

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/06/2021

Reviewed on 01/11/2019

## 1 Identification

- **Product identifier**
- **Trade name:** *Tungsten Microcarrier*
- **Catalog or product number:** 1652266
- **CAS Number:**  
7440-33-7
- **EC number:**  
231-143-9
- **Application of the substance / the mixture** *Laboratory chemicals*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
*Bio-Rad Laboratories, Life Science Group*  
*2000 Alfred Nobel Drive*  
*Hercules, California 94547* (510)741-1000
- **Information department:** *lsg\_techserv\_us@bio-rad.com*
- **Emergency telephone number:**  
*1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.*  
*510-741-1000*

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
*Flam. Sol. 1 H228 Flammable solid.*  
*Skin Irrit. 2 H315 Causes skin irritation.*  
*Eye Irrit. 2A H319 Causes serious eye irritation.*
- **Label elements**
- **GHS label elements** *The substance is classified and labeled according to the Globally Harmonized System (GHS).*
- **Hazard pictograms**



GHS02 GHS07

- **Signal word** *Danger*
- **Hazard statements**  
*H228 Flammable solid.*  
*H315 Causes skin irritation.*  
*H319 Causes serious eye irritation.*
- **Precautionary statements**  
*P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*  
*P240 Ground/bond container and receiving equipment.*  
*P241 Use explosion-proof electrical/ventilating/lighting/equipment.*  
*P280 Wear protective gloves / eye protection / face protection.*  
*P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/06/2021

Reviewed on 01/11/2019

Trade name: Tungsten Microcarrier

(Contd. of page 1)

P362 Take off contaminated clothing.

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description:**  
7440-33-7 tungsten powder
- **Identification number(s):**
- **EC number:** 231-143-9
- **Additional information:** For the wording of the listed risk phrases refer to section 15.

## 4 First-aid measures

- **Description of first aid measures**
- **General information** Immediately remove any clothing soiled by the product.
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact**  
Generally the product does not irritate the skin.  
Immediately wash with water and soap and rinse thoroughly.  
Immediately rinse with water.
- **After eye contact** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing** Rinse mouth with water. Seek medical attention and appropriate follow-up.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment (See section 8). Keep unprotected persons away.  
Wear protective clothing.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:** Ensure adequate ventilation.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/06/2021

Reviewed on 01/11/2019

Trade name: Tungsten Microcarrier

(Contd. of page 2)

- **Reference to other sections**

See Section 7 for information on safe handling  
 See Section 8 for information on personal protection equipment.  
 See Section 13 for disposal information.

- **Protective Action Criteria for Chemicals**

- **PAC-1:**

10 mg/m<sup>3</sup>

- **PAC-2:**

330 mg/m<sup>3</sup>

- **PAC-3:**

2,000 mg/m<sup>3</sup>

## 7 Handling and storage

- **Handling**

- **Precautions for safe handling** No special measures required.

- **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.  
 Protect against electrostatic charges.

- **Conditions for safe storage, including any incompatibilities**

- **Storage**

- **Requirements to be met by storerooms and receptacles:** According to product specification

- **Information about storage in one common storage facility:** Not required.

- **Further information about storage conditions:** Keep receptacle tightly sealed.

- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

### 7440-33-7 tungsten powder

PEL and insoluble compounds, as We

REL Short-term value: 10 mg/m<sup>3</sup>  
 Long-term value: 5 mg/m<sup>3</sup>  
 as W

TLV Long-term value: 3\* mg/m<sup>3</sup>  
 as W; \* respirable fraction

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment**

- **General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/06/2021

Reviewed on 01/11/2019

Trade name: Tungsten Microcarrier

(Contd. of page 3)

- Immediately remove all soiled and contaminated clothing  
 Wash hands before breaks and at the end of work.  
 Avoid contact with the eyes.  
 Avoid contact with the eyes and skin.
- **Protection of hands:** Protective gloves.
  - **Material of gloves** Synthetic gloves
  - **Penetration time of glove material**  
 The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
  - **Eye protection:**  
 Safety glasses  
 Tightly sealed goggles.

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

|                 |                 |
|-----------------|-----------------|
| Form:           | Solid           |
| Color:          | Dark grey       |
| Odor:           | Odorless        |
| Odor threshold: | Not determined. |

· pH-value: Not applicable.

#### · Change in condition

|                              |          |
|------------------------------|----------|
| Melting point/Melting range: | 3,390 °C |
| Boiling point/Boiling range: | 5,500 °C |

· Flash point: Not applicable  
 Not determined.

· Flammability (solid, gaseous) Product is not flammable.

· Decomposition temperature: Not determined.

· Auto igniting: Not determined.

· Danger of explosion: Not determined.

