are contained in this and other publications, or that other or additional measures may not be required under particular or exceptional conditions or circumstances. Data may be changed from time to time.*