

Safety Data Sheet

Gold Chloride, 1% Aqueous

Section 1 - Chemical Product and Company Identification

SDS Name: Gold Chloride, 1% Aqueous

Catalog Numbers: SO-227, C-201-6, F-390-12, F-394-2, F-395-4, K-693-3

Company Identification: Transene Company, Inc., DBA ROWLEY BIOCHEMICAL, Inc.
10 ELECTRONICS AVENUE
DANVERS, MA 01923

For information, call: 978-739-4883

Emergency Number: 800-424-9300

For CHEMTREC assistance, call: 800-424-9300

Section 2 - Hazards Identification

GHS Classifications Category

H290-Corrosive to metals: 1

H314-Skin corrosion/irritation: 1B

H318-Serious eye damage/eye irritation: 1

1.15% of the mixture consists of ingredients of unknown acute toxicity.

Pictograms or Hazard Symbols and Hazard Statement(s):



Signal Word: Danger

Hazard Statements:

H290-May be corrosive to metals

H314-Causes severe skin burns and eye damage

H318-Causes serious eye damage

Precautionary Statements:

P234-Keep only in original packaging.

P260-Do not breathe dusts or mists.
P264-Wash thoroughly after handling.
P280-Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331-If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353-If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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. Remove contact lenses, if present and easy to do. Continue rinsing.
P310-Immediately call a Poison Center/doctor.
P363-Wash contaminated clothing before reuse.
P390-Absorb spillage to prevent material damage.
P405-Store locked up.
P406-Store in a corrosion resistant container with a resistant inner liner.
P501-Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent
16903-35-8	Tetrachloroauric Acid	1.15 v/v
7647-01-0	Hydrochloric Acid	0.9 v/v
7732-18-5	Water	Balance

Section 4 - First Aid Measures

Eye Exposure: Corrosive to naked eye. In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Get immediate medical attention.

Dermal Exposure: Obtain immediate medical attention; corrosive to exposed skin. Causes severe skin burns. In case of skin contact, flush with copious amounts of water for at least 15 minutes. Take off immediately all contaminated clothing and shoes. Get immediate medical attention.

Oral Exposure: If swallowed, get immediate medical attention. Will cause severe burns to the mouth and severe and permanent damage to the digestive tract. Do NOT induce vomiting. Rinse mouth with water and, after rinsing, drink small quantities of water (stop if the exposed person feels sick as vomiting may be dangerous).

Inhalation Exposure: If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get immediate medical attention for dizziness, unconsciousness, difficulty breathing or irritation.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use dry chemical, carbon dioxide, dry sand, water spray or alcohol-resistant foam.

Hazardous Combustion Products: Hydrogen chloride gas, hydrogen gas, chlorine fumes, gold oxides, irritating and toxic fumes and gases.

Special hazards arising from substance or mixture: In a fire (or if heated sufficiently), a pressure increase may occur, and the container may burst and liberate hazardous vapors. May attack metals producing extremely flammable hydrogen gas which may form explosive mixtures with air.

Flash Point: Not available

Autoignition Temperature: Not available

Explosion Limits, Lower: Not available

Upper: Not available

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s):

Wear personal protective equipment. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Ensure adequate ventilation.

Methods for Cleaning up: Absorb with sand, earth, or vermiculite. Carefully sweep up and containerize for proper disposal. Do not release to the environment. Do not release to drains.

Section 7 - Handling and Storage

Use care when handling. Wear personal protective equipment. Wash thoroughly after handling. Ensure adequate ventilation. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Keep in a tightly closed and non-metal container. Store in a cool, dry, and well-ventilated area. Corrosive material. Light sensitive. Keep away from incompatible materials.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or

utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Exposure Limits:

Chemical Name	ACGIH - TLV	NIOSH - IDLH	OSHA - Final PELs
Tetrachloroauric acid CAS#16903-35-8	Not listed	Not listed	Not listed
Hydrochloric Acid CAS#7647-01-0	2 ppm Ceiling	5 ppm Ceiling 7 mg/m3 Ceiling 50 ppm IDLH	5 ppm Ceiling 7 mg/m3 Ceiling

OSHA Vacated PELs: Hydrochloric Acid: 5 ppm Ceiling; 7 mg/m3 Ceiling

Section 9 - Physical and Chemical Properties
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Physical State: Liquid

Appearance: Light yellow

Odor: Odorless

Vapor Pressure: Not available

Odor Threshold: Not available

Vapor Density: Not available

pH: 1.20-1.40

Relative Density: Not available

Melting point/freezing point: Not available

Solubility: Soluble in water

Boiling Point: Not available

Flash Point: Not available

Evaporation Rate: Not available

Flammability (solid, gas): Not available

Partition coefficient: n-octanol/water: Not available

Autoignition Temperature: Not available

Decomposition Temperature: Not available

Viscosity: Not available

Specific Gravity/Density: Not available

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, ignition sources, and excess heat. Direct sunlight.

