* * *Section 1 – Identification* * *

Product Identifier: Tungsten Ores and Concentrates (Non-Radioactive)
Chemical Family: Metal
Recommended Use: Variety of industrial applications
Restriction on Use: None identified

Manufacturer Information

The David J. Joseph Company
300 Pike Street
Cincinnati, OH 45202

Non-Emergency Contact: Safety Department
Non-Emergency Phone: 513-419-6200
Emergency Contact: DJJ
Emergency Phone: 513-562-1699

* * *Section 2 – Hazard(s) Identification

Classification Per OSHA 1910.1200

Skin Irritant
Category 2

Eye Irritant
Category 2A

Respiratory Sensitization
Category 1B

Target Organ – Prolonged
Category 2 (Lungs)

GHS Label Elements

Symbol(s)

Signal Word
Danger

Hazards Statement(s)
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or breathing difficulties if inhaled.
May cause damage to the lungs through prolonged or repeated exposure.

Precautionary Statements

Prevention
Wear protective gloves. Wear eye protection/face protection. Do not breathe dust. In case of inadequate ventilation, wear respiratory protection.

Response
If on skin, wash with plenty of water. If skin irritation occurs, seek medical advice/attention. Take off contaminated clothing and wash it before reuse. If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye

irritation persists, seek medical advice/attention. If inhaled and breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms, call a doctor. Get medical advice/treatment if you feel unwell.

Storage

No specific storage requirements.

Disposal

Dispose of contents in accordance with federal, state and local regulations.

Hazard(s) Not Otherwise Classified

Negligible fire and explosion hazard in bulk form. Dust mixtures may ignite or explode.

* * *Section 3 – Composition / Information on Ingredients* * *

CAS	Component	Percent
7440-33-7	Tungsten	100%

* * *Section 4 – Fist Aid Measures* * *

Inhalation

If adverse effects occur, remove to uncontaminated are. Give artificial respiration if not breathing. Seek medical attention immediately.

Skin Contact

Wash skin with soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical attention if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Eye Contact

Flush eyes with plenty of water for at least 15 minutes. Seek medical attention immediately.

Ingestion

Rinse mouth and administer water for dilution if the patient can swallow, has a strong gag reflex, and does not drool.

* * *Section 5 – Fire Fighting Measures* * *

Extinguishing Media

Dolomite, dry powder for metal fires, dry sand, graphite, soda ash and sodium chloride.

Unsuitable Extinguishing Media

None identified.

Specific Hazards Arising from the Chemical

Negligible fire and explosion hazard in bulk form. Dust/air mixtures may ignite or explode.

Special Protective Equipment and Precautions for Firefighters

Move container from fire area if it can be done without risk. Cool containers with water spray until well after fire is out. Stay away from the ends of tanks. For fires in cargo storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible, take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products.

* * *Section 6 – Accidental Release Measures* * *

Personal Precautions, Protective Equipment and Emergency Procedures

Keep all unauthorized people away, isolate hazard area and deny entry. Personal protective equipment is discussed in section 8.3.

Methods and Materials for Containment and Cleaning Up

Collect spilled material in appropriate container for disposal.

* * *Section 7 – Handling and Storage* * *

Precautions for Safe Handling

Handle in accordance with all current regulations and standards. Use methods to minimize dust. Utilize personal protective equipment to avoid contact with skin. Personal protective equipment discussed in section 8.3.

Conditions for Safe Storage

Store in accordance with all current regulations and standards. Keep separated from incompatible substances.

Incompatibilities

Acids, halogens, reducing agents, oxidizing materials, bases.

* * *Section 8 – Exposure Controls / Personal Protection* * *

Exposure Limits

Tungsten Ores and Concentrates

OSHA PEL/STEL: Vacated by 58 FR 35338, 6/30/1993
ACGIH TWA: 5 mg/m3
ACGIH STEL: 10 mg/m3
NIOSH REL TWA: 5 mg/m3
NIOSH REL STEL: 10 mg/m3
UK WEL TWA: 5 mg/m3
UK WEL STEL: 10 mg/m3

Tungsten Ore (Wolframite)

ACGIH TWA: 5 mg/m3 (insoluble compounds)
ACGIH STEL: 10 mg/m3 (insoluble compounds)
ACGIH TWA: 1 mg/m3 (soluble compounds)
ACGIH STEL: 3 mg/m3 (soluble compounds)
NIOSH REL TWA: 5 mg/m3
NIOSH REL TWA: 10 mg/m3

Appropriate Engineering controls

Provide local exhaust system or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Individual Protection Measures

Eyes/Face Protection

Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection

Wear appropriate chemical resistant clothing and gloves.

