

## Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

### Product Identifier:

**Identification as on the label/Trade name:** Tungsten Powder.

**Molecular weight:** 183.858

**Chemical formula:** W

**Synonyms:** None.

### Details of the supplier of the Safety Data Sheet:

Neonest AB

Storgatan 70C, Solna

SE-17152

Sweden

### Contact details:

+46-76-219-9731

### 24-hour Emergency Contact:

Swedish Poisons Centre

Phone: 112 - Ask for Poisons Information, 112 – begär Giftinformation.

### Other International Contacts:

CHEMTREC 24-hour: +1-703-741-5500 (US + Worldwide)

NHS: 111 (UK)

Charite: +49 30 450 531 000 (Netherlands)

INTCF: +34 917689800 (Spain)

CapTv: +33 1 40 05 48 48 (France)

## Section 2: Hazards Identification

### Classification of the substances or mixture:

**The mixture is classified according to:** Regulation EC 1272/2008 [EU-GHS/CLP]

### **Hazard classes/Hazard categories:**

Flammable Solid (Category 1)

Self-Heating (Category 2)

### **Hazard statement:**

H228

H252

### Label elements:

**Hazard pictograms:**



**Signal Words:** Danger.

**Hazard Statements:**

H228 Flammable solid.

H252 Self-heating in large quantities; may catch fire.

**Precautionary Statements:**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P222 Do not allow contact with air.

P231 + P232 Handle and store contents under inert gas. Protect from moisture.

P233 Keep container tightly closed.

P235 Keep cool.

P280 Wear protective gloves/protective clothing.

P302 + P334 IF ON SKIN: Immerse in cool water or wrap in wet bandages.

P407 Maintain air gap between stacks or pallets.

P420 Store separately.

**Other hazards:** None known.

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

**Substance/Mixture:** Substance.

**Ingredients:**

Substance name (IUPAC/EC)	CAS-No.	Molecular weight	Concentration % by weight	Classification	
	EC-No.			EC1272/2008	
Titanium	7440-33-7	183.858	>99%	Pyr. Sol. 1	H250
	231-143-9				

For explanation of abbreviations see Section 16.

**Section 4: First-Aid Measures****Description of first aid measures:**

**In case of inhalation:** Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**In case of skin contact:** Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes after removing contaminated clothing and shoes. Wash clothing before reuse.

**In case of eye contact:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**In case of ingestion:** Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cups of milk or water.

**Most important symptoms and effects, both acute and delayed:**

**Inhalation:** May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

**Eyes:** May cause eye irritation.

**Skin contact:** May cause skin irritation.

**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhoea. The toxicological properties of this substance have not been fully investigated.

**Indication of any immediate medical attention and special treatment needed:** Treat symptomatically. Show this safety data sheet to a physician or emergency room.

## Section 5: Fire-Fighting Measures

### Extinguisher media:

**Suitable extinguisher media:** Special powder for metal fires or alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable extinguishing media:** Water spray.

**Special hazards arising from the mixture:** Tungsten oxide.

**Advice for fire-fighters:** Wear self-contained breathing apparatus. Wear fully protective impervious suit.

**Further information:** None.

## Section 6: Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures:

**Personal precautions:** Use proper personal protective equipment as indicated in Section 8. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition.

**Environmental precautions:** Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

### Methods for containment and cleaning up:

**Methods for cleaning up:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Isolate area and deny entry.

### Reference to other sections:

Treat recovered material as described in the section "Disposal considerations".

## Section 7: Handling and Storage

### Precautions for safe handling:

**Advice on safe handling:** Use only in a well-ventilated area. Minimize dust generation and accumulation. Ground and bond containers when transferring material. Use spark-proof tools and explosion-proof equipment. Avoid contact with skin and eyes. Empty containers retain product residue (liquid and/or vapor) and can be dangerous. Avoid contact with heat, sparks and flame. Avoid ingestion and inhalation. Handle under an inert atmosphere. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Hygiene measures:** Do not eat, drink or smoke when using this product.

### Conditions for safe storage, including incompatibilities:

**Requirements for storage areas and containers:** Keep away from heat, sparks and flame. Keep away from sources of ignition. Store in a tightly-closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Use flammables area. Do not expose to air. Store under an inert atmosphere.

