

NANOMATERIALS & NANOFABRICATION LABORATORIES

MSDS SHEET

Colloidal Gold Nanoparticles in Water

1. PRODUCT IDENTIFICATION

CAS No.: Gold (7440-57-5), Tannic Acid (215-753-2), Trisodium Citrate hydrate (200-675-3), Water (7732-18-5)

Chemical Name: Colloidal Gold Nanoparticles

Chemical Formula: Au

Typical Solvents (CAS No): Water (7732-18-5)

2. COMPOSITION/INFORMATION ON INGREDIENT (EACH VIAL)

<u>Substance Name</u>	<u>CAS #</u>	<u>Percentage of Whole (by weight)</u>
Au	7440-57-5	<0.01%
Tannic Acid	215-753-2	<0.01%
Trisodium Citrate Hydrate	200-675-3	< 0.05%
Water	7732-18-5	<99.93%

3. HAZARDS IDENTIFICATION

No known OSHA hazards

NFPA Ratings

Health: 0

Fire: 0

Reactivity: 0

Potential Health Effects:

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

Ingestion: May be harmful if swallowed.

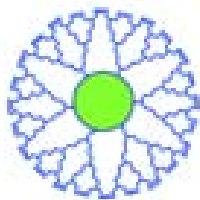
4. FIRST AID MEASURES

Inhalation: Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

Skin contact: Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

Eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

Ingestion: Rinse mouth with water. Seek immediate medical advice.



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5. FIRE FIGHTING MEASURES

Suitable extinguishing agents: Product is not flammable. Use water spray, dry chemical or carbon dioxide fire extinguishers.

Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.

6. ACCIDENTAL RELEASE MEASURES

Person-related safety precautions: Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation

Measures for environmental protection: Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting: Dispose contaminated material as waste according to item 12. Ensure adequate ventilation.

7. HANDLING AND STORAGE

Information for safe handling: Keep container tightly sealed. Store at 2-8°C. Ensure good ventilation at the workplace.

Requirements to be met by storerooms and receptacles: No special requirements.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

General protective and hygienic measures: The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages, and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

Protection of hands: Impervious gloves

Eye protection: Safety glasses

Body protection: Protective work clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Form: Liquid form. Nanopowder suspended in solvent.

Color: Reddish Purple, wine red.

Odor: none

Melting point/Melting range: no data

Boiling point/Boiling range: 100°C for solvent (water)

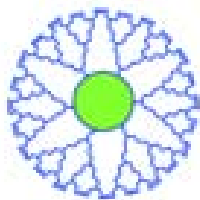
Flash point: no data

Ignition temperature: no data

Decomposition temperature: no data

Explosion limits: no data

Vapor pressure: no data



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10. STABILITY AND REACTIVITY

Thermal decomposition / conditions to be avoided: Not determined; store according to recommended storage conditions.

Materials to be avoided: Strong oxidizing agents.

Dangerous reactions: No dangerous reactions known.

11. TOXICOLOGICAL INFORMATION

Potential Health Effects:

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

Ingestion: May be harmful if swallowed.

IARC-1: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen.

NTP-2: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen.

ACGIH A2: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen.

12. ECOLOGICAL INFORMATION:

Do not allow material to be released to the environment without proper governmental permits.

13. DISPOSAL CONSIDERATIONS

Consult local or national regulations for proper disposal.

14. TRANSPORT INFORMATION

DOT: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

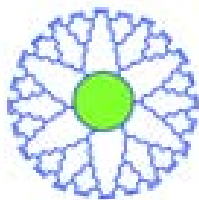
OSHA: No known OSHA hazards

DLS Status: All components are on the Canadian DSL list

Pennsylvania Right to Know Components: Water (CAS 7732-18-5)

New Jersey Right to Know Components: Water (CAS 7732-18-5)

California Prop. 65: No chemicals known to the State of California to cause cancer, birth, or other reproductive defects.



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15. OTHER INFORMATION

The information supplied in this document is believed to be correct but does not claim to be all inclusive, and is intended to be used as a guide. This document does not guarantee the properties of the product. NN-Labs LLC shall not be held liable for damage resulting from handling or contact with the product listed in this document.