Respirator

Self-contained breathing apparatus with full face piece or supplied-air respirator with full face piece.

* * *Section 9 – Physical and Chemical Properties* * *

Appearance: White to gray or black, hard brittle solid

Physical state: Solid
Melting/freezing Point: 3,390-3,430 C
Flash Point: Not available
UFL: Not available
Vapor Pressure: 1.97x10^-7 @ 2,327 C
Specific Gravity: Not available
Auto Ignition: Not available

pH: N/A
Boiling Point: 5,660 C
OSHA Flammability Class: Not available
LFL: Not available
Vapor Density: N/A
Solubility (H20): Insoluble

* * *Section 10 – Chemical Stability & Reactivity* * *

Reactivity

Stable at normal temperatures and pressures. Oxidizes in air and must be protected at elevated temperatures.

Chemical Stability

Stable at normal temperatures and pressures.

Possibility of Hazardous Reaction

Alkali w/Halocarbons

May explode with heat or on impact.

Alkaline-Earth Metals w/Halocarbons

May explode with heat or on impact.

Aqua Regia

Attacked superficially.

Bromine Pentafluoride

Violent reaction and possible ignition.

Bromine Trifluoride

Violent reaction.

Chlorine Trifluoride

Violent reaction and ignition.

Fluorine

Incandescent reaction.

Hydrogen Sulfide

Incandescent reaction.

Iodine Pentafluoride

Incandescent reaction when heated.

Lead (IV) Dioxide

Incandescent reaction when heated.

Nitric Acid

Attacked superficially.

Nitryl Fluoride

Incandescent reaction when heated.

Oxidizers (Strong)

Fire explosion and hazard.

Oxygen Difluoride

Explodes at 400 C.

Potassium Dichromate

Combustion attains a temperature of 1,700 C in 0.1-0.2 seconds.

Sodium Peroxide

Incandescent reaction when heated.

Conditions to Avoid

None reported.

Incompatible Materials

Acids, halogens, reducing agents, oxidizing materials, bases.

Hazardous Decomposition Products

Thermal decomposition products: Miscellaneous decomposition products.

* * *Section 11 – Toxicological Information* * *

Likely routes of Exposure

Routes of entry include inhalation, skin contact, eye contact and ingestion.

Symptoms of Exposure

Acute Inhalation

May cause irritation.

Chronic Inhalation

May cause lung damage.

Acute Skin Contact

May cause irritation.

Chronic Skin contact

May cause dermatitis.

Acute Eye Contact

May cause irritation.

Chronic Eye Contact

May cause conjunctivitis.

Acute ingestion

May cause irritation of the gastrointestinal tract, nausea, vomiting.

Chronic Ingestion

No information on significant adverse effects.

Numerical Toxicity Measures

Irritation Data

500 mg/24 hours skin-rabbit mild.

500 mg/25 hours eyes rabbit mild.

Toxicity Data

5 mg/kg intraperitoneal-rat LD50.

Acute Toxicity Data

Insufficient data.

Reproductive Effects

1.21 mg/kg oral-rat TDLO.

Carcinogen status

According to OSHA, NTP and IARC, tungsten is not considered to be a carcinogen.

* * *Section 12 – Ecological Information* * *

Component Analysis – Ecotoxicity – Aquatic Toxicity

No data available.

Persistence & Degradability

No data available.

Bioaccumulation

No data available.

Mobility

Tungsten will exist as ions or insoluble solids in the environment. Mobility through soil will not be an important fate process. Tungsten will not volatilize from dry soil surfaces based upon their ionic character and low vapor pressures. If released into water, tungsten compounds will absorb to suspended solids and sediment based upon their range or sorption coefficients. Tungsten in natural waters is in the form of tungstate and other tungsten polyanions. Tungsten compounds will exist as ions or insoluble solids in the environment and therefore volatilization from water surfaces will not be an important fate process.

* * *Section 13 – Disposal Considerations* * *

Disposal Methods

Dispose in accordance with all local, state and federal regulations.

* * *Section 14 – Transportation Information* * *

Transportation Classifications

There are no specific classifications or considerations regarding the transportation of this material.

* * *Section 15 – Regulatory Information* * *

U.S. Federal Regulations

Sections 311/312 (40 CFR 370.21)-Fire.

* * *Section 16 – Other Information* * *

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

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