

## Material Safety Data Sheet (MSDS)

### Colloidal Gold Nanoparticles

#### Section 1 Product and Company Information

<b>1.1</b>	<b>Product Catalogue Number(s)</b>	All EM grade gold colloid All HD grade gold colloid Protogold
<b>1.2</b>	<b>Company Information</b>	BBI Solutions. Golden Gate Ty Glas Avenue Llanishen Cardiff CF14 5DX Telephone: +44 (0)29 2074 7232 Facsimile: +44 (0)29 2074 7242
<b>1.3</b>	<b>Emergency Contact</b>	Telephone +44 (0)29 2074 7232 Email: info@bbisolutions.com

#### Section 2 Composition / Information on Ingredients

CAS Number	Chemical / Preparation Name	Percent	ELINCS/EINECS
7440-57-5	Colloidal gold	0.001 - 0.01%	231-165-9

**Hazard Symbols:**

**Risk Phrases:**

#### Section 3 Hazard Identification

##### Overview

Avoid contact and inhalation

##### Potential Health Effects

<b>Eyes:</b>	May cause eye irritation
<b>Skin:</b>	May cause skin irritation. May be harmful if absorbed through the skin
<b>Ingestion:</b>	May be harmful if swallowed
<b>Inhalation:</b>	Material may be irritating to mucous membrane and upper respiratory tract.
<b>Chronic:</b>	Not known

#### Section 4 First Aid Measures

<b>Eyes:</b>	Flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids with fingers. Call a physician.
<b>Skin:</b>	Flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.
<b>Ingestion:</b>	If swallowed, wash out mouth with water provided the person is conscious. Call a physician.
<b>Inhalation:</b>	Remove to fresh air. If breathing becomes difficult, Call a physician.

##### Notes to Physician

## Section 5 Fire Fighting Measures

### General Information

Wear self-contained breathing apparatus and protective clothing. Prevent contact with skin and eyes. Emits toxic fumes under fire conditions/heated.

### Extinguishing Media

Water spray. Carbon dioxide, dry chemical powder or appropriate foam.

## Section 6 Accidental Release Measures

### General Information

### Spills / Leaks

Wear respirator, chemical resistant gloves, chemical safety goggles, and rubber boots. Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after pickup is complete.

## Section 7 Handling and Storage

### Handling

Avoid contact with skin and eyes.

### Storage

Store between 2 – 8°C. Do not freeze.

## Section 8 Exposure Controls / Personal Protection

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA – Final PELs	OSHA – Vacated PELs
Colloidal Gold	N/A	N/A	N/A	N/A

### Personal Protective Equipment

<b>Eyes:</b>	Wear chemical safety goggles.
<b>Skin:</b>	Wear chemical resistant gloves.
<b>Clothing:</b>	Will stain clothing; wear disposable/washable laboratory garments. Rubber boots.
<b>Respirators:</b>	Wear appropriate NIOSH/MSHA approved respirator.

## Section 9 Physical and Chemical Properties

<b>Physical State:</b>	<b>Liquid</b>
<b>Appearance:</b>	<b>Colourless/Pale Yellow or Red/Purple.</b>
<b>Odour:</b>	<b>None</b>
<b>pH:</b>	<b>Varies from pH5 to pH10.</b>
<b>Vapour Pressure:</b>	<b>N/A</b>
<b>Vapour Density:</b>	<b>N/A</b>
<b>Evaporation Rate:</b>	<b>As water</b>
<b>Viscosity:</b>	<b>As water</b>
<b>Boiling Point:</b>	<b>As water</b>
<b>Freezing / Melting Point:</b>	<b>As water</b>
<b>Auto-ignition Temperature:</b>	<b>N/A</b>
<b>Flash Point:</b>	<b>N/A</b>
<b>Decomposition Temperature:</b>	<b>N/A</b>
<b>NFPA Rating:</b>	<b>N/A</b>
<b>Explosion Limits:</b>	<b>Upper: N/A</b>
	<b>Lower: N/A</b>
<b>Solubility:</b>	<b>Aqueous solution</b>
<b>Specific Gravity / Density:</b>	<b>N/A</b>
<b>Molecular Formula:</b>	<b>N/A</b>
<b>Molecular Weight:</b>	<b>N/A</b>

## Section 10 Stability and Reactivity

<b>Chemical Stability:</b>	<b>Stable</b>
<b>Conditions to Avoid:</b>	<b>Freezing</b>
<b>Incompatibilities with other Materials:</b>	<b>Contact with salts will cause precipitation of colloid</b>
<b>Hazardous Decomposition Products:</b>	<b>Not known</b>
<b>Hazardous Polymerisation:</b>	<b>Will not occur</b>

## Section 11 Toxicological Information

<b>RTECS Number:</b>	<b>MD5070000 (gold)</b>
<b>CAS Number:</b>	<b>7440-57-5</b>
<b>LD50 / LC50:</b>	
<b>Carcinogenicity:</b>	
<b>IARC:</b>	
<b>Epidemiology:</b>	
<b>Teratogenicity</b>	
<b>Reproductive Effects:</b>	
<b>Neurotoxicity:</b>	
<b>Mutagenicity:</b>	
<b>Other Studies:</b>	

## Section 12 Ecological Information

<b>Ecological Hazards:</b>	<b>No data available</b>
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## Section 13 Disposal Considerations



<b>Waste Disposal – Material:</b>	Contact a licensed waste disposal service to dispose of this material.
<b>Waste Disposal – Empty Packaging:</b>	Contact a licensed waste disposal service to dispose of this packaging.

### Section 14 Transport Information

<b>Shipping Name:</b>	Colloidal Gold
<b>RID / ADR / DOT 49 CFR:</b>	
<b>ICAO / IATA:</b>	
<b>IMDG Code:</b>	
<b>UN Number:</b>	
<b>MFAG:</b>	
<b>EMS:</b>	
<b>Notes:</b>	Ship at ambient temperature. Do not allow to freeze. Non-hazardous for air, sea or road freight.

### Section 15 Regulatory Information

European / International Regulations	
<b>Hazard Symbols:</b>	
<b>Risk Phrases:</b>	
<b>Safety Phrases:</b>	S36 and S37 (suitable protective clothing/ gloves)
US Federal Regulations	
<b>TSCA:</b>	
<b>SARA:</b>	
<b>OSHA:</b>	

### Section 16 Other Information

<b>MSDS Creation/Revision Date:</b>	01 Nov 2013
<b>Next Revision Due:</b>	01 Nov 2015
<b>Notes:</b>	Customers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall BBI Solutions be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if BBI Solutions has been advised of the possibility of such damages.

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