



MATERIAL SAFETY DATA SHEET

Version :02

PRODUCT NAME: GOLD (III) CHLORIDE, TRIHYDRATE

CAS Number: 16961-25-4

1. IDENTIFICATION:

Product Code : 93102

Company Name : ADVENT CHEMBIO PRIVATE LIMITED

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2. HAZARDS IDENTIFICATION:**Hazard classification****Physical hazards**

Corrosive to metals : Category 1

Health hazards

Acute toxicity : Category 4

Skin corrosion : Sub-category 1B

Serious eye damage : Category 1

Specific target organ toxicity - repeated exposure : Category 2

Long-term (chronic) aquatic hazard : Category 2

Labels elements :

Hazard symbol :



Signal word : Danger

Hazard statement

May be corrosive to metals.
Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.
Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention

Obtain special instructions before use.
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Do not handle until all safety precautions have been read and understood.
Wear protective gloves/ protective clothing/ eye protection/ face protection.



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Response	Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking. Keep container tightly closed. Ground/ bond container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge.
	: IF exposed or concerned: Get medical advice/ attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Storage	: Store in a dry & well-ventilated place. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Disposal	: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Other hazards which do not result in GHS classification	: Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. COMPOSITION/ INFORMATION ON INGREDIENTS:

Ingredient	CAS Number	Percent	Hazardous
Gold (III) Chloride, Trihydrate	16961-25-4	NLT 49.0%	Yes

4. FIRST AID MEASURES:

General information	: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
Ingestion	: Call a physician or poison control center immediately. Rinse mouth. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Inhalation	: Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms persist.
Skin contact	: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
Eye contact	: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
Most important symptoms/effects, acute and delayed	: Toxic if inhaled. Irritating to eyes, respiratory system and skin.
Indication of immediate medical attention and special treatment needed	: Symptoms may be delayed. Treat symptomatically.



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5. FIRE FIGHTING MEASURES:

General information : No data available

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam, dry powder or carbon dioxide.

Unsuitable extinguishing media : For this substance/mixture no limitations of extinguishing agents are given.

Special protective equipment and precautions for firefighters

Special firefighting procedures : Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Special protective equipment for fire-fighters : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures : ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid breathing mists or vapors. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up : Eliminate all ignition sources if safe to do so. Use only non-sparking tools. Take precautionary measures against static discharges. Stop leak if possible without any risk. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures : Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental precautions : Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE:

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/ face protection. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapor. Use only with adequate ventilation. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities : Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Moisture sensitive. Light sensitive.



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8. EXPOSURE CONTROLS PERSONAL PROTECTION:**Control parameters****Appropriate engineering****controls** : No data available**Individual protection measures, such as personal protective equipment**

General information : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/face protection : Wear safety glasses with side shields (or goggles).

Hand protection : Chemical resistant gloves.

Other : Wear suitable protective clothing.

Respiratory protection : In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge.

Hygiene measures : Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower. Avoid contact with eyes, skin, and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance : Light orange to very dark orange.

Odor : No data available

Solubility : No data available

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

Molecular Weight : 393.83 g/mol

Specific Gravity : 3.90 g/cm³ at 20 °C - (anhydrous substance)

pH : No data available

% Volatiles by volume @ 21°C (70°F) : No data available

Boiling Point : No data available

Melting Point : 75 °C at 1.013,25 hPa - OECD Test Guideline 102 - (anhydrous substance)

Flash Point : No data available

Vapor Density (Air=1) : No data available

Vapor Pressure (mm Hg) : No data available

Evaporation Rate (BuAc=1) : No data available



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10. STABILITY AND REACTIVITY:

Reactivity	: No data available.
Chemical stability	: Material is stable under ambient conditions..
Possibility of hazardous reactions	: No data available.
Conditions to avoid	: Exposure to moisture.
Incompatible materials	: Aluminum and Mild steel.
Hazardous decomposition products	: In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION:

