

SECTION 1: IDENTIFICATION

Product Name: Dressed Gold® Mouse anti-Biotin - Gold Conjugate

BAW Part Number(s): DGMB-B001 DGMB-B009 DGMBL-B001 DGMBL-B009
 DGMBP-B001 DGMBP-B009 DGMBB-B001 DGMBB-B009

Or any part number for Dressed Gold® Mouse anti-Biotin of the format DGMB**CP**-B###, where **C**, if included, represents the gold concentration of the conjugate, and **P**, if included, represents the particle size of the gold nanoparticles, and **###** indicates the volume of product included in the vial.

Recommended Use: Use as indicated on the Product Specification Sheet/Instructions. For research use only – not for diagnostic or therapeutic use

Uses Advised Against: Not for human or animal consumption, injection, topical or drug use

Manufacturer: BioAssay Works®
 10075 Tyler Place
 Suite 18
 Ijamsville, MD 21754

Product Information: 1-301-874-8888

Emergency Phone Number: Contact Local Poison Control Center or 1-800-222-1222

Transport Emergency: CHEMTREC: 1-800-424-9300 (outside the U.S. 1-703-527-3887)

This product should be handled by trained laboratory personnel in a laboratory environment as indicated on the Product Specification Sheet/Instructions. Not for consumption.

SECTION 2: HAZARD(S) IDENTIFICATION

There is no data available on the toxicity, hazards, or precautions for the components of this mixture at the supplied concentrations. The following information pertains to components in their undiluted states. The dilution of the components as supplied with this product mitigates their toxicity and any hazards they may present.

Classification:

OSHA Regulatory Status:

A component or components of this mixture are considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

- Acute Toxicity – Inhalation.....Category 3
- Acute Toxicity – OralCategory 4
- Skin Corrosion/IrritationCategory 1
- Skin SensitizationCategory 1
- Serious Eye Damage/Eye IrritationCategory 1
- Specific target organ toxicity (single exposure).....Category 3 (Respiratory System)
- Acute Aquatic ToxicityCategory 1
- Chronic Aquatic ToxicityCategory 1
- Reproductive ToxicityCategory 1B
- CarcinogenicityCategory 2

Appearance:..... Red/Burgundy Liquid

Physical State:..... Colloidal Mixture/Conjugate – Liquid

Odor:..... No information available



Signal Word: **DANGER**

Hazard Statements:

May cause respiratory irritation. May cause drowsiness or dizziness

H302 – Harmful if swallowed

H314 – Causes severe skin burns and eye damage

H317 – May cause an allergic skin reaction

H331 – Toxic if inhaled

H360 – May damage fertility or the unborn child

H410 – Very toxic to aquatic life with long lasting effects

Precautionary Statements:

P202 – Do not handle until all safety precautions have been read and understood

P260 – Do not breathe dust/fume/gas/mist/vapors/spray

P261 – Avoid breathing dust/fume/gas/mist/vapors/spray

P262 – Do not get in eyes, on skin, or on clothing

P264 – Wash face, hands and any exposed skin thoroughly after handling

P270 – Do not eat, drink or smoke when using this product

P271 – Use only outdoors or in a well-ventilated area

P272 – Contaminated work clothing should not be allowed out of the workplace

P273 – Avoid release to the environment

P280 – Wear protective gloves/protective clothing/eye protection/face protection

P301 + P312 – IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

P301 + P330 + P331 – IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 – Immediately call a POISON CENTER or doctor/physician

