

ALFAA12337

## Tungsten(VI) chloride

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**产品说明:** 氯化钨(VI)  
**Product Description:** Tungsten(VI) chloride

**Cat No. :** 12337  
**CAS No** 13283-01-7  
**Molecular Formula** Cl6 W

**Supplier** Avocado Research Chemicals Ltd.  
(Part of Thermo Fisher Scientific)  
Shore Road, Heysham  
Lancashire, LA3 2XY,  
United Kingdom  
Office Tel: +44 (0) 1524 850506  
Office Fax: +44 (0) 1524 850608

**Emergency Telephone Number** For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

**E-mail address** begel.sdsdesk@thermofisher.com

**Recommended Use** Laboratory chemicals.  
**Uses advised against** No Information available

### SECTION 2. HAZARD IDENTIFICATION

**Physical State**  
Powder Solid

**Appearance**  
Purple

**Odor**  
Slight chlorine

**Emergency Overview**

Harmful if swallowed. Causes severe skin burns and eye damage. Contact with water liberates toxic gas. Air sensitive.

#### Classification of the substance or mixture

Acute Oral Toxicity	Category 4
Skin Corrosion/Irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1

#### Label Elements



**Signal Word**

**Danger**

**Hazard Statements**

**Tungsten(VI) chloride**

H302 - Harmful if swallowed  
H314 - Causes severe skin burns and eye damage

**Precautionary Statements****Prevention**

P270 - Do not eat, drink or smoke when using this product  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P280 - Wear protective gloves/protective clothing/eye protection/face protection

**Response**

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P310 - Immediately call a POISON CENTER or doctor  
P330 - Rinse mouth  
P362 + P364 - Take off contaminated clothing and wash it before reuse

**Storage**

P403 - Store in a well-ventilated place

**Disposal**

P501 - Dispose of contents/ container to an approved waste disposal plant

**Physical and Chemical Hazards**

Contact with water liberates toxic gas.

**Health Hazards**

Harmful if swallowed. Corrosive. Causes skin and eye burns.

**Environmental hazards**

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants. Is not likely mobile in the environment. Decomposes in contact with water.

Toxic to terrestrial vertebrates. This product does not contain any known or suspected endocrine disruptors.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS No	Weight %
Tungsten chloride (WCl <sub>6</sub> ), (OC-6-11)-	13283-01-7	99

**SECTION 4. FIRST AID MEASURES****Eye Contact**

Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

**Skin Contact**

Immediate medical attention is required. Wash off immediately with plenty of water for at least 15 minutes.

**Inhalation**

Remove to fresh air. If breathing is difficult, give oxygen. Immediate medical attention is required. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**Ingestion**

Do NOT induce vomiting. Get medical attention.

**Most important symptoms and effects**

Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**Self-Protection of the First Aider**

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**Notes to Physician**

Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam.**Extinguishing media which must not be used for safety reasons**

Water.

**Specific Hazards Arising from the Chemical**

Water reactive. Contact with water liberates toxic gas.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**SECTION 6. ACCIDENTAL RELEASE MEASURES****Personal Precautions**

Ensure adequate ventilation. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak. Avoid dust formation.

**Environmental Precautions**

Should not be released into the environment. See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up**

Avoid dust formation. Sweep up and shovel into suitable containers for disposal. Do not expose spill to water. Do not let this chemical enter the environment.

Refer to protective measures listed in Sections 8 and 13.

**SECTION 7. HANDLING AND STORAGE****Handling**

Ensure adequate ventilation. Wear personal protective equipment/face protection. Handle product only in closed system or provide appropriate exhaust ventilation. Keep under nitrogen. Handle under inert gas, protect from moisture. Do not allow contact with water because of violent reaction. Do not ingest. If swallowed then seek immediate medical assistance. Avoid contact with skin, eyes or clothing. Avoid breathing dust/fume/gas/mist/vapors/spray.

