

Version 2

**Safety Data Sheet (SDS)**

Reviewed on 1.1.2024

**1. Chemical and Company Identification**

Product Name: Organic Gold

Product Use: Laboratory chemical – R&amp;D use only

Manufacturer/Supplier: Cytodiagnostics Inc., 5867 South Garnett Road, Tulsa, Oklahoma 74146 USA

Phone: (866) 344-3954

Web: [www.cytodiagnostics-us.com](http://www.cytodiagnostics-us.com)Information and Support: [customer\\_service-us@cytodiagnosics.com](mailto:customer_service-us@cytodiagnosics.com)**2. Hazards Identification****Classification of the substance or mixture:**

GHS classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 2), H225

Skin irritation (Category 2), H315

Reproductive toxicity (Category 2), H361

Specific target organ toxicity – single exposure (Category 3), Central nervous system, H336

Specific target organ toxicity – repeated exposure (Category 2), H373

Aspiration hazard (Category 1), H304

Acute aquatic toxicity (Category 2), H401

Chronic aquatic toxicity (Category 2), H411

**GHS Label Elements and Precautionary Statements:****Signal Word:** Danger**Hazardous Statements**

H225	Highly flammable liquid and vapor.
H302 + H332	Harmful if swallowed or if inhaled
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long-lasting effects.

**Precautionary Statements**

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.

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P260	Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264	Wash 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.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P331	Do NOT induce vomiting.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391	Collect spillage.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

**Hazards not otherwise classified:**

None

**3. Composition/Information on Ingredients****This product contains:** Gold nanoparticles in hexane.**Components:****Component 1:** Colloidal gold, 0.1mg, CAS#: 7440-57-5**Component 2:** n-Hexane, <98% (v/v), CAS#: 110-54-3**Component 3:** 1-dodecanethiol, <0.01% (v/v), CAS#: 112-55-0**4. First Aid Measures****In case of skin contact:** In case of contact with skin, immediately remove contaminated clothing and wash extensively with soap and water and seek medical advice if symptoms occur.**In case of ingestion:** If swallowed, DO NOT induce vomiting. If person is conscious, wash mouth with water. Seek medical advice immediately.**In case of eye contact:** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.**If case of inhalation:** In case of accident by inhalation, remove to fresh air. If breathing becomes difficult seek medical advice. If not breathing, give artificial respiration.**Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labeling (see section 2) and/or in section 11.

**Immediate medical attention and special treatment needed:**

No data available

**5. Fire Fighting Measures****Suitable extinguishing media:**

Use alcohol-resistant foam, dry chemical or carbon dioxide.

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**Specific hazards arising from the substance or mixture:**

1. Liquid and vapors are highly flammable
2. Severe fire hazard when exposed to heat, flame and/or oxidizers
3. Vapor may travel a considerable distance to source of ignition
4. Heating may cause expansion and decomposition leading to violent rupture of containers
5. Formation of carbon oxides under fire conditions.

**Special protective equipment and precautions for fire-fighters:**

Wear self-contained breathing apparatus if necessary. Wear protective gloves.

**6. Accidental Release Measures****Personal precautions, protective equipment and emergency procedures:**

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Vapours can accumulate in low areas.

**Methods and materials for containment and cleaning up:**

1. Remove all ignition sources
2. Clean up all spills immediately
3. Avoid breathing vapors and contact with skin and eyes
4. Control personal contact by using protective equipment
5. Contain and absorb small quantities with vermiculite or other absorbent material
6. Wipe up
7. Collect residues in a container marked flammable for disposal according to local regulations

Do not allow product to enter drains or the environment. For disposal see section 13.

**7. Handling and Storage****Precautions for safe handling:**

1. Keep container tightly closed in a dry and well-ventilated place. Containers, which are opened, must be carefully resealed and kept upright to prevent leakage.
2. Avoid inhalation of vapours or mist.
3. Provide adequate exhaust ventilation at places vapours/mist may form.
4. Use spark free tools and explosion proof equipment.
5. Wash thoroughly after handling.

**Conditions for safe storage:**

1. Keep container tightly closed in a dry and well-ventilated place. Containers, which are opened, must be carefully resealed and kept upright to prevent leakage.
2. Store at room temperature under dark conditions.
3. Do not store with acids or oxidizers.

**8. Exposure Controls/Personal Protection****Control Parameters:**

OSHA – Final PELs: 50ppm TWA

OSHA Ceiling: 500ppm

ACGIH: 50ppm, skin-potential for cutaneous absorption

NIOSH: 50ppm TWA; 180 mg/m<sup>3</sup> TWA; 180ppm IDLH

**Exposure Controls:**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**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.

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**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.

**Breathing equipment:** Use suitable respirator when high concentrations are present.

**Protection of hands:** Impervious gloves – check gloves using UV light after use to determine level of contamination.

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing.

