



**HAGEN** automation  
DESKTOP ROBOTS  
INDUSTRIAL ROBOTS  
3D PRINTING



## 1. IDENTIFICATION

Material: Micronised WS2 -Tungsten Disulphide powder supplied in 10ml metal screw tin.

Supplier: Hagen Automation Ltd

Address:

Hagen Automation, Greybern House, Templars Way, Sharnbrook, MK441PY United Kingdom  
Emergency Tel: 0044 7739 854 883

## 2. COMPOSITION

Refractory metal disulphide

Tungsten disulphide CAS NUMBER 12138-09-9 - 5% 100%

**Symptoms relating to use:** Not classified as Hazardous in normal usage.

## 3. HAZARDS IDENTIFICATION

Emergency Overview

WHMIS Classification

Not WHMIS controlled.

Not a dangerous substance according to GHS.

HMIS Classification

Health hazard: 0

Flammability: 0

Physical hazards: 0

Potential Health Effects:

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Ingestion May be harmful if swallowed.

## 4. FIRST AID MEASURES

Inhalation - if symptoms of pulmonary involvement develop, remove from exposure and seek medical attention.

Skin contact - if irritation occurs, thoroughly wash affected area with mild soap and water and prevent further contact, contact medical help if irritation persists.

Eye contact - if irritation occurs, flush with copious amounts of Water, contact medical help if irritation persists.

Ingestion - if substantial quantities are swallowed, give person (if conscious) a large quantity of water to drink, induce vomiting, and seek medical attention.

## 5. FIRE FIGHTING MEASURES

Flash Point: N/A

Flammability Limits: N/A

In case of fire, sulphur dioxide and tungsten trioxide are formed.

No Fire Hazard, Use extinguishing agents suitable for surrounding fire.

Special Procedures: Use a self-contained breathing apparatus to prevent inhalation of Dust, Mist or fumes that may be generated during fire frightening activities. No Unusual fire or explosion hazards.

Suitable extinguishing media: Dry Sand, Special Metal extinguishing powder.

Unsuitable extinguishing media: Water

## 6. ACCIDENTAL RELEASE MEASURES

Note: Very slippery, proceed with caution!

If Spilled or Released: Ventilate area of spill, clean up using methods which avoid dust generation, such as Vacuuming with appropriate filter, wet dust mop, or wet clean up.

Precautionary measures regarding persons: Remove source of ignition. Avoid formation and deposition of dust. Ensure effective ventilation.

Use the PPE (Personal Protective Equipment) as per chapter 8

(European Union: Note German Technical Regulation on Dangerous Substances No. 200/201)

## 7. HANDLING AND STORAGE

Maintain good housekeeping procedures to prevent accumulation of dust. Use clean-up methods which minimise dust generation.

Storage: Keep in sealed containers in a dry place.

(European Union: Observe the rules contained in the VCI concept for separate/common storage.

Observe official regulations. Storage class as per VCI: 11)

### 7.1 Specific End Use(s):

Powdered Lubricant. Lubricant additive.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: Use an appropriate approved respirator to with filter type P according to DIN EN 143. If airborne dust levels exceed the TLV, appropriate requirements set forth in 29 CFR 1910.134 should be met.

Wash thoroughly after handling and before eating, smoking and end of work shift. Do not shake clothing to remove dust. Avoid inhalation, ingestion and direct skin contact

Ventilation: Use local exhaust which is adequate to limit exposure levels below TLV.

Gloves: Recommended

Eye Protection: Recommended

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance & Odour: GRAYISH-BLACK POWDER, NO ODOR

PH value: 2 @ 20o C 100 g/l (aqueous suspension)

Boiling Point: N/A

Melting Point: 1250o

C (decomposition)

Vapor Pressure (mm HG): N/A

Vapor Density (air=1): N/A

Solubility in Water: INSOLUBLE

Specific Gravity: (H2O=1) 7.4

Percent Volatile by Volume: 0

Evaporation Rate: N/A

How Best Monitored: AIR SAMPLE

Non-Hazardous Ingredients

Material: TUNGSTEN DISULFIDE

Percent by Weight: 100

ACGIH TLV: 5MG/M3

(Limit is for insoluble compounds as W)

## 10. STABILITY AND REACTIVITY

Stability: Stable

Conditions to avoid: N/A

Incompatible Materials to Avoid: Contact with strong acids may generate Hydrogen Sulphide

Hazardous Decomposition Products: Oxides of Sulphur and Tungsten may be evolved at extreme temperatures.

## 11. TOXICOLOGICAL INFORMATION

**Inhalation** Not expected to prevent a significant inhalation hazard under anticipated conditions of normal use. Inhalation of mists or vapours at elevated temperatures may cause respiratory irritation.

**Dermal** Repeated or prolonged exposure may have a defatting effect or cause dermatitis.

**Ocular** Redness, pain may occur.

Toxicological tests:

Acute toxicity:

LD50 Oral, rat: > 2000 mg/Kg

LC50 inhalation, rat > 5.25 mg/l, 4 h of exposure

Irritating/Corrosive effects:

Irritation of eyes/rabbit: slightly irritant

Irritation of the skin/rabbit: non-irritant

Mutagenic effect: Salmonella typhimurium: No Indication of mutagenic effects.

## 12. ECOLOGICAL INFORMATION

**On Product** Prevent entry to sewers and public water ways.

**Ecological Effects** Not soluble in water, so only minimally bio-degradable

Aquatic toxicity:

Acute fish toxicity: 96 h LC50 (Brachydanio rerio): > 485 µg/l

(Maximum produceable concentration in the case of a weighed portion of 100 mg/l)

Acute toxicity for daphnia: 48 h EC50 (Daphnia magna): > 510 µg/l

(Maximum produceable concentration in the case of a weighed portion of 100 mg/l)

Toxicity for algae:

72 h EbCo (Scenedesmus subspicatus): > 330 µg/l

72 h ErCo (Scenedesmus subspicatus): > 330 µg/l

(Maximum produceable concentration in the case of a weighed portion of 100 mg/l)

Toxicity to bacteria: 3 h EC50 (activated sludge): 8972 mg/l

### 13. DISPOSAL INFORMATION

**General** Dispose of in a safe manner in accordance with local/national regulations

**Disposal method** In accordance with local/national regulations may be taken to waste disposal site.

**Disposal of used packaging** Use a licensed waste disposal contractor.

### 14. TRANSPORT INFORMATION

Transport: Not classified as hazardous for transport.

### 15. REGULATORY INFORMATION

EC Classification: The material is not dangerous for transport or supply.

Risk Phrases

None

Safety Phrases:

None

### 16. OTHER INFORMATION

NIL

References:

\* European agreement concerning the international carriage of dangerous goods by road (ADR) volumes I & II 1999

\* Commission Directive 93/112/EC of 10/12/93, ( O.J. No. 314 of 16/12/93 pg 38)

\* Council Directive 67/548/EEC and all appropriate A.T.P'S

**[?] Important Note:**

1. Before any product is used the label should be carefully read and current safety literature and information consulted.

2. The product information in this Data Sheet is to the best of Hagen Automation's knowledge correct as at the date of publication. User should contact Hagen Automation for updated advice and in any event satisfy themselves that the product is entirely suitable for their purpose.