

# SAFETY DATA SHEET

Date Printed: 05/03/2024

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (5N) 99.999% Tungsten Hexacarbonyl

**Product Code:** W-HCBL-05

**CAS Number:** 14040-11-0

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity Category 3

Acute dermal toxicity Category 3

Acute Inhalation Toxicity - Dusts and Mists Category 3

Label Elements



Signal Word

Danger

Hazard Statements

Toxic if swallowed, in contact with skin or if inhaled

Precautionary Statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Wear protective gloves/protective clothing/eye protection/face protection

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician

Skin

IF ON SKIN: Wash with plenty of soap and water

Call a POISON CENTER or doctor/physician if you feel unwell

Remove/Take off immediately all contaminated clothing

Wash contaminated clothing before reuse

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

Rinse mouth

Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

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

Tungsten carbonyl (W(CO)<sub>6</sub>), (OC-6-11)-

Cas No.: 14040-11-0

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### **SECTION 4. FIRST AID MEASURES**

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

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

Inhalation Remove to fresh air. If not breathing, give artificial respiration. 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.

Immediate medical attention is required.

Ingestion Do NOT induce vomiting. Call a physician or poison control center immediately.

Most important symptoms and effects

Notes to Physician None reasonably foreseeable.

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### **SECTION 5. FIREFIGHTING MEASURES**

Suitable Extinguishing Media Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam.

Unsuitable Extinguishing Media No information available

Flash Point No information available

Method - No information available

Autoignition Temperature Not applicable

Explosion Limits

Upper No data available

Lower No data available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

None known.

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. Thermal decomposition can lead to release of irritating gases and vapors.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions** Use personal protective equipment as required. Avoid dust formation. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

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

**Methods for Containment and Clean Up**

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

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## **SECTION 7. HANDLING AND STORAGE**

**Handling** Wear personal protective equipment/face protection. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

**Storage** Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed.

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Engineering Measures** Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal Protective Equipment**

**Eye/face Protection** 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 and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard

EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

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

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical State** Powder Solid

**Appearance** White

**Odor** Odorless

Odor Threshold No information available  
pH No information available  
Melting Point/Range 150 °C / 302 °F  
Boiling Point/Range 175 °C / 347 °F @ 760 mmHg  
Flash Point No information available  
Evaporation Rate Not applicable  
Flammability (solid,gas) No information available  
Flammability or explosive limits  
Upper No data available  
Lower No data available  
Vapor Pressure No information available  
Vapor Density Not applicable  
Specific Gravity No information available  
Solubility Insoluble in water  
Partition coefficient; n-octanol/water No data available  
Autoignition Temperature Not applicable  
Decomposition Temperature No information available  
Viscosity Not applicable  
Molecular Formula C6 O6 W  
Molecular Weight 351.91

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactive Hazard None known, based on information available  
Stability Stable under normal conditions.  
Conditions to Avoid Incompatible products.  
Incompatible Materials Strong oxidizing agents, Halogens  
Hazardous Decomposition Products None under normal use conditions  
Hazardous Polymerization No information available.  
Hazardous Reactions None under normal processing.

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Acute Toxicity  
Product Information  
Component Information  
Toxicologically Synergistic  
Products  
No information available  
Delayed and immediate effects as well as chronic effects from short and long-term exposure  
Irritation No information available  
Sensitization No information available  
Carcinogenicity Not Listed  
Mutagenic Effects No information available  
Reproductive Effects No information available.  
Developmental Effects No information available.  
Teratogenicity No information available.  
STOT - single exposure None known  
STOT - repeated exposure None known  
Aspiration hazard No information available  
Symptoms / effects, both acute and delayed

No information available

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

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## SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Do not empty into drains.

Persistence and Degradability Insoluble in water May persist based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Is not likely mobile in the environment due its low water solubility.

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## SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

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## SECTION 14. TRANSPORT INFORMATION

DOT

UN-No UN3466

Proper Shipping Name METAL CARBONYLS, SOLID, N.O.S.

Technical Name (TUNGSTEN HEXACARBONYL)

Hazard Class 6.1

Packing Group III

TDG

UN-No UN3466

Proper Shipping Name METAL CARBONYLS, SOLID, N.O.S.

Hazard Class 6.1

Packing Group III

IATA

UN-No UN3466

Proper Shipping Name Metal carbonyls, solid, n.o.s.

Hazard Class 6.1

Packing Group III

IMDG/IMO

UN-No UN3466

Proper Shipping Name Metal Carbonyls, solid, n.o.s.

Hazard Class 6.1

Packing Group III

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## SECTION 15. REGULATORY INFORMATION

United States of America Inventory

Tungsten carbonyl (W(CO)<sub>6</sub>),(OC-6-11)-

14040-11-0

TSCA Listed  
TSCA 12(b) - Notices of Export Not applicable  
International Inventories  
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).  
U.S. Federal Regulations  
SARA 313 Not applicable  
SARA 311/312 Hazard Categories See section 2 for more information  
CWA (Clean Water Act) Not applicable  
Clean Air Act Not applicable  
OSHA - Occupational Safety and Health Administration  
Not applicable  
CERCLA Not applicable  
California Proposition 65 This product does not contain any Proposition 65 chemicals.  
U.S. State Right-to-Know Regulations  
Not applicable  
U.S. Department of Transportation  
Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N  
U.S. Department of Homeland Security  
This product does not contain any DHS chemicals.  
Other International Regulations  
Mexico - Grade No information available

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.