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Inhalation Product	LD50 Oral - Rat - male and female - > 464 mg/kg (OECD Test Guideline 401) Remarks: (anhydrous substance) : The value is given in analogy to the following substances: tetrachloroauric acid. Inhalation: No data available Dermal: No data available
Repeated dose toxicity Product	: No data available.
Skin corrosion/irritation Product	Skin - Rabbit Result: Causes burns. - 4 h (OECD Test Guideline 404) Remarks: (anhydrous substance) The value is given in analogy to the following substances: tetrachloroauric acid.
Serious eye damage/eye irritation Product	Remarks: Causes serious eye damage. : (anhydrous substance) The value is given in analogy to the following substances: tetrachloroauric acid.
Respiratory or skin sensitization Product	: No data available
Carcinogenicity Product	: No data available
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans	: No data available
US. National Toxicology Program (NTP) Report on Carcinogens	: No data available
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	: No data available.
Germ cell mutagenicity	Test Type: Ames test : Test system: S. typhimurium Metabolic activation: with and without metabolic activation

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Method: OECD Test Guideline 471
Result: negative
Remarks: (anhydrous substance)
The value is given in analogy to the following substances: tetrachloroauric acid.
Test Type: In vitro mammalian cell gene mutation test
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 487
Result: negative Remarks: (anhydrous substance)
The value is given in analogy to the following substances: tetrachloroauric acid .
Test Type: Micronucleus test
Species: Rat
Cell type: Bone marrow
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
Remarks: (anhydrous substance)
The value is given in analogy to the following substances: tetrachloroauric acid.

In vitro Product : No data available.

Reproductive toxicity Product : No data available.

Specific target organ toxicity - single exposure Product : No data available.

Specific target organ toxicity - repeated exposure Product : Oral - May cause damage to organs through prolonged or repeated exposure. - Kidney
Remarks: The value is given in analogy to the following substances: tetrachloroauric acid.

Aspiration hazard Product : No data available.

Other effects : None known.

12. ECOLOGICAL INFORMATION:**Ecotoxicity****Acute hazards to the aquatic environment**

Fish Product : static test LC50 - Oncorhynchus mykiss (rainbow trout) - 15,7 mg/l - 96 h
Remarks: (ECHA) (anhydrous substance)
The value is given in analogy to the following substances: tetrachloroauric acid.

Aquatic invertebrates Product : static test EC50 - Daphnia magna (Water flea) - 4,8 mg/l - 48 h
(OECD Test Guideline 202)
Remarks: (anhydrous substance) The value is given in analogy to the following substances: tetrachloroauric acid.

Chronic hazards to the aquatic environment

Fish Product : No data available.

Aquatic invertebrates Product : No data available.



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Toxicity to Aquatic Plants : static test ErC50 - Pseudokirchneriella subcapitata - > 9 mg/l - 72 h (OECD Test Guideline 201)
Product: : Remarks: (anhydrous substance) The value is given in analogy to the following substances: tetrachloroauric acid.

Persistence and degradability

Biodegradation Product : No data available.

BOD/COD ratio Product : No data available.

Bioaccumulative potential

Bioconcentration factor (BCF) Product : No data available.

Partition coefficient n-octanol / water (log Kow) Product : No data available.

Mobility in soil : No data available

Other adverse effects : Discharge into the environment must be avoided.

13. DISPOSAL CONSIDERATION:

Disposal instructions : Discharge, treatment, or disposal may be subject to national, state, or local laws. Disposal recommendations are based on uncontaminated material.

Contaminated packaging : Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION:

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
DOT	UN 3260	Gold (III) Chloride, Trihydrate	8	II	Yes
IMDG	UN 3260	Gold (III) Chloride, Trihydrate	8	II	Yes
IATA	UN 3260	Gold (III) Chloride, Trihydrate	8	II	No

15. REGULATORY INFORMATION:

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture

No Data Available.

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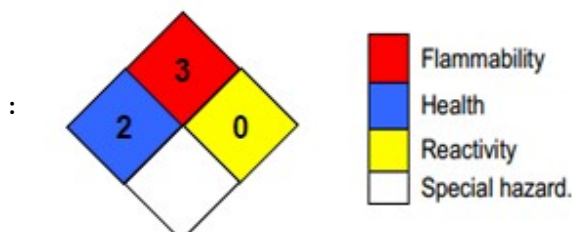
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16. OTHER INFORMATION:

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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