**Storage**

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Air sensitive. Corrosives area. Store under an inert atmosphere.

**Specific Use(s)**

Use in laboratories

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control Parameters**

Component	China	Taiwan	Thailand	Hong Kong
Tungsten chloride (WCl <sub>6</sub> ), (OC-6-11)-	-	TWA: 5 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>		-

## Tungsten(VI) chloride

Component	ACGIH TLV	OSHA PEL	NIOSH	The United Kingdom	European Union
Tungsten chloride (WCl <sub>6</sub> ), (OC-6-11)-	TWA: 3 mg/m <sup>3</sup>	(Vacated) TWA: 5 mg/m <sup>3</sup> (Vacated) TWA: 1 mg/m <sup>3</sup> (Vacated) STEL: 10 mg/m <sup>3</sup> (Vacated) STEL: 3 mg/m <sup>3</sup>	REL = 5 mg/m <sup>3</sup> (TWA) REL = 1 mg/m <sup>3</sup> (TWA) STEL: 10 mg/m <sup>3</sup> STEL: 3 mg/m <sup>3</sup>	STEL: 10 mg/m <sup>3</sup> 15 min TWA: 5 mg/m <sup>3</sup> 8 hr STEL: 3 mg/m <sup>3</sup> 15 min TWA: 1 mg/m <sup>3</sup> 8 hr	

Legend

ACGIH - American Conference of Governmental Industrial Hygienists  
 OSHA - Occupational Safety and Health Administration  
 NIOSH: NIOSH - National Institute for Occupational Safety and Health

**Monitoring methods**

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust MDHS 91 Metals and metalloids in workplace air by X-ray fluorescence spectrometry MDHS 99 Metals in air by ICP-AES

**Exposure Controls****Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

**Personal protective equipment**

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber	See manufacturers	-	EN 374	(minimum requirement)
Nitrile rubber	recommendations			
Neoprene				
PVC				

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Particulates filter conforming to EN 143

**Small scale/Laboratory use** Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.  
**Recommended half mask:-** Particle filtering: EN149:2001  
 When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## Tungsten(VI) chloride

**Environmental exposure controls** No information available.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Purple	
<b>Physical State</b>	Powder Solid	
<b>Odor</b>	Slight chlorine	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	No information available	
<b>Melting Point/Range</b>	275 °C / 527 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	347 °C / 656.6 °F	@ 760 mmHg
<b>Flash Point</b>	No information available	<b>Method -</b> No information available
<b>Evaporation Rate</b>	Not applicable	Solid
<b>Flammability (solid,gas)</b>	No information available	
<b>Explosion Limits</b>	No data available	
<b>Vapor Pressure</b>	215 @ 43 mmHg °C	
<b>Vapor Density</b>	Not applicable	Solid
<b>Specific Gravity / Density</b>	3.5200	
<b>Bulk Density</b>	No data available	
<b>Water Solubility</b>	Decomposes	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	Not applicable	Solid
<b>Explosive Properties</b>	No information available	
<b>Oxidizing Properties</b>	No information available	
<b>Molecular Formula</b>	Cl <sub>6</sub> W	
<b>Molecular Weight</b>	396.57	

### SECTION 10. STABILITY AND REACTIVITY

<b>Stability</b>	Decomposes in contact with water. Moisture sensitive. Air sensitive.
<b>Hazardous Reactions</b>	Contact with water liberates toxic gas.
<b>Hazardous Polymerization</b>	No information available.
<b>Conditions to Avoid</b>	Avoid dust formation. Excess heat. Exposure to air. Incompatible products. Exposure to moist air or water.
<b>Materials to avoid</b>	Bases. Strong oxidizing agents. Strong acids. Reducing Agent.
<b>Hazardous Decomposition Products</b>	Chlorine. Metal oxides. Hydrogen chloride gas.

