

EMS CATALOG NO: 16580
EMS PRODUCT: Gold Chloride
DATE: 10/18/2007
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MATERIAL SAFETY DATA SHEET

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ELECTRON MICROSCOPY SCIENCES

1560 INDUSTRY ROAD

P.O. BOX 550

HATFIELD, PA 19440

(215) 412-8400

24 HOUR EMERGENCY PHONE NUMBER

CHEMTREC: (800) 424-9300

FOR PRODUCT AND SALES INFORMATION

CONTACT ELECTRON MICROSCOPY SCIENCES OFFICE ABOVE.

PRODUCT IDENTIFICATION

COMMON NAME: Gold Chloride

COMMERCIAL NAME(S): Not available.

SYNONYM: CHLOROauric ACID TRIHYDRATE, auric CHLORIDE

CHEMICAL NAME: GOLD CHLORIDE, HYDROCHLORIDE, TRIHYDRATE

CHEMICAL FAMILY: Not available.

CHEMICAL FORMULA: $\text{HAuCl}_4 \cdot 3\text{H}_2\text{O}$

CAS#: 16961-25-4

RTECS: MD5420000

TSCA: TSCA 8(B) Inventory: Gold Chloride

CI#: Not available.

COMPOSITION AND INFORMATION ON INGREDIENTS

NAME: Gold Chloride, HYDROCHLORIDE, TRIHYDRATE

CAS#: 16961-25-4

% BY WEIGHT: 100

TOXICOLOGICAL DATA ON INGREDIENTS:

LD50: Not available.

LC50: Not available.

HAZARDS IDENTIFICATION

POTENTIAL ACUTE HEALTH EFFECTS:

Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

POTENTIAL CHRONIC HEALTH EFFECTS:

Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

FIRST AID MEASURES

EYE CONTACT:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

SKIN CONTACT:

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention.

SERIOUS SKIN CONTACT:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

INHALATION:

Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

SERIOUS INHALATION: Not available.

INGESTION:

Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention. If victim is fully conscious, give a Cupful of water.

SERIOUS INGESTION: Not available.

FIRE AND EXPLOSION DATA

FLAMMABILITY OF THE PRODUCT: Non-flammable.

AUTO-IGNITION TEMPERATURE: Not applicable.

FLASH POINTS: Not applicable.

FLAMMABLE LIMITS: Not applicable.

PRODUCTS OF COMBUSTION: Not available.

FIRE HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES: Not applicable.

EXPLOSION HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES:

RISKS OF EXPLOSION OF THE PRODUCT IN PRESENCE OF MECHANICAL

IMPACT: Not available.

RISKS OF EXPLOSION OF THE PRODUCT IN PRESENCE OF STATIC

DISCHARGE: Not available.

FIRE FIGHTING MEDIA AND INSTRUCTIONS: Not applicable.

SPECIAL REMARKS ON FIRE HAZARDS: Not available.

SPECIAL REMARKS ON EXPLOSION HAZARDS: Not available.

ACCIDENTAL RELEASE MEASURES

SMALL SPILL:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

LARGE SPILL:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

HANDLING AND STORAGE

PRECAUTIONS:

Do not breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes.

STORAGE:

Store in a cool place and from sunlight. Use shelves or cabinets sturdy enough to bear the weight of the chemicals. Be sure that it is not necessary to strain to reach materials, and that shelves are not overloaded.

EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Facilities should Be equipped with an eyewash facility and safety shower.

PERSONAL PROTECTION:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

PERSONAL PROTECTION IN CASE OF A LARGE SPILL:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling the product.

EXPOSURE LIMITS: Not available.

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE AND APPEARANCE: Crystals, golden yellow.

ODOR: none.

TASTE: Not available.

COLOR: Yellow or brown.

MOLECULAR WEIGHT: 393.83 g/mole

pH (1% SOLN/WATER): Not available.

BOILING POINT: Not available.

MELTING POINT: Not available.

CRITICAL TEMPERATURE: Not available.

SPECIFIC GRAVITY: 3.9 (Water = 1)

VAPOR PRESSURE: Not applicable.

VAPOR DENSITY: Not available.

VOLATILITY: Not available.

ODOR THRESHOLD: Not available.

WATER/OIL DIST. COEFF.: Not available.

IONICITY (IN WATER): Not available.

DISPERSION PROPERTIES: See solubility in water.

SOLUBILITY: Soluble in cold water, hot water.

STABILITY AND REACTIVITY DATA

STABILITY: The product is stable.

INSTABILITY TEMPERATURE: Not available.

CONDITIONS OF INSTABILITY: Not available.

INCOMPATIBILITY WITH VARIOUS SUBSTANCES: Not available.

CORROSIVITY: Non-corrosive in presence of glass.

SPECIAL REMARKS ON REACTIVITY: Not available.
SPECIAL REMARKS ON CORROSIVITY: Not available.
POLYMERIZATION: No.

TOXICOLOGICAL INFORMATION

ROUTES OF ENTRY: Eye contact. Inhalation. Ingestion.
TOXICITY TO ANIMALS:
LD50: Not available.
LC50: Not available.
CHRONIC EFFECTS ON HUMANS: Not available.
OTHER TOXIC EFFECTS ON HUMANS: Very hazardous in case of skin contact (irritant), of ingestion, of inhalation.
SPECIAL REMARKS ON TOXICITY TO ANIMALS: Not available.
SPECIAL REMARKS ON CHRONIC EFFECTS ON HUMANS: Not available.
SPECIAL REMARKS ON OTHER TOXIC EFFECTS ON HUMANS: Not available.

ECOLOGICAL INFORMATION

ECOTOXICITY: Not available.
BOD5 AND COD: Not available.
PRODUCTS OF BIODEGRADATION: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
TOXICITY OF THE PRODUCTS OF BIODEGRADATION: The products of degradation are more toxic.
SPECIAL REMARKS ON THE PRODUCTS OF BIODEGRADATION: Not available.

DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Recycle to process, if possible. Consult your local or regional authorities.

TRANSPORT INFORMATION

DOT CLASSIFICATION: Not a DOT controlled material (United States).
IDENTIFICATION: Not applicable.
SPECIAL PROVISIONS FOR TRANSPORT: Not available.

OTHER REGULATORY INFORMATION

FEDERAL AND STATE REGULATIONS: TSCA 8(B) INVENTORY: Gold Chloride
OTHER REGULATIONS:

OSHA: Hazardous by definition of Hazard Communication
Standard (29 CFR 1910.1200).

OTHER CLASSIFICATIONS:

WHMIS (CANADA):

Class D-2B: Material causing other toxic effects
(TOXIC).

DSCLA (EEC):

R38-Irritating to skin.

R41-Risk of serious damage to eyes.

HMIS (U.S.A.):

HEALTH HAZARD: 2

FIRE HAZARD: 0

REACTIVITY: 0

PERSONAL PROTECTION: E

NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A.)

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 0

SPECIFIC HAZARD:

PROTECTIVE EQUIPMENT:

Gloves.

Lab Coat.

Dust respirator. Be sure to use an approved/certified
respirator or equivalent. Wear appropriate respirator
when ventilation is inadequate.

Splash goggles.