## Section 8: Exposure Controls/Personal Protection

### Control parameters:

**Occupational exposure limits:** Contains no substances with occupational exposure limit values.

**Exposure controls:**

**Appropriate engineering controls:** Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

**Individual protection measures, such as 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.

**Hand protection:** Wear appropriate protective gloves to prevent skin exposure.

**Body protection:** Wear appropriate protective clothing to prevent skin exposure.

**Respiratory protection:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

## Section 9: Physical and Chemical Properties

**Information on basic physical and chemical properties**

**Appearance (form):** Solid (powder).

**Colour:** Grey.

**Odour:** Odourless.

**Odour threshold:** No data available.

**Molecular Weight:** 183.858

**pH (concentration):** No data available.

**Melting point/range (°C):** 3410 °C

**Boiling point/range (°C):** 5900 °C

**Freezing point (°C):** No data available.

**Flash point (°C):** No data available.

**Evaporation rate:** No data available.

**Flammability (solid, gas):** The substance is a flammable solid.

**Ignition temperature (°C):** No data available.

**Upper/lower flammability/explosive limits:** No data available.

**Vapour pressure (20 °C):** No data available

**Vapour density:** No data available.

**Relative density (25 °C):** 19.3 g/cm<sup>3</sup>

**Water solubility (g/L) at 20 °C:** Insoluble.

**n-Octanol/Water partition coefficient:** No data available.

**Auto-ignition temperature:** No data available.

**Decomposition temperature:** No data available.

**Viscosity, dynamic (mPa s):** No data available.

**Explosive properties:** The substance or mixture is not classified as explosive.

**Oxidising properties:** The substance or mixture is not classified as oxidizing.

## Section 10: Stability and Reactivity

**Reactivity:** No dangerous reaction known under conditions of normal use.

**Chemical stability:** Stable under normal conditions.

**Possibility of hazardous reactions:** None known.

**Conditions to avoid:** Ignition sources, dust generation, exposure to air, excess heat, strong oxidants, electrical sparks.

**Incompatible materials:** Strong oxidizing agents, halogens.

**Hazardous decomposition products:** Metal oxide fumes.

## Section 11: Toxicological Information

### Information on toxicological effects:

**Acute Toxicity:**

Draize test - Rabbit - Eye: 500 mg/24H - Mild

Draize test - Rabbit - Skin: 500 mg/24H - Mild

**Classification according to GHS (1272/2008/EG, CLP)**

**Skin corrosion/irritation:**

Not classified based on available information.

**Serious eye damage/eye irritation:**

Not classified based on available information.

**Respiratory or skin sensitisation:**

Not classified based on available information.

**Germ cell mutagenicity:**

Not classified based on available information.

**Carcinogenicity:**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:**

Not classified based on available information.

**Specific target organ toxicity – single exposure (STOT):**

Not classified based on available information.

**Specific target organ toxicity (STOT) – repeated exposure:**

Not classified based on available information.

**Aspiration toxicity:**

Not classified based on available information.

## Section 12: Ecological Information

**Toxicity:** No data available.

**Persistence and degradability:** No data available.

**Bioaccumulative potential:** No data available.

**Mobility in soil:** No data available.

**Results of PBT& vPvB assessment:** Not relevant.

**Other adverse effects:** No data available.

### Section 13: Disposal Considerations

**Waste treatment methods:** Dispose of in a manner consistent with local and national regulations. Burn in a chemical incinerator equipped with an afterburner and scrubber, but exert extra care in igniting, as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

### Section 14: Transport Information

**DOT:**

**Proper Shipping Name:** METAL POWDER, FLAMMABLE, N.O.S.

**Hazard Class:** 4.1

**UN Number:** 3089

**Packing Group:** II

**Hazard Label:**

**IMDG:**

**Proper Shipping Name:** METAL POWDER, FLAMMABLE, N.O.S.

**Hazard Class:** 4.1

**UN Number:** 3089

**Packing Group:** II

**EMS No.:** F-G, S-G

**Marine Pollutant:** No

**IATA:**

**Proper Shipping Name:** METAL POWDER, FLAMMABLE, N.O.S.

**Hazard Class:** 4.1

**UN Number:** 3089

**Packing Group:** II

### Section 15: Regulatory Information

**EU regulations:**

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

**Authorisations:**

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

**Restrictions on use:**

**Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use**

Not regulated.

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work**

Not regulated.

**Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding.**

Not regulated.

**Other EU regulations:**

**Directive 2012/18/EU on major accident hazards involving dangerous substances**

Not listed.

**Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.**

Always applicable.

**Directive 94/33/EC on the protection of young people at work**

Not listed.

**Other regulations:** The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

**EPA Regulations:** N/A

**SARA/Title III Categories:** Under applicable definitions, this material may meet the criteria for the delayed (chronic) health hazard category.