**9. Physical and Chemical Properties**

**Form:** Liquid form – Crystalline powder, dissolved in a solvent. Dried form – Crystalline powder coating glass vial.

**Colour:** Dark red

**Odour:** Liquid form is gasoline-like. Dried form is odorless.

**Odour threshold:** No data available.

**pH:** 7

**Melting point:** -95 °C (-139 °F)

**Initial boiling point:** 69 °C (156 °F)

**Flash point:** -26.0 °C (-14.8 °F)

**Flammability:** Highly flammable

**Upper/lower flammability or explosive limits:** Upper explosion limit: 7.7 %(V)

Lower explosion limit: 1.2 %(V)

**Vapour pressure:** 341.3 hPa (256.0 mmHg) at 37.7 °C (99.9 °F)

176.0 hPa (132.0 mmHg) at 20.0 °C (68.0 °F)

**Vapour density:** No data available.

**Relative density:** 0.659 g/mL at 25 °C (77 °F)

**Water solubility:** Insoluble

**Partition coefficient, n-octanol/water:** log Pow: 3.90 – 4.11

**Auto-ignition temperature:** 234 °C (453.2 °F)

**Decomposition temperature:** No data available.

**Viscosity:** No data available.

**10. Stability and Reactivity**

**Reactivity:** No data available.

**Chemical stability:** Stable at room temperature in closed containers under normal storage and handling conditions

**Incompatible materials:** Oxidizing agents

**Hazardous decomposition products:** No data available.

**Conditions to avoid:** Heat, flames, sparks. Extremes of temperature and direct sunlight. Exposure to moisture may affect product quality.

**In the event of fire:** see section 5

**11. Toxicological Information**

**Acute toxicity:** LD50 Oral – rat – 25,000 mg/kg

LC50 Inhalation – rat – 4 h – 48000 ppm

Dermal: no data available.

**Skin corrosion/irritation:** No data available

**Serious eye damage/eye irritation:** Mild eye irritation.

**Sensitization:** No sensitizing effects known

**Germ cell mutagenicity:** No data available

**Carcinogenicity:**

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Carcinogenicity – rat – Inhalation

Tumorigenic: Carcinogenic by RTECS criteria.

Tumorigenic effects: Testicular tumours.

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

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

**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 by OSHA.

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

**Reproductive toxicity:** Overexposure may cause reproductive disorder(s) based on tests with laboratory animals. Suspected human reproductive toxicant. Suspected of damaging fertility.

**Developmental Toxicity:** No data available.

**Specific target organ toxicity – single exposure:** May cause drowsiness or dizziness – Nervous system

**Specific target organ toxicity – repeated exposure:** Ingestion – May cause damage to organs through prolonged or repeated exposure – Nervous system.

**Aspiration hazard:** May be fatal if swallowed and enters airways.

**Additional information:**

RTECS: MN9275000

Prolonged or repeated contact with skin may cause: defatting, dermatitis.

Contact with eyes may cause: redness, blurred vision, provokes tears.

Effects due to ingestion may include: gastrointestinal discomfort, central nervous system depression, lung irritation, chest pain, pulmonary edema, giddiness, slowed reaction time, slurred speech, headache, dizziness, drowsiness, unconsciousness

**12. Ecological Information****Toxicity**

Toxicity to fish: LC50 – *Pimephales promelas* (fathead minnow) – 2.5 mg/L – 96.0 h

Toxicity to daphnia and other aquatic invertebrates: EC50 – *Daphnia magna* (water flea) – 3,878.00 mg/L – 48 h

Toxicity to algae: EC50 – *Chlorella vulgaris* (freshwater algae) – 12,840.00 mg/L – 3 h

EC50 – *Skeletonema* – 0.30 mg/L – 8 h

**Persistence and degradability:** No data available.

**Bio-accumulative potential:** No data available.

**Mobility in soil:** No data available.

**Results of PBT and vPvB assessment:** PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life.

**13. Disposal Considerations**

**Disposal:** Consult a licensed waste disposal specialist for proper destruction. Observe all local, state and federal regulations.

**14. Transport Information****DOT (U.S.)**

UN number: 1208

Class: 3

Packing group: II

Proper shipping name: Hexanes

Reportable Quantity (RQ): 5000 lbs

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Marine pollutant: No

Poison Inhalation Hazard: No

**IMDG**

UN number: 1208

Class: 3

Packing group: II

EMS-No.: F-E, S-D

Proper shipping name: HEXANES

Marine pollutant: No

**IATA**

UN number: 1208

Class: 3

Packing group: II

Proper shipping name: Hexanes

**15. Regulatory Information**

REACH No.: 01-2119480412-44-XXXX

**SARA 302 Components:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.**SARA 313 Components:** The following components are subject to reporting levels established by SARA Title III, Section 313:

n-Hexane CAS#: 110-54-3

**SARA 311/312 Hazards:** Fire hazard, acute health hazard, chronic health hazard.**Massachusetts Right To Know Components:**

n-Hexane CAS#: 110-54-3

**Pennsylvania Right To Know Components:**

n-Hexane CAS#: 110-54-3

**New Jersey Right To Know Components:**

n-Hexane CAS#: 110-54-3

**California Prop. 65 Components:** This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.**16. Other Information****HMIS Rating**

Health Hazard: 2

Flammability: 3

Physical Hazard: 0

**NFPA Rating**

Health Hazard: 2

Fire Hazard: 3

Reactivity Hazard: 0

This product is for laboratory research purposes, not for diagnostic or therapeutic use in humans or animals.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. Users should make independent decisions regarding completeness of the information based on all sources available. Cytodiagnosics Inc. shall not be held liable for any damage resulting from handling or contact with the above product.

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