#### · Explosion limits:

|        |                 |
|--------|-----------------|
| Lower: | Not determined. |
| Upper: | Not determined. |

· Vapor pressure: Not applicable.

· Density at 20 °C: 19.27 g/cm<sup>3</sup>

|                  |                         |
|------------------|-------------------------|
| Bulk density:    | 4,000 kg/m <sup>3</sup> |
| Relative density | Not determined.         |
| Vapor density    | Not applicable.         |
| Evaporation rate | Not applicable.         |

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/06/2021

Reviewed on 01/11/2019

Trade name: Tungsten Microcarrier

(Contd. of page 4)

- **Solubility in / Miscibility with Water:** Fully miscible
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - dynamic:** Not applicable.
  - kinematic:** Not applicable.
- **Solids content:** 100.0 %
- **Other information** No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
  - on the skin:** Irritant to skin and mucous membranes.
  - on the eye:** Irritant effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**
  - Substance is not listed.
- **NTP (National Toxicology Program)**
  - Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)**
  - Substance is not listed.
- **Target organs:** Eye.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/06/2021

Reviewed on 01/11/2019

Trade name: Tungsten Microcarrier

(Contd. of page 5)

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Generally not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
Dispose of waste in accordance to applicable national, regional, or local regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |                                       |   |
|---------------------------------------|---|
| · <b>UN-Number</b>                    | UN3189  |
| · <b>DOT, ADR, IMDG, IATA</b>         |   |
| · <b>UN proper shipping name</b>      |   |
| · <b>DOT</b>                          | Metal powder, self-heating, n.o.s.  |
| · <b>ADR</b>                          | 3189 METAL POWDER, SELF-HEATING, N.O.S.<br>METAL POWDER, SELF-HEATING, N.O.S. (tungsten powder) |
| · <b>IMDG, IATA</b>                   | METAL POWDER, SELF-HEATING, N.O.S.  |
| · <b>Transport hazard class(es)</b>   |   |
| · <b>DOT, ADR, IMDG, IATA</b>         |   |
| · <b>Class</b>                        | 4.2 Substances liable to spontaneous combustion   |
| · <b>Label</b>                        | 4.2   |
| · <b>Packing group</b>                |   |
| · <b>DOT, ADR, IMDG, IATA</b>         | III   |
| · <b>Environmental hazards:</b>       |   |
| · <b>Marine pollutant:</b>            | No  |
| · <b>Special precautions for user</b> | Warning: Substances liable to spontaneous combustion  |
| · <b>EMS Number:</b>                  | F-G,S-J   |
| · <b>Segregation groups</b>           | Heavy metals and their salts (including their organometallic compounds), powdered metals        |
| · <b>Stowage Category</b>             | E   |

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/06/2021

Reviewed on 01/11/2019

Trade name: Tungsten Microcarrier

(Contd. of page 6)

- **Handling Code**
- **Segregation Code**

H1 Keep as dry as reasonably practicable  
SG26 In addition: from goods of classes 2.1 and 3 when stowed on deck of a containership a minimum distance of two container spaces athwartship shall be maintained, when stowed on ro-ro ships a distance of 6 m athwartship shall be maintained.

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

- **Transport/Additional information:**
- **DOT**
- **Quantity limitations**

Not dangerous according to the above specifications.

Void  
Void

- **ADR**
- **Excepted quantities (EQ)**

Code: E1  
Maximum net quantity per inner packaging: 30 g  
Maximum net quantity per outer packaging: 1000 g

- **IMDG**
- **Limited quantities (LQ)**
- **Excepted quantities (EQ)**

0  
Code: E1  
Maximum net quantity per inner packaging: 30 g  
Maximum net quantity per outer packaging: 1000 g

- **UN "Model Regulation":**

UN 3189 METAL POWDER, SELF-HEATING, N.O.S., 4.2, III

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA (Superfund Amendments and Reauthorization Act of 1986 - USA)**

- **Section 302/304 (40CFR355.30 / 40CFR355.40):**

Substance not listed.

- **Section 313 (40CFR372.65):**

Substance is not listed.

- **TSCA (Toxic Substances Control Act):**

ACTIVE

- **Hazardous Air Pollutants**

Substance is not listed.

- **California Proposition 65:**

- **Chemicals known to cause cancer:**

Substance is not listed.

- **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

(Contd. on page 8)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/06/2021

Reviewed on 01/11/2019

Trade name: Tungsten Microcarrier

(Contd. of page 7)

- **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

- **Developmental Toxicity**

Substance is not listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

Substance is not listed.

- **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

- **National regulations**

- **Water hazard class:** Generally not hazardous for water.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Environmental Health and Safety.

- **Contact:**

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

- **Date of preparation / last revision** 02/06/2021 / -

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Sol. 1: Flammable solids – Category 1

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

- **\* Data compared to the previous version altered.**