


SAFETY DATA SHEET (SDS)

CESIUM TUNGSTATE (AQUEOUS SOLUTION)

1. PRODUCT AND COMPANY IDENTIFICATION	
Trade name:	Cesium tungstate
Chemical formula:	Cs ₂ WO ₄
Recommended use and commercial applications:	Scientific research and development, heavy media separation of minerals, mineralogy, catalysis, biology, contrast agent
Manufacturer/Supplier	ELECTROCHEM TECHNOLOGIES & MATERIALS INC.
Address	<p><u>HEAD OFFICE</u></p> <p>Street: 2037 AIRD AVENUE, SUITE 201 City: MONTREAL Province/State: QUEBEC Postal/Zip Code: H1V 2V9 Country: CANADA Telephone: +1 (514) 251-9909 (Information only) Email: contact@electrochem-technologies.com</p> <p><u>MANUFACTURING SITE</u></p> <p>Street: 75 BOULEVARD DE MORTAGNE C.P. 112 City: BOUCHERVILLE Province/State: QUEBEC Postal/Zip Code: J4B 6Y4 Country: CANADA</p>
Emergency numbers (24 hours/7 days)	CANADA: CANUTEC +1-613-996-6666 USA: CHEMTREC +1-800-424-9300 (CCN837708) +1-703-527-3887 (CCN837708)
2. HAZARDS IDENTIFICATION	
Pictogram(s)	 <p>GHS</p>
Signal Word (s):	WARNING
Hazard Statements:	<p>H302 Harmful if swallowed.</p> <p>H312 Harmful in contact with skin.</p> <p>H315 Causes skin irritation.</p> <p>H320 Causes eye irritation.</p> <p>H332 Harmful if inhaled.</p> <p>H335 May cause respiratory irritation</p>
Precautionary Statements:	<p>P261 Avoid breathing dust/ fume/ gas/ mist/vapors/ spray.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P301+P312 if swallowed: call a poison center or doctor/physician if you feel unwell.</p>

P302+P352 if on skin: Wash with plenty of soap and water.
P304+P340 if inhaled: Remove victim to fresh air and keep at rest in a position 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.
P332+P313 If skin irritation occurs: Get medical advice/ attention.

3. COMPOSITION

Chemical family:	Cesium salt						
Synonyms, generic names:	Caesium tungstate, Cesium wolframate, cesium tungsten oxide						
NAME	CAS No	Mass percentage	EINECS number	OSHA PEL (mg/m ³)		ACGIH TLV (mg/m ³)	
				TWA	STEL	TWA	STEL
cesium tungstate	[13587-19-4]	75-86 wt.%	237-019-0	0.15	0.20	0.15	n.a.
water	[7732-18-5]	14-25 wt.%	231-791-2	-	-	-	-

4. FIRST AID PROCEDURES

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult
Ingestion:	Seek Medical Attention
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

5. FIREFIGHTING MEASURES

Flammability:	Non-flammable
Extinguishing Media:	No special restrictions – use suitable extinguishing agent for surrounding material and type of fire
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products

6. ACCIDENTAL RELEASE MEASURES

If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution

7. HANDLING AND STORAGE

Handling Conditions:	Wash thoroughly after handling.
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Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in section 10.
Sensitivities:	Moisture
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.
8. EXPOSURE CONTROLS AND PERSONAL PROTECTION	
Permissible Exposure Limits:	N/A
Threshold Limit Value:	1 mg/m ³ as W, long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants
9. PHYSICAL AND CHEMICAL PROPERTIES	
Color:	Colorless to golden amber
Form:	Aqueous solution or crystals
Odor:	Odorless
Water solubility@20°C:	85.4 wt.% of Cs ₂ WO ₄ 2729 g/L
pH (20°C):	9-10 (saturated aqueous solution)
Melting point:	958°C (anhydrous salt)
Boiling point:	N/A
Flash Point:	N/A
Autoignition temperature:	N/A
Mass density @20°C:	4,950-5,215 kg/m ³ (crystal) 3,195 kg/m ³ (saturated aqueous solution)
Viscosity:	N/A
Relative molar mass (¹² C = 12):	513.649
Vapor pressure:	N/A
10. STABILITY AND REACTIVITY	
Stability:	Stable under recommended storage conditions
Reacts With:	Strong acids
Incompatibility:	Strong acids
Conditions to avoids:	Avoid contact with incompatible substances.
Hazardous Decomposition Products:	Metal oxide fumes (e.g. cesium oxide, tungsten oxides)