P312 – Call a POISON CENTER or doctor if you feel unwell

P330 – Rinse mouth

P333 + P313 – If skin irritation or rash occurs, get medical advice/attention

P363 – Wash contaminated clothing before reuse

P391 – Collect spillage

P403 + P233 – Store in a well-ventilated place. Keep container tightly closed

P405 – Store locked up

P501 – Dispose of contents/ container to an approved waste disposal plant

Hazards not otherwise classified (HNOC): Not applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS #	EC #	Concentration (% by weight)	Classification
Water	7732-18-5	231-791-2	96.20 – 97.03	N/A
Mouse anti-Biotin	N/A	N/A	2.00 – 2.50	—
Colloidal Gold	7440-57-5	231-165-9	0.0001 – 0.0250	—
Bovine Serum Albumin, BSA	9048-46-8	232-936-2	0.925 – 1.075	—
Potassium Carbonate	584-08-7	209-529-3	0.001 – 0.150	* Acute Toxicity, Oral – 4 Skin Corrosion/Irritation – 1 Serious Eye Damage/Irritation – 1 Specific Target Organ Toxicity (single exposure) – 3
Dimethylarsinic Acid	75-60-5	200-883-4	0.013 – 0.014	* Acute Toxicity, Oral – 3 Acute Toxicity, Inhalation – 3 Skin Irritation – 2 Eye Irritation – 2A Carcinogenicity – 2 Specific Target Organ Toxicity (single exposure) – 3
2-Methyl-2H-isothiazol-3-one	2682-20-4	220-239-6	0.005 – 0.010	* Acute Toxicity, Inhalation – 3 Skin Corrosion – 1B Serious Eye Damage – 1 Skin Sensitization – 1 Acute and Chronic Aquatic Toxicity – 1
Sodium Chloride	7647-14-5	231-598-3	0.0005- 0.0060	* Skin Irritation – 2 Eye Irritation – 2
Sodium Borohydride	16940-66-2	241-004-4	0.00061 – 0.00065	* Acute Toxicity, Oral – 3 Skin Corrosion – 1B Serious Eye Damage – 1 Reproductive Toxicity – 1B
Proprietary/Trade Secret	Trade Secret	Trade Secret	0.023- 0.027	* Acute Toxicity, Oral – 2 Acute Toxicity, Dermal – 3 Skin Corrosion – 1B Serious Eye Damage – 1 Skin Sensitization – 1

* Refer to Section 2 – HAZARD(S) IDENTIFICATION

SECTION 4: FIRST-AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. Treat symptomatically.

Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact: Take off contaminated clothing and shoes immediately. Wash off with soap and copious amounts of water. Consult a physician.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. Consult a physician.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed: Described in Sections 2 and 11

Indication of immediate medical attention and special treatment needed, if necessary: No Data Available

SECTION 5: FIRE-FIGHTING MEASURES

Product is a non-flammable and non-combustible liquid

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Select extinguishing media appropriate to local circumstances and the surrounding environment.

Specific hazards arising from the substance or mixture: No information available

Special protective equipment and precautions for fire-fighters: Wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Avoid contact with skin, eyes and clothing. Use personal protective equipment (refer to Section 8). Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Methods and materials for containment and cleaning up: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed/sealed containers for disposal (refer to Section 13).

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling: Handle in accordance with cGMP, good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Ensure adequate ventilation.

Conditions for safe storage, including any incompatibilities:

Storage: Keep containers tightly closed in a well-ventilated place. Store refrigerated, 2-8°C. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Incompatibilities: Strong oxidizing agents. Avoid Freezing, $\leq 0^{\circ}\text{C}$; irreversible aggregation may occur if the product approaches freezing, producing an unstable suspension and rendering the product ineffective/unusable.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits: Components with workplace control parameters

Chemical Name	CAS #	EC #	OSHA PEL	ACGIH TLV	NIOSH IDLH
Water	7732-18-5	231-791-2	N/A	N/A	N/A
Mouse anti-Biotin	N/A	N/A	Not Established	Not Established	Not Established
Colloidal Gold	7440-57-5	231-165-9	Not Established	Not Established	Not Established
Bovine Serum Albumin, BSA	9048-46-8	232-936-2	Not Established	Not Established	Not Established
Potassium Carbonate	584-08-7	209-529-3	Not Established	Not Established	Not Established
Dimethylarsinic Acid	75-60-5	200-883-4	0.01 mg/m ³	0.01 mg/m ³	0.002 mg/m ³
2-Methyl-2H-isothiazol-3-one	2682-20-4	220-239-6	Not Established	Not Established	Not Established
Sodium Chloride	7647-14-5	231-598-3	Not Established	Not Established	Not Established
Sodium Borohydride	16940-66-2	241-004-4	Not Established	Not Established	Not Established
Proprietary/Trade Secret	Trade Secret	Trade Secret	Not Established	Not Established	Not Established

Engineering controls: Showers, eyewash stations and ventilation systems - Handle in accordance with cGMP, good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Personal Protective Equipment:

Eye/face protection: Snuggly fitting safety goggles or faceshield (8 inch minimum) – Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (U.S.) or EN 166 (E.U.)

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching the glove's outer surface) to avoid possible skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and cGMP. Wash hands with soap and copious amounts of water.

