1. Identification of the substance and of the company

*Identification of the substance:* WT20, WVMT, WVMWT
*Use of the substance:* products such as for Electrodes for lighting technology, welding technology, electron tubes, plasma melting, -cutting, -spraying

*Company:* PLANSEE SE, A-6600 Reutte
*e-mail:* environment.management@plansee.com
*Emergency number:* phone +43 (5672)600-0

2. Hazards Identification

*Classification:* not hazardous material pursuant to Regulation (EC) no. 1272/2008 EC or EC Directive 67/548/EEC *Compact Metal / Alloy with no Risk to Human Health or the Environment.
*Radioactive, α-emitter* *No immediate hazard by ThO₂ 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

3. Composition/Information on ingredients

*Summary:* tungsten, 1-2 % mass fraction thorium oxide (ThO₂)
*EC no. tungsten: 231-143-9
*CAS no. tungsten: 7440-33-7, thorium oxide: 1314-20-1
*Hazardous components:* ThO₂: radioactive; main isotopes: 228Th (not in equilibrium with daughter nuclides), 229Th (in equilibrium with daughter nuclides), 230Th. Nominal activity of the Th-isotopes: 113 Bq/g for WT20 (2% ThO₂).

4. First-aid measures

*Inhalation:* supply fresh air
*Skin contact:* wash dust off thoroughly with soap and water.
*Doctor is needed or advisable:* consult a physician after prolonged exposure to dust.

5. Fire-fighting measures

*Suitable extinguishing media:* The product itself is not flammable. *Adapt extinguishing measures to surroundings.*
*Special hazard:* increased fire hazard during dust formation.
*Protective equipment:* breathing protection in the presence of dust.

6. Accidental release measures

*Personnel-related precautionary measures:* dust should be suction cleaned directly at source.
*Environmental protection measures:* no particular environmental protection measures are required.

7. Handling and storage

*Handling:* Avoid dust formation. Use suction cleaning if unavoidable and when processing at high temperatures (sublimate formation, see item 10).
*Storage:* no special measures required.

8. Exposure controls/personal protection

*Exposure thresholds:* workplace: tungsten 5 mg/m³ inhalable fraction, mean daily value.
*Dust-like emissions:* General 5 mg/m³ *Wastewater emissions:* tungsten 5 mg/l *dose limit:* 1 mSv/a (for individual inhabitants)
*Workplace exposure:* install suction cleaning when working with dust and sublimate and use at least one FFP3 respirator.
*Environmental exposure:* install suction cleaning with filter when working with dust formation. *Do not empty into drains.

9. Physical and chemical properties

*Appearance:* solid grey material
*Melting point:* 3410°C
*Density:* 19.3 g/cm³ at 20°C
*Solubility:* insoluble in water, acids and bases; soluble only in hydrofluoric acid or a base in combination with a strong oxidizing agent.

10. Stability and reactivity

*Conditions to be avoided:* high temperatures in air (strong oxidation beginning around 400°C, sublimation of WO₃ beginning around 850°C).
*Substances to be avoided:* none

11. Toxicological information

*Radioactive substance, α-emitter, danger of serious damage to health in case of prolonged exposure through inhalation.

12. Ecological information

*Ecotoxicity:* No known ecotoxic effects.
*Mobility:* low mobility due to low solubility.
*Persistence and degradability:* stable inorganic material.
*Bioaccumulation potential:* no data available.

13. Disposal considerations

*Dispose WT-residues according to national regulations for radioactive waste.

14. Transport information

*ADR / RID / ADN / IATA (ICAO) / IMDG:* UN-No. 2911, class 7 (Radioactive material, excepted package–articles).

15. Regulatory information

*Directive 96/29/Euratom* *Labelling pursuant to international Dangerous Goods Regulations.
*The exposure limits stated under item 8 refer to the Austrian legal provisions* *Notice national regulations.

16. Other information

*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.*
*Detailed results of the toxicological and ecotoxicological effects are described in the chemical safety report for REACH registration.*