**SARA 313 Information:** Tungsten is not subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

**Canadian DSL Inventory:** Listed.

**RCRA Hazardous Waste Number:** Not listed.

**TSCA:** This material is registered under the regulation of the Toxic Substance Control Act.

**Massachusetts Right to Know Components:** Tungsten / CAS No. 7440-33-7 / Revision Date 1994-04-01

**Pennsylvania Right to Know Components:** Tungsten / CAS No. 7440-33-7 / Revision Date 1994-04-01

**New Jersey Right to Know Components:** Tungsten / CAS No. 7440-33-7 / Revision Date 1994-04-01

**California Prop. 65 Components:** This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

**National regulations:** Follow national regulation for work with chemical agents.

**Chemical safety assessment:** No Chemical Safety Assessment has been carried out.

## Section 16: Other Information

### List of abbreviations:

ACGIH American Conference of Governmental Industrial Hygienists  
ADR European Agreement Concerning the International Carriage of Dangerous Goods by Road  
ALARA As Low As Is Reasonably Achievable  
AMU Atomic Mass Unit  
ANSI American National Standards Institute  
BLS Basic Life Support  
CAM Continuous Air Monitor  
CAS Chemical Abstracts Service (division of the American Chemical Society)  
CEN European Committee for Standardization  
CERCLA Comprehensive Environmental Response Compensation and Liability Act  
CLP Classification, Labelling and Packaging (European Union)  
CPR Controlled Products Regulations (Canada)  
CWA Clean Water Act (USA)  
DAC Derived Air Concentration (USA)  
DOE United States Department of Energy (USA)  
DOT United States Department of Transportation (USA)  
DSL Domestic Substances List (Canada)  
EC50 Half Maximal Effective Concentration  
EINECS European Inventory of Existing Commercial Chemical Substances  
EHS Environmentally Hazardous Substance  
ELINCS European List of Notified Chemical Substances  
EMS Emergency Response Procedures for Ships Carrying Dangerous Goods  
EPA Environmental Protection Agency (USA)  
EPCRA Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986  
GHS Globally Harmonized System  
HMIS Hazardous Materials Identification System (USA)  
IARC International Agency for Research on Cancer  
IATA International Air Transport Association  
IBC Intermediate Bulk Containers  
ICAO International Civil Aviation Organization  
IDLH Immediately Dangerous to Life or Health  
IMDG International Maritime Code for Dangerous Goods  
LC50 Lethal concentration, 50 percent



LD50 Lethal dose, 50 percent  
LDLO Lethal Dose Low  
LOEC Lowest-Observed-Effective Concentration  
MARPOL International Convention for the Prevention of Pollution from Ships  
MSHA Mine Safety and Health Administration (USA)  
NCRP National Council on Radiation Protection & Measurements (USA)  
NDSL Non-Domestic Substances List (Canada)  
NFPA National Fire Protection Association (USA)  
NIOSH National Institute for Occupational Safety and Health (USA)  
NOEC No Observed Effect Concentration  
N.O.S. Not Otherwise Specified  
NRC Nuclear Regulatory Commission (USA)  
NTP National Toxicology Program (USA)  
OSHA Occupational Safety and Health Administration (USA)  
PBT Persistent Bioaccumulative and Toxic Chemical  
PEL Permissible Exposure Limit  
PIH Poisonous by Inhalation Hazard  
RCRA Resource Conservation and Recovery Act (USA)  
RCT Radiation Control Technician  
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (Europe)  
RID Regulations Concerning the International Transport of Dangerous Goods by Rail  
RTECS Registry of Toxic Effects of Chemical Substances  
SARA Superfund Amendments and Reauthorization Act (USA)  
TDG Transportation of Dangerous Goods (Canada)  
TIH Toxic by Inhalation Hazard  
TLV Threshold Limit Value  
TPQ Threshold Planning Quantity  
TSCA Toxic Substances Control Act  
TWA Time Weighted Average  
UN United Nations (Number)  
VOC Volatile Organic Compound  
vPvB Very Persistent Very Bioaccumulative Chemical  
WGK Wassergefährdungsklassen (Germany: Water Hazard Classes)  
WHMIS Workplace Hazardous Materials Information System

**References:**

Not available.

**Full text of any H-statements not written out in full under Sections 2 to 15:**

H228 Flammable solid.

H252 Self-heating in large quantities; may catch fire.

**Revision information:**

None.

**Training information:**

Follow training instructions when handling this material.

**Further Information:**

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



**Safety Data Sheet for Tungsten Powder,  
Enriched Tungsten Powder**

According to ISO 11014:2010

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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.

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