

# Safety Data Sheet

pursuant to Regulation (EC) 1907/2006 (REACH)  
REACH reg. no. 01-2119488910-30-0000 (Tungsten)

Trade name: **Tungsten-Thorium**  
SDS no. SD-WT-02

Manufactured for RADNOR by Plansee

**RADNOR** PLANSEE



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Version: 3.1/EN

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<b>1. Identification of the substance and of the company</b>	<b>* Identification of the substance:</b> WT20, WVMT, WVMWT <b>* Use of the substance:</b> products such as for Electrodes for lighting technology, welding technology, electron tubes, plasma melting, -cutting, -spraying <b>*Company:</b> PLANSEE SE, A-6600 Reutte, e-mail: <a href="mailto:environment.management@plansee.com">environment.management@plansee.com</a> <b>*Emergency number:</b> phone +43 (5672)600-0
<b>2. Hazards Identification</b>	<b>*Classification:</b> not hazardous material pursuant to Regulation (EC) no. 1272/2008 EC or EC Directive 67/548/EEC <b>*Compact Metal / Alloy with no Risk to Human Health or the Environment.</b> <b>*Radioactive, <math>\alpha</math>-emitter</b> <b>*No immediate hazard by ThO<sub>2</sub> because of the tungsten matrix. Accumulation in the body, e.g. by prolonged exposure through inhalation of WTh-dust, may cause serious damage to health</b>
<b>3. Composition/Information on ingredients</b>	<b>*Summary:</b> tungsten, 1-2 % mass fraction thoriumoxide (ThO <sub>2</sub> ) EC no. tungsten: 231-143-9 CAS no. tungsten: 7440-33-7, thoriumoxide: 1314-20-1 <b>*Hazardous components:</b> ThO <sub>2</sub> : radioactive; main isotopes: <sup>232</sup> Th (not in equilibrium with daughter nuclides), <sup>228</sup> Th (in equilibrium with daughter nuclides), <sup>230</sup> Th. Nominal activity of the Th-isotopes: 113 Bq/g for WT20 (2% ThO <sub>2</sub> ).
<b>4. First-aid measures</b>	<b>*Inhalation:</b> supply fresh air <b>*Skin contact:</b> wash dust off thoroughly with soap and water. <b>*Doctor is needed or advisable:</b> consult a physician after prolonged exposure to dust.
<b>5. Fire-fighting measures</b>	<b>*Suitable extinguishing media:</b> The product itself is not flammable. <b>*Adapt extinguishing measures to surroundings.</b> <b>*Special hazard:</b> increased fire hazard during dust formation. <b>*Protective equipment:</b> breathing protection in the presence of dust.
<b>6. Accidental release measures</b>	<b>*Personnel-related precautionary measures:</b> dust should be suction cleaned directly at source. <b>*Environmental protection measures:</b> no particular environmental protection measures are required.
<b>7. Handling and storage</b>	<b>*Handling:</b> Avoid dust formation. Use suction cleaning if unavoidable and when processing at high temperatures (sublimate formation, see item 10). <b>*Storage:</b> no special measures required.
<b>8. Exposure controls/personal protection</b>	<b>*Exposure thresholds:</b> workplace: tungsten 5 mg/m <sup>3</sup> inhalable fraction, mean daily value, <b>*Dust-like emissions:</b> General 5 mg/m <sup>3</sup> <b>*Wastewater emissions:</b> tungsten 5 mg/l <b>*dose limit:</b> 1 mSv/a (for individual inhabitants) <b>*Workplace exposure:</b> install suction cleaning when working with dust and sublimate and use at least one FFP3 respirator. <b>*Environmental exposure:</b> install suction cleaning with filter when working with dust formation. <b>*Do not empty into drains.</b>
<b>9. Physical and chemical properties</b>	<b>*Appearance:</b> solid grey material <b>*Melting point:</b> 3410°C <b>*Density:</b> 19,3 g/cm <sup>3</sup> at 20°C <b>*Solubility:</b> insoluble in water, acids and bases; soluble only in hydrofluoric acid or a base in combination with a strong oxidizing agent.
<b>10. Stability and reactivity</b>	<b>*Conditions to be avoided:</b> high temperatures in air (strong oxidation beginning around 400°C, sublimation of WO <sub>3</sub> beginning around 850°C). <b>*Substances to be avoided:</b> none
<b>11. Toxicological information</b>	<b>*Radioactive substance, <math>\alpha</math>-emitter, danger of serious damage to health in case of prolonged exposure through inhalation.</b>
<b>12. Ecological information</b>	<b>*Ecotoxicity:</b> No known ecotoxic effects. <b>*Mobility:</b> low mobility due to low solubility. <b>*Persistence and degradability:</b> stable inorganic material. <b>*Bioaccumulation potential:</b> no data available.
<b>13. Disposal considerations</b>	<b>*Dispose WT-residues according to national regulations for radioactive waste.</b>
<b>14. Transport information</b>	<b>*ADR / RID / ADN / IATA (ICAO) / IMDG:</b> UN-No. 2911, class 7 (Radioactive material, excepted package—articles).
<b>15. Regulatory information</b>	<b>*Directive 96/29/Euratom</b> <b>*Labelling pursuant to international Dangerous Goods Regulations.</b> <b>*The exposure limits stated under item 8 refer to the Austrian legal provisions</b> <b>*Notice national regulations.</b>
<b>16. Other information</b>	<b>*Above information corresponds to our current state of knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.</b> <b>*Detailed results of the toxicological and ecotoxicological effects are described in the chemical safety report for REACH registration.</b>