

<b>1. Identification of the substance and of the company</b>	<p><b>* Identification of the substance:</b> DENAL <b>* Use of the substance:</b> products such as for contacts in vacuum interrupters <b>*Company:</b> PLANSEE Powertech AG, Retterswil 13, CH-5703 Seon, e-mail: <a href="mailto:environment.management@plansee.com">environment.management@plansee.com</a> <b>*Emergency number:</b> phone +41 62 769 60 80</p>
<b>2. Hazards Identification</b>	<p><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></p> <p><b>*EC No.1272/2008 Annex VI Tab. 3.1: Nickel:</b> carc. 2 can potentially cause cancer, H351; STOT RE 1 Prolonged or repeated exposure damages organs, H372; skin sens. 1. Can evoke allergic skin reactions, H317; <b>Cobalt:</b> resp. sens. 1; Inhalation can cause allergy or asthma symptoms or breathing difficulties, H334; skin sens. 1; can cause allergic skin reactions, H317;</p> <p><b>*EC No.1272/2008 Annex VI Tab.3.2: Nickel:</b> carc. cat. 3; R40: suspected carcinogenic effect; T, R48/23, poisonous: risk of serious health damage during prolonged exposure through inhalation, R43, may cause sensitisation by skin contact; <b>Cobalt:</b> R42/43, sensitisation through inhalation and skin contact possible;</p> <p><b>*EC No.1272/2008 Annex VI Tab. 3.1: Nickel:</b> aquatic chronic 3 hazardous to aquatic organisms with long-term effect, H412; <b>Cobalt:</b> aquatic chronic 4, can be hazardous to aquatic organisms with long-term effect H413;</p> <p><b>*EC No.1272/2008 Annex VI Tab.3.2: Nickel:</b> R52-53, hazardous to aquatic organisms, can have long-term damaging effects in bodies of water; <b>Cobalt:</b> R53, can have long-term damaging effects in bodies of water;</p>
<b>3. Composition/Information on ingredients</b>	<p><b>*Summary:</b> tungsten 90 to 97.5 % mass fraction, nickel 2 to 7 % mass fraction, iron 0 to 5 % mass fraction, cobalt 0 to 5 % mass fraction EC no. Tungsten: 231-143-9, Nickel: 231-113-5, Iron: 231-096-4, Cobalt: 231-158-0 CAS no. Tungsten: 7440-33-7, Nickel: 7440-02-0, Iron: 7439-89-6, Cobalt: 7440-48-4 <b>*Hazardous components:</b> see item 2.</p>
<b>4. First-aid measures</b>	<p><b>*Inhalation:</b> no exposure when used as directed. <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.</p>
<b>5. Fire-fighting measures</b>	<p><b>*Suitable extinguishing media:</b> The product itself is not flammable. *Adapt extinguishing measures to surroundings. <b>*Special hazard:</b> increased fire hazard during dust formation. <b>*Protective equipment:</b> breathing protection in the presence of dust.</p>
<b>6. Accidental release measures</b>	<p><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.</p>
<b>7. Handling and storage</b>	<p><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.</p>
<b>8. Exposure controls/personal protection</b>	<p><b>*Exposure thresholds:</b> workplace: tungsten 5 mg/m<sup>3</sup>, nickel 0.5 mg/m<sup>3</sup>, cobalt 0.5 mg/m<sup>3</sup>, iron 1 mg/m<sup>3</sup>, inhalable fraction, mean daily value <b>*Dust-like emissions:</b> General 5 mg/m<sup>3</sup>, nickel 1 mg/m<sup>3</sup>, cobalt 1 mg/m<sup>3</sup> <b>*Wastewater emissions:</b> tungsten 5 mg/l, nickel 0.5 mg/l, cobalt 1 mg/l, iron 2 mg/l <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. *Do not empty into drains.</p>
<b>9. Physical and chemical properties</b>	<p><b>*Appearance:</b> solid grey material <b>*Melting point:</b> 3400°C <b>*Density:</b> (17 to 18.5) 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.</p>
<b>10. Stability and reactivity</b>	<p><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</p>
<b>11. Toxicological information</b>	<p>*See under item 2.</p>
<b>12. Ecological information</b>	<p><b>*Ecotoxicity:</b> see under item 2. <b>*Mobility:</b> low mobility due to low solubility. <b>*Persistence and degradability:</b> stable inorganic material. <b>*Bioaccumulation potential:</b> no data available.</p>
<b>13. Disposal considerations</b>	<p>*Dispose of residues as metal waste. *Obey national or regional regulations.</p>
<b>14. Transport information</b>	<p><b>*ADR / RID / ADN / IATA (ICAO) / IMDG:</b> not a dangerous good pursuant to international transport regulations.</p>
<b>15. Regulatory information</b>	<p>*No labeling required. *The exposure thresholds given under item 8 pertain to Austrian legal regulations. *Obey national regulations.</p>
<b>16. Other information</b>	<p>*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.</p>

## Information about the content

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## Changes to last version

Replacement for	Changes to last version
007 / SD-DENAL-02	<ul style="list-style-type: none"> <li>■ No change in content</li> <li>■ Numbering Key, Storage Type and Layout changed</li> </ul>