CHINATUNGSTEN

ONLINE MANU. & SALES CORP.

3F, NO.25 WH Rd, 2# XIAMEN SOFTWARE PARK,
XIAMEN, FUJIAN, CHINA, 361008
Fax:（86）592-512-9797
Phone: 86）592-512-9696

METERIAL SAFETY DATE SHEET

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product/Chemical Name: Tungsten-Copper
Chemical Family: Elemental Metal Composite
Chemical Formula: WCu
Manufacturer: ChinaTungsten Online (Xiamen) Manus. & Sales Corp.

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	% Weight
Tungsten	7440-33-7	50-90
Copper	7440-50-8	10-50

	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
Ingredient	TWA	STEL	TWA	STEL	TWA	STEL	
Tungsten	none estab.	none estab.	5mg/m^3	10mg/m^3	5mg/m^3	5mg/m^3	none estab.
Copper	0.1mg/m^3 As Cu fume.	none estab.	0.2mg/m^3 As Cu fume. 1mg/m^3 as Cu dust & mist	none estab.	1mg/m^3	none estab.	100 mg/m^3 as Cu

SECTION 3. HAZARDS IDENTIFICATION

Hazard Rating Systems：

HMIS： Health 2 Flammability 0 Reactivity 0
NEPA: Health 2 Flammability 0 Reactivity 0

★★★★Emergency Overview★★★★

Solid Tungsten-Copper presents no significant health hazard. Grinding, heating, welding of tungsten-copper may result in airborne particles or fumes. Dusts can form explosive mixtures in air. Anoid breathing dust. Keep away from strong acids, bases, gases, oxidizers, mercury, ammonia and acetylene.

POENTIAL HEALTH EFFECTS

Tungsten:
Primary Entry Routes: Inhalation, skin contact, ingestion

Target Organs: Insoluble compounds: skin, respiratory system; Soluble compounds: skin, respiratory system, central nervous system (CNS), gastrointestinal (GI) tract, eyes, liver, kidneys

Acute Effects:

Inhalation: The dust may cause upper respiratory tract irritation.

Eye: The dust may cause eye discomfort and irritation due to mechannical abrasion.

Skin: May cause mild skin irritation after prolonged or repeated exposure to particulates or dust.

Ingestion: Not normally a hazard due to the physical form of the material. Large amounts of dust or particulates may cause gastrointestinal effects.

Carcinogenicity: IARC, NTP and OSHA do not list tungsten as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: None established.

Chronic Effects: No human data available.

Copper:

Primary Entry Routes: Inhalation, ingestion

Target Organs: Respiratory system, skin, eyes, liver and kidneys

Acute Effects:

Inhalation: Exposure from airborne dust or fumes may result from welding, grinding or sanding operations or during repair or maintenance on contaminated equipment. Symptoms may include irritation of upper respiratory tract, lungs, cough, metallic taste in mouth, fever, fatigue, nausea, bronchitis, chills, “metal fume fever”, asthma-like symptoms, headache, profuse sweating, diarrhea, excessive urination, general malaise.

Eye: Dust or fumes may cause irritation.

Skin: particles or dust may be abrasive to the skin.

Ingestion: Kidney and liver damage may result if large quantities are ingested.

Carcinogenicity: IARC, NTP, OSHA, ACGIH, and NIOSH do not list copper as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: Allergic reaction or sensitivity to metals. Exposure may aggravate conditions such as impaired pulmonary function, asthma, emphysema, chronic bronchitis, pre-existing kidney, liver or nervous system damage. A person with Wilson’s Disease (a rare metabolic disorder characterized by retention of copper in the liver, brain, kidneys) is at increased risk from copper exposure and may develop liver cirrhosis, brain damage, CNS damage or kidney disease.

Chronic Effects: Chronic exposure to copper dust or fumes may result in irritation of mucous membranes, nasal septum perforation, skin and hair discoloration.

SECTION 4. FIRST AID MEASURES

Inhalation: Remove to fresh air. Seek medical attention if respiratory irritation develops or breathing becomes difficult.

Eye Contact: Flush eyes with water for least 15 minutes. Seek medical attention if irritation persists.

Skin Contact: Wash affected areas with soap and water. Seek medical attention if irritation persists.

Ingestion: Rinse mouth with water. Seek medical attention if irritation persist.

After first aid, get appropriate in-plant, paramedic, or community medical support.

SECTION 5. FIRE-FIGHTING MEASURES

Flash Point: N/A Burning Rate: N/A Autoignition Temperature: N/A

LEL: N/A UEL: N/A

Extinguishing Media: Do NOT use water, Sand or dry powder extinguishers should be used to smother dust fires.

Unusual Fire or Explosion Harzard: If the metal is reduced to powder form it may burn. Blanket material to exclude air and do not disturb until completely extinguished and cool. Explosion may result if burning dust is stirred into a clound, by providing oxygen to a large surface area. Avoid contact potassium iodate, potassium peroxide, sodium azide, sodium chlorate and iodate, sodium peroxide, sulfur, chlorates, nitric acid and other strong acids and bases.

