

Safety Data Sheet

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

Trade name: **Denal**
SDS no. SD-Denal-02



Revised on 25-09-2020 / Issued: Plansee SE

Version: 1.2/EN

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1. Identification of the substance and of the company	* Identification of the substance: DENAL * Use of the substance: products such as for contacts in vacuum interrupters *Company: PLANSEE Powertech AG, Retterswil 13, CH-5703 Seon, e-mail: environment.management@plansee.com *Emergency number: phone +41 62 769 60 80
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. *EC No.1272/2008 Annex VI Tab. 3.1: Nickel: 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; Cobalt: resp. sens. 1; Inhalation can cause allergy or asthma symptoms or breathing difficulties, H334; skin sens. 1; can cause allergic skin reactions, H317; *EC No.1272/2008 Annex VI Tab.3.2: Nickel: 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; Cobalt: R42/43, sensitisation through inhalation and skin contact possible; *EC No.1272/2008 Annex VI Tab. 3.1: Nickel: aquatic chronic 3 hazardous to aquatic organisms with long-term effect, H412; Cobalt: aquatic chronic 4, can be hazardous to aquatic organisms with long-term effect H413; *EC No.1272/2008 Annex VI Tab.3.2: Nickel: R52-53, hazardous to aquatic organisms, can have long-term damaging effects in bodies of water; Cobalt: R53, can have long-term damaging effects in bodies of water;
3. Composition/Information on ingredients	*Summary: 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 *Hazardous components: see item 2.
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: 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/m ³ , nickel 0.5 mg/m ³ , cobalt 0.5 mg/m ³ , iron 1 mg/m ³ , inhalable fraction, mean daily value *Dust-like emissions: General 5 mg/m ³ , nickel 1 mg/m ³ , cobalt 1 mg/m ³ *Wastewater emissions: tungsten 5 mg/l, nickel 0.5 mg/l, cobalt 1 mg/l, iron 2 mg/l *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: 3400°C *Density: (17 to 18.5) g/cm ³ 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 WO ₃ beginning around 850°C). *Substances to be avoided: none
11. Toxicological information	*See under item 2.
12. Ecological information	*Ecotoxicity: see under item 2. *Mobility: low mobility due