1. Identification of the substance and of the company

*Identification of the substance: Mo-Ta *Use of the substance: products such as for sputtering targets *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.

3. Composition/Information on ingredients

*Summary: molybdenum 89.25 % mass fraction, tantalum 10.75 % mass fraction


CAS no. molybdenum: 7439-98-7, tantalum: 7440-25-7

*Hazardous components: none

4. First-aid measures

*Inhalation: no exposure when used as directed. *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: avoid contamination of agricultural soils (see item 12).

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: molybdenum 10 mg/m³ inhalable fraction, mean daily value, tantalum 5 mg/m³ inhalable fraction, mean daily value *Dust-like emissions: General 5 mg/m³ *Wastewater emissions: molybdenum 5 mg/l *Workplace exposure: install suction cleaning when working with dust and sublimate and use at least one FFP2 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: 2630°C *Density: 10,66 g/cm³ at 20°C

*Solubility: insoluble in water, acids and bases; soluble only in complex-forming acids (sulphuric or phosphoric) or bases in combination with a strong oxidizing agent.

10. Stability and reactivity

*Conditions to be avoided: high temperatures in air (strong oxidation beginning around 600 °C, sublimation of MoO₃ beginning around 700 °C). *Substances to be avoided: none

11. Toxicological information

*No known toxic effects.

12. Ecological information


13. Disposal considerations

*Dispose of residues as metal waste. *Obey national or regional regulations.

14. Transport information

*ADR / RID / ADN / IATA (ICAO) / IMDG: not a dangerous good pursuant to international transport regulations.

15. Regulatory information

*No labeling required. *The exposure thresholds given under item 8 pertain to Austrian legal regulations. *Obey 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 toxicological and ecotoxicological effects are described in the chemical safety report for REACH registration.