

SAFETY DATA SHEET

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

NANO3D SYSTEMS LLC

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EMERGENCY NO. 1-800-424-9300 CHEMTREC

MATERIAL NAME: **Gold Electroplating Solution, High Current Efficiency**

REVISED: May 21st 2019

CHEMICAL FAMILY: Gold Cyanide Complex

Product Number: EP-CG-10A-01

SECTION 2. HEALTH HAZARD INFORMATION

Hazard Statements

H290 Corrosive to metals: Category 1

H300 Acute toxicity oral : Category 1

H330 Acute toxicity inhalation : Category 1

H310 Acute toxicity dermal: Category 1

H315 Skin corrosion / skin irritation : Category 2

H319 Serious eye damage / Eye irritation : Category 2A

H400 Acute aquatic environmental hazards : Category 1

H410 Chronic aquatic environmental hazards: Category 1

Pictograms or Hazard symbols



Warning: May be corrosive to metals.



Danger: Fatal if swallowed, in contact with skin, or inhaled.



Warning: Causes skin irritation and serious eye irritation.



Warning: Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P234 Keep only in original container.
P260 Do not breathe fume/gas/mist/vapors.
P262 Do not get in eyes, on skin, or on clothing.
P264 Wash 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 into the environment.
P280 Wear protective gloves, clothing, and eye and face protection.
P284 In case of inadequate ventilation, wear respiratory protection.
P301 + P310 If swallowed, immediately call a physician.
P302 + P352 If on skin, wash with plenty of water. Remove contact lenses if present and easy to do so. Continue rinsing.
P304 + P340 If inhaled, remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 If in eyes, rinse cautiously with water for several minutes.
P310 Seek medical assistance if exposed.
P330 Rinse mouth.
P332 + P313 If skin irritation occurs, get medical advice/attention.
P337 + P313 If eye irritation persists, get medical advice/attention.
P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P390 Absorb spillage to prevent material damage.
P391 Collect spillage.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in corrosive resistant container.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3.COMPOSITION/INFORMATION ON INGREDIENTS

Material		Wt %	Toxicity
Potassium Gold Cyanide	CAS# 13967-50-5	1-5	10 mg/m ³
Potassium Cyanide	CAS# 151-50-8	1-5	10 ppm
Potassium Phosphate Dibasic	CAS# 7778-53-2	1-5	
Potassium Carbonate	CAS# 100-67-4	1-5	
Water	CAS# 7732-18-5	80-96	

SECTION 4. FIRST AID MEASURES

EFFECTS OF OVEREXPOSURE

FIRST AID:

Eye Contact: Both liquid and vapor are irritating to naked eye; in case of contact flush eyes well for 15 minutes, lifting the lower and upper eyelids occasionally. May cause permanent eye damage or blindness. Seek medical attention.

Skin Contact: Obtain medical attention immediately. Liquid is corrosive to exposed skin. Flush skin well with water for 15 minutes, wash with soap and water. Remove affected clothing, get medical attention. May result in death. Special medical treatment is required.

Inhalation: If inhaled, remove to fresh air. If not breathing give artificial respiration. Seek medical attention.

Inhalation of vapors may cause death. Break an amyl nitrite pearl in cloth and hold lightly over nose for not more than 15-20 seconds. Repeat every 5 minutes if recovery is not forthcoming. Provide oxygen in between applications.

Ingestion: May be fatal. Administer oxygen and amyl nitrite. Seek immediate medical attention.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point and Method non-flammable	Autoignition Temp. NA	Flammability Limits In Air	<u>LOWER</u> NA	<u>UPPER</u> NA
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Extinguishing media: Use water spray or suitable agent for surrounding fire. Do not use carbon dioxide or other acidic type extinguisher.

Special fire fighting procedures: Wear chemically retardant gear and NIOSH approved self-contained breathing apparatus. Thermal decomposition produces toxic fumes. Exposure to acidic media may cause the liberation of toxic hydrogen cyanide gas. Keep out of sewers or waterways.

Toxic gases released: Hydrogen cyanide.

SECTION 6. ACCIDENTAL RELEASE MEASURES

SPILLS, LEAKS: Ventilate area of leak or spill. Stop leak if possible to do so without risk. Clean-up personnel must wear protective clothing and NIOSH approved respirator. Dike and cover the contaminated areas with absorbent, non-acidic, non-combustible material such as earth, sand, or vermiculite. Neutralize with alkaline material such as soda ash or lime. Do not use combustibles. Do not flush to sewer or waterways.

SECTION 7. HANDLING AND STORAGE

Wash thoroughly after handling. Remove contaminated clothing and wash before re-use. Do not breathe mist or vapor. Do not expose eyes, skin, or clothing. Keep container closed tightly. Avoid contact with acids. Do not use with metal tools or items. Use with adequate ventilation or respiratory protection. Do not store near acids or in direct sunlight. Store in a cool, dry, well-ventilated area away from incompatible substances. Residue in empty containers will still be hazardous.

SECTION 8. EXPOSURE CONTROL/PERSONAL PROTECTION

Respiratory protection: Wear NIOSH/MESA approved full or half face piece (with goggles) respiratory protective equipment to avoid exposure to vapors above 0.1ppm. A respiratory protection program complying with requirements of 29CFR 1910.134 is recommended.

Ventilation: Where adequate ventilation is not available, use NIOSH approved vapor respirator with dust, fume and mist filters. Local ventilation through fume hoods or laminar flow stations is also preferred. Keep fumes away from strong acids.

Protective gloves: Skin contact should be avoided through use of acid resistant gloves.

Other protective equipment: Steel tipped shoes/eye wash station/chemical safety chemical retardant clothing.

Eye protection: Safety goggles / face shield. Do not wear contact lenses.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form :	Liquid
Appearance :	Colorless
Odor :	Characteristic almond odor

SECTION 15. REGULATORY

Symbol: T+ Very toxic

R-Phrase:

R26/27/28: Very toxic by inhalation, in contact with skin, and if swallowed

R32: Contact with acids liberates very toxic gas

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-Phrases:

S3/9/14/49: Keep only in the original container in a cool, well-ventilated place away from acidic materials.

S23-36/37/39-45 Do not breathe vapor. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S29: Do not empty into drains.

SECTION 16. OTHER INFORMATION

NFPA Codes:

Health: 3

Flammability: 0

Reactivity: 1

WHMIS Codes:

Health: 4

Flammability: 0

Reactivity: 1

Ingredients are TSCA listed.