11. TOXICOLOGICAL INFORMATION

RTECS Reference:	Not Available
Target Organs:	Not Available
Potential Health Effects:	
Eyes:	May cause irritation
Skin:	May cause irritation
Ingestion:	May cause irritation
Inhalation:	May cause irritation

Chronic: Tungsten compounds may be irritating to the eyes and respiratory tract. Chronic exposure may result in permanent lung damage. Cesium compounds may cause hyperirritability including spasms. Chronic ingestion of cesium has been fatal to laboratory animals.

Signs and Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	N/A
Carcinogenicity:	N/A

12. ECOLOGICAL INFORMATION

Aquatic Toxicity:	Low
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bioaccumulative:	No
Notes:	N/A
Toxicity:	Not Available
Persistence and degradability:	Not Available
Bioaccumulative potential:	Not Available
Mobility in soil:	Not Available
PBT and vPvB assessment:	Not Available
Other adverse effects:	Not Available

13. DISPOSAL CONSIDERATIONS

Product, as supplied, should be disposed of in accordance with the regulations issued by the appropriate federal, state and local authorities. Same consideration should be given to containers and packaging. Contact a licensed professional waste disposal service. Dispose of in accordance with federal, state, provincial, local, national, and international enforced environmental regulations.

14. TRANSPORTATION DATA

Hazardous:	Not hazardous for transportation.
Hazard Class:	N/A
Packing Group:	N/A
UN Number:	N/A
Proper Shipping Name:	N/A

DOT

UN/ID No	Not Regulated
Proper Shipping Name:	Not Regulated

Hazard Class: Not Regulated
 Packing Group: Not Regulated

IATA

UN/ID No Not Regulated
 Proper Shipping Name: Not Regulated
 Hazard Class: Not Regulated
 Packing Group: Not Regulated

IMDG

UN/ID No Not Regulated
 Proper Shipping Name: Not Regulated
 Hazard Class: Not Regulated
 Packing Group: Not Regulated

ICAO(Air)

UN/ID No Not Regulated
 Proper Shipping Name: Not Regulated
 Hazard Class: Not Regulated
 Packing Group: Not Regulated

15. REGULATORY INFORMATION

United States (USA):

Toxic Substance Control Act (TSCA): Listed
 Superfund Amendments and Reauthorization Act (SARA 302 Extremely Hazardous): Not listed
 Superfund Amendments and Reauthorization Act (SARA Sec 304 Reportable Quantities) Not listed
 Superfund Amendments and Reauthorization Act (SARA 311/312) Not listed
 Superfund Amendments and Reauthorization Act (SARA 313 Toxic Chemicals): Not listed

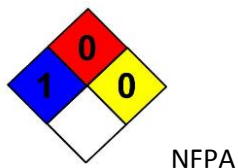
European Union (EU):

European Inventory of Existing Chemical Substances (EINECS): 237-019-0
 Hazard Codes: Xi
 Risk Statements: Not Available
 Safety Statements: Not Available

Canada:

Canadian Domestic Substances List (DSL): Listed
 Canadian Non-Domestic Substances List (NDSL): Not listed

16. Other Information



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The information set forth is based on information that Electrochem Technologies & Materials Inc. believes to be accurate. No warranty, expressed or implied, is intended. The information is provided solely for your information

and consideration and Electrochem Technologies & Materials Inc. assumes no legal responsibility for use or reliance thereon. This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products

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