### SECTION 11. TOXICOLOGICAL INFORMATION

<b>Product Information</b>	No acute toxicity information is available for this product
<b>(a) acute toxicity;</b>	
<b>(b) skin corrosion/irritation;</b>	Category 1 B

**Tungsten(VI) chloride**

<b>(c) serious eye damage/irritation;</b>	Category 1
<b>(d) respiratory or skin sensitization;</b>	
Respiratory	No data available
Skin	No data available
<b>(e) germ cell mutagenicity;</b>	No data available
<b>(f) carcinogenicity;</b>	No data available
	There are no known carcinogenic chemicals in this product
<b>(g) reproductive toxicity;</b>	No data available
<b>(h) STOT-single exposure;</b>	No data available
<b>(i) STOT-repeated exposure;</b>	No data available
Target Organs	No information available.
<b>(j) aspiration hazard;</b>	Not applicable
	Solid
<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information
<b>Symptoms / effects,both acute and delayed</b>	Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**SECTION 12. ECOLOGICAL INFORMATION**

<b>Ecotoxicity effects</b>	Do not empty into drains. Reacts with water so no ecotoxicity data for the substance is available. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.
<b>Persistence and Degradability</b>	Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary
Persistence	May persist, based on information available.
Degradability	Not relevant for inorganic substances, Decomposes in contact with water.
Degradation in sewage treatment plant	Decomposes in contact with water.
<b>Bioaccumulative Potential</b>	Product does not bioaccumulate due to reaction with water
<b>Mobility in soil</b>	Decomposes in contact with water. Is not likely mobile in the environment
<b>Endocrine Disruptor Information</b>	This product does not contain any known or suspected endocrine disruptors
<b>Persistent Organic Pollutant</b>	This product does not contain any known or suspected substance
<b>Ozone Depletion Potential</b>	This product does not contain any known or suspected substance

**SECTION 13. DISPOSAL CONSIDERATIONS**

## Tungsten(VI) chloride

<b>Waste from Residues/Unused Products</b>	Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.
<b>Contaminated Packaging</b>	Dispose of this container to hazardous or special waste collection point.
<b>Other Information</b>	Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not flush to sewer. Large amounts will affect pH and harm aquatic organisms.

## SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport

<b>UN-No</b>	UN3260
<b>Proper Shipping Name</b>	Corrosive solid, acidic, inorganic, n.o.s.
<b>Technical Shipping Name</b>	Tungsten chloride (WCl <sub>6</sub> ), (OC-6-11)-
<b>Hazard Class</b>	8
<b>Packing Group</b>	II

IMDG/IMO

<b>UN-No</b>	UN3260
<b>Proper Shipping Name</b>	Corrosive solid, acidic, inorganic, n.o.s.
<b>Technical Shipping Name</b>	Tungsten chloride (WCl <sub>6</sub> ), (OC-6-11)-
<b>Hazard Class</b>	8
<b>Packing Group</b>	II

IATA

<b>UN-No</b>	UN3260
<b>Proper Shipping Name</b>	Corrosive solid, acidic, inorganic, n.o.s.
<b>Technical Shipping Name</b>	Tungsten chloride (WCl <sub>6</sub> ), (OC-6-11)-
<b>Hazard Class</b>	8
<b>Packing Group</b>	II

**Special Precautions for User** No special precautions required

## SECTION 15. REGULATORY INFORMATION

**International Inventories**

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 - 2012	TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
Tungsten chloride (WCl <sub>6</sub> ), (OC-6-11)-	-	-	X	X	236-293-9	X	-	-	X	X	X	KE-35011

**National Regulations**

**Tungsten(VI) chloride****SECTION 16. OTHER INFORMATION**

**Prepared By** Health, Safety and Environmental Department  
**Creation Date** 07-Jun-2010  
**Revision Date** 07-Sep-2025  
**Revision Summary** Not applicable.

**Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

**Legend**

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**PNEC** - Predicted No Effect Concentration

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

**Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**