Fire-fighting instructions: Do not release runoff from fire control methods to sewers or waterways. Contact fire department and tell them location and nature of hazard. Tungsten-Cpper in metallic form is not combustible.

Fire-fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Small: Clean up all spills immediately. Avoid contact with skin and eyes.

Wear impervious gloves and safety glasses. Use dry clean-up procedures and avoid generating dust. Vacuum up or sweep up. Place spilled material in clean, dry sealable, labeled container.

Large Spills: Clear area of personnel and move upwind. Use dry clean-up procedures. Avoid generating dust. If inhalation risk of exposure exists, wear NIOSH-approved dust respirator. Collect recoverable material into labeled containers for recycling.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1010.220)

SECTION 7. HANDING AND STORAGE

Handling Rrecautions: Limit all unnecessary personal contact. Use in a well-ventilated area. When handling, DO NOT eat, drink or smoke. Always wash hands with soap and water after handling.

Storage Methods: Store in a cool, dry, well-ventilated area away from incompatibles.

Regulatory Requirements: Follow applicable OSHA regulations.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Provide general or local exhaust ventilation systems to maintain airborne concertrations below OSHA PELs.

Personal Protective Clothing/Equipment:

Eyes: Safety glasses.

Hands: Recommend hand protection when handling metals for prevention of cuts from slivers and edges.

Respiratory Protection: Use NIOSH-approved respirator if TLV is exceeded or

ever-exposure is likely. Pressure demand airline respirators or self contained breathing apparatus is recommended for jobs with high exposure potential to copper dust or fumes.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/General Information: Copper-grey metallic solid. Odorless. Very slightly soluble in nitric acid, sulfuric acid and aqua regia. Soluble in a mixture of hydroflouric acid and nitric acid.
Vapor Pressure (kPa): 0 Vapor Density (Air=1): N/A
Specific Gravity (H_2O=1, at 4℃)：12.02-17.17 g/cc
Volatile Component (% Vol): 0 Water Solubility: Insoluble pH: N/A
Boiling Point Range: Tungsten: 5900℃(10652℉) at 760 mm Hg
Copper: 2567℃(4703℉)
Freezing/Melting Point Range: Tungsten: 3410℃(6171℉) Copper: 1083℃(1763℉)

SECTION 10. STABILITY AND REACTIVITY

Stability/Polymerization/Conditions to Avoid: Tungsten-copper metal is considered stable. Hazardous polymerization will not occur. Melting may generate harmful fumes.
Storage incompatibilities: Do not store with acetylene, ammounium nitrate, bromates, chlorates, iodates, chlorine, fluorine, chlorine trifluoride, ethylene ocide, hydrazine, hydrozoic acid, hydrogen peroxide, hydrogen sulfide, lead azide, phosphorus, nitric acid, potassium peroxide, sodium azide, sodium peroxide and 1-bromo-1-propylene.

SECTION 11. TOXICOLOGICAL INFORMATION

Tungsten:
Toxicity: Unknown route(rat) LD_{50}: 2000mg/kg.
Substance has been investigated as a reproductive effector in female rodents-Oral TD_{Lo} 1.16mg/kg.
Irritation: Skin (rabbit) 500mg/24 hr-mild
Eyes (rabbit) 500mg/24 hr-mild
Copper:
Toxicity: Oral (human) TD_{Lo} 0.12mg/kg.

SECTION 12. ECOLOGICAL INFORMATION

Tungsten:
Environment Fate: No data available
Ecotoxicity: No data available
Copper:
Environment Fate: Many copper compounds and complexes are readily soluble, therefore copper is among the mobile heavy in soil. The mobility of copper is limited by adsorption to organic matter, clays and other materials. Due to the fact that copper is an essential nutrient, it is accumulated by plants and animals.
Ecotoxicity: In freshwater, acute toxicity decreases as hardness increases. At a hardness of 100mg/l, acute NAWQ is mussel to 600 μg/l. In saltwater, acute sensitivities of aquatic life range from 5.8μg/l for blue mussel to 600 μg/l for green crab. Lowest chronic value for aquatic plants

is 1μg/l.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal: Tungsten-Copper is recyclable. Follow applicable local, state and federal regulations.

SECTION 14. TRANSPORT INFORMATION

There are no special DOT regulations pertaining to the material when shipped in its solid form.

SECTION 15. REGULATORY INFORMATION

EPA Regulations:
RCRA 40 CFR: Not listed
SARA 40 CFR 372.65: Listed
SARA EHS 40 CFR 355: Not listed
TSCA: Listed
This material contains Copper
Copper is subject to the reporting requirements of Section 313 Title III and CFR Part 373

SECTION 16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Metalworking Products shall not be held liable for any damage resulting from handling or from contact with the above product. Any comments or questions should be directed to:

Although CHINATUNGSTEN ONLINE MANU. & SALES CORP. (ab.CTOMS) has attempted to provide current and accurate information herein, CTOMS makes no representations regarding the accuracy or completeness of the information and assumes no liability for any loss, damage, injury of any kind which may result from or arise out of the use of or reliance on the information by any person. The data contained on this sheet was procided for public display via the Internet and is not provided in conjunction with any product sold by CTOMS .No warranty of CTOMS products is expressed or implied by this document.