Incompatibilities with Other Materials: Strong oxidizing agents, reducing agents, acids, metals, sulfides, sulfites, formaldehyde, bases, sodium hypochlorite, amines, cyanides, alkalis, permanganates, fluorine, metal oxides, hydroxides, carbonates, ammonia, and metal acetylides.

Hazardous Decomposition Products: Hydrogen chloride gas, hydrogen gas, chlorine fumes, gold oxides, irritating and toxic fumes and gases.

Possibility of Hazardous Reactions: Reacts with alkaline and oxidizing materials. Reacts with cyanides to release toxic hydrogen cyanide gas. Causes corrosion of metals. Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air. If heated (or in the event of a fire), the container may burst releasing extremely flammable hydrogen gas which may form explosive mixtures with air.

Section 11 - Toxicological Information
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CAS#16903-35-8 Tetrachloroauric Acid: RTECS#: MD5425000

LD50 Oral: Not available

LD50 Dermal: Not available

LC50 Inhalation: Not available

Carcinogenicity: Tetrachloroauric Acid CAS#16903-35-8 is not listed by IARC, NTP, ACGIH, OSHA, or California Prop. 65.

CAS#7647-01-0 Hydrochloric Acid: RTECS#: MW4025000

LD50 Oral: 238-277 mg/kg (rat)

LD50 Dermal: >5010 mg/kg (rabbit)

LC50 Inhalation: 1.68 mg/L 1h (rat)

Carcinogenicity: Hydrochloric Acid CAS#7647-01-0 is not listed by NTP, ACGIH, OSHA, or California Prop. 65. Hydrochloric Acid is listed by IARC (Group 3, Not Classifiable as to its Carcinogenicity to Humans).

Information on the likely routes of exposure: Routes of entry anticipated: oral, dermal, inhalation, and eye.

Epidemiology: Not available.

Teratogenicity: Not available.

Reproductive Effects: Not available.

Developmental Effects: Not available.

Neurotoxicity: Not available.

Mutagenicity: Not available.

Specific Target Organ Toxicity, Single Exposure: Not available.

Specific Target Organ Toxicity, Repeated Exposure: Not available.

Symptoms associated with exposure: Corrosive material. Overexposure by ingestion may cause severe burns of the mouth and throat, danger of perforation of the esophagus and stomach, nausea, vomiting, diarrhea, stomach pains. Eye exposure may result in pain, watering, redness, and risk of blindness. Skin contact may cause severe burns, redness, pain, deep ulcers, and skin discoloration. Inhalation overexposure may cause respiratory irritation, cough, shortness of breath, dizziness, and damage to the respiratory tract.

The toxicological properties of this material have not been thoroughly investigated.

Section 12 - Ecological Information

Ecotoxicity: Do not release to the environment. Do not release to drains. Harmful to aquatic life. Large amounts will shift pH and cause harm to aquatic organisms.

CAS#16903-35-8 Tetrachloroauric Acid:

LC50, freshwater fish: 15.7 mg/L 96h static (oncorhynchus mykiss)(rainbow trout)
ErC50, algae: >9 mg/L 72h static (pseudokirchneriella subcapitata)(green algae)
EC50, water flea: 4.8 mg/L 48h static (daphnia magna)
EC50, bacteria: 27.9 mg/L 3h static (activated sludge)

CAS#7647-01-0 Hydrochloric Acid:

LC50, freshwater fish: 282 mg/L 96h (gambusia affinis)(mosquito fish)
LC50, freshwater fish: 862 mg/L (leuciscus idus)(golden orfe)
EC50, water flea: 56 mg/L 72h (daphnia magna)

Persistence and degradability: Not biodegradable. May persist.

Bio-accumulative potential: Not available.

Mobility: Will likely be mobile in the environment due to its water solubility.

Section 13 - Disposal Considerations

DISPOSAL: Dispose of in accordance with all federal, state, and local regulations.

Section 14 - Transport Information

DOT

Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (tetrachloroauric acid, hydrochloric acid)

UN3264

PG III

Hazard Class 8

Section 15 - Regulatory Information

Canada Regulatory Information

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the SDS contains all the information required by the CPR.

Section 16 - Additional Information

SDS Creation Date: 10-15-12

Revision #1: 4-18-14 YM

Revision #2: 10-12-21

Revision #3: 1-2-24

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