Body protection: Complete suit protecting against chemicals – The type of protective equipment must be chosen according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate, use a full-face respirator with multipurpose combination (U.S.) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (U.S.) or CEN (E.U.).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Red/Burgundy Liquid
Odor:	No Data Available
Odor Threshold:	No Data Available
pH:	No Data Available
Melting Point/Freezing Point:	No Data Available – Approximately 0°C
Initial Boiling Point and Boiling Range:	No Data Available – Approximately 100°C
Flash Point:	No Data Available
Evaporation Rate:	No Data Available
Flammability (solid, gas):	Non-Flammable Liquid
Upper/Lower Flammability or Explosive Limits:	Non-Flammable Non-Explosive Liquid
Vapor Pressure:	No Data Available
Vapor Density:	No Data Available
Specific Gravity (g/mL):	1.000 – 1.048
Solubility:	Not Applicable (Aqueous Mixture)
Other Solubility:	No Data Available
Partition Coefficient: n-octanol/water:	No Data Available
Auto-Ignition Temperature:	No Data Available
Decomposition Temperature:	No Data Available
Viscosity:	No Data Available
Explosive Properties:	No Data Available (Not Applicable)
Oxidizing Properties:	No Data Available

SECTION 10: STABILITY AND REACTIVITY

Reactivity: No Data Available

Chemical Stability: Stable under recommended storage conditions (refer to Section 7)

Possibility of Hazardous Reactions: No Data Available

Conditions to Avoid: Temperature extremes and direct sunlight

Incompatible Materials: Strong oxidizing agents

Hazardous Decomposition Products: No information available

SECTION 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Inhalation:Harmful by inhalation

Ingestion:Harmful if swallowed

Eye Contact:.....Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.

Skin Contact:Contact may cause severe skin irritation and possible burns.

Chemical Name	CAS #	EC #	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	7732-18-5	231-791-2	N/A	N/A	N/A
Mouse anti-Biotin	N/A	N/A	No Data	No Data	No Data
Colloidal Gold	7440-57-5	231-165-9	No Data	No Data	No Data
Bovine Serum Albumin, BSA	9048-46-8	232-936-2	No Data	No Data	No Data
Potassium Carbonate	584-08-7	209-529-3	= 1870 mg/kg (Rat)	No Data	No Data
Dimethylarsinic Acid	75-60-5	200-883-4	644 mg/kg (Rat)	No Data	No Data
2-Methyl-2H-isothiazol-3-one	2682-20-4	220-239-6	No Data	No Data	No Data
Sodium Chloride	7647-14-5	231-598-3	= 3 g/kg (Rat)	> 10 g/kg (Rabbit)	> 42 g/m ³ (Rat) 1 h
Sodium Borohydride	16940-66-2	241-004-4	162 mg/kg (Rat)	4-8 g/kg (Rabbit)	No Data
Proprietary/Trade Secret	Trade Secret	Trade Secret	25 mg/kg (Rat)	500 mg/kg (Guinea Pig)	No Data

Symptoms related to the physical, chemical, and toxicological characteristics: No information available

Delayed and immediate effects as well as chronic effects from short- and long-term exposure:

Skin Corrosion/Irritation: May cause severe burns

Serious Eye Damage/Injury: Risk of serious damage to the eyes

Sensitization: No information available

Mutagenic Effects: No information available

Carcinogenicity: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC, NTP, OSHA, or ACGIH.

Chemical Name	CAS #	EC #	NTP	IARC	OSHA	ACGIH
Water	7732-18-5	231-791-2	N/A	N/A	N/A	N/A
Mouse anti-Biotin	N/A	N/A	No Data	No Data	No Data	No Data
Colloidal Gold	7440-57-5	231-165-9	No Data	No Data	No Data	No Data
Bovine Serum Albumin, BSA	9048-46-8	232-936-2	No Data	No Data	No Data	No Data
Potassium Carbonate	584-08-7	209-529-3	No Data	No Data	No Data	No Data
Dimethylarsinic Acid	75-60-5	200-883-4	Known to be a human carcinogen	Group 1: Carcinogenic to humans	OSHA specifically regulated carcinogen	No Data
2-Methyl-2H-isothiazol-3-one	2682-20-4	220-239-6	No Data	No Data	No Data	No Data
Sodium Chloride	7647-14-5	231-598-3	No Data	No Data	No Data	No Data
Sodium Borohydride	16940-66-2	241-004-4	No Data	No Data	No Data	No Data
Proprietary/Trade Secret	Trade Secret	Trade Secret	No Data	No Data	No Data	No Data

Reproductive Toxicity: May damage fertility or the unborn child

STOT – single exposure: Respiratory system – Inhalation may cause respiratory irritation

STOT – repeated exposure: No information available

Aspiration hazard: No information available

Additional Information: RTECS - Not Available

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

2.95 - 3.79% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical Name	CAS #	EC #	Algae/Aquatic Plants	Toxicity to Fish	Other
Water	7732-18-5	231-791-2	N/A	N/A	N/A-
Mouse anti-Biotin	N/A	N/A	No Data	No Data	No Data
Colloidal Gold	7440-57-5	231-165-9	No Data	No Data	No Data
Bovine Serum Albumin, BSA	9048-46-8	232-936-2	No Data	No Data	No Data
Potassium Carbonate	584-08-7	209-529-3	No Data	No Data	No Data
Dimethylarsinic Acid	75-60-5	200-883-4	No Data	LC50 – <i>Lepomis macrochirus</i> > 180 mg/L – 96 h	No Data
2-Methyl-2H-isothiazol-3-one	2682-20-4	220-239-6	No Data	No Data	No Data
Sodium Chloride	7647-14-5	231-598-3	No Data	5560 - 6080: 96 h <i>Lepomis macrochirus</i> mg/L LC50 flow-through 6420 - 6700: 96 h <i>Pimephales promelas</i> mg/L LC50 static 12946: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 6020 - 7070: 96 h <i>Pimephales promelas</i> mg/L LC50 static 4747 - 7824: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through 7050: 96 h <i>Pimephales promelas</i> mg/L LC50 semi-static	1000: 48 h <i>Daphnia magna</i> mg/L EC50 340.7 - 469.2: 48 h <i>Daphnia magna</i> mg/L EC50 Static
Sodium Borohydride	16940-66-2	241-004-4	No Data	LC50 – <i>Gambusia affinis</i> (Mosquito fish) – 5.6 g/L – 96 h	No Data
Proprietary/Trade Secret	Trade Secret	Trade Secret	No Data	No Data	No Data

Persistence and Degradability: No Data Available

Bioaccumulative Potential: Dimethylarsinic Acid (present in this product at less than 0.015%)
Gambusia affinis (Mosquito fish) – 32 d – 435 µg/L - Bioconcentration factor (BCF): 21

Mobility in Soil:..... No Data Available

Other Adverse Effects: No Data Available – An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Product: Dispose of material in accordance with all federal, state, and local regulations. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated Packaging: ... Dispose of as unused product (refer to above paragraph). Do not reuse empty containers.

SECTION 14: TRANSPORT INFORMATION

U.S. DOT HAZARD CLASSIFICATION – NOT REGULATED

Proper Shipping Name: Not Regulated
 UN Number: Not Applicable
 Hazard Class/Packing Group: Not Applicable
 Labels Required: None
 DOT Packaging Requirements: Not Applicable
 Exceptions: Not Applicable

IATA/ICAO AIR TRANSPORTATION – NOT REGULATED

Proper Shipping Name: Not Regulated
 UN Number: Not Applicable
 Hazard Class/Packing Group: Not Applicable
 Labels Required: None
 IATA Packaging Requirements: Not Applicable

IMDG: Marine Pollutant: Yes

SECTION 15: REGULATORY INFORMATION

U.S. Federal Regulations:

CERCLA Components: This material does not contain any substances at levels regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA – 40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA – 40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to release of this material.

SARA 313 Components: Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals at levels which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 371-372.

SARA 311/312 Hazards:
Acute Health Hazard: Yes
Chronic Health Hazard: Yes
Fire Hazard:.....No
Sudden Release of Pressure Hazard:No
Reactive Hazard:No

Clean Water Act: This product contains substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42). Refer to Section 13, Disposal Considerations.

U.S. State Regulations:

California Proposition 65: Warning! This product contains a chemical known to the State of California to cause cancer. Dimethylarsinic acid – CAS No. 75-60-5

Massachusetts: Dimethylarsinic acid – CAS No. 75-60-5

Pennsylvania
 Dimethylarsinic acid – CAS No. 75-60-5
 Sodium borohydride – CAS No. 16940-66-2
 2-Methyl-2H-isothiazol-3-one – CAS No. 2682-20-4
 Serum albumin – CAS No. 9048-46-8

New Jersey
 Dimethylarsinic acid – CAS No. 75-60-5
 Sodium borohydride – CAS No. 16940-66-2
 2-Methyl-2H-isothiazol-3-one – CAS No. 2682-20-4
 Serum albumin – CAS No. 9048-46-8

SECTION 16: OTHER INFORMATION

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This Safety Data Sheet was prepared using OSHA and GHS Standards and complies with the required information as detailed in 29 CFR 1910.1200 App D. The information included in this Safety Data Sheet is believed to be accurate, complete and current but does not purport to be all inclusive and shall be used as a guide. BioAssay Works makes no representation or warranties with respect to the product described herein, including but not limited to any implied warranties of merchantability or fitness for a particular use. BioAssay Works assumes no liability or responsibility and authorizes no other person to assume any additional liability or responsibility as a result of the use of this product or the information contained in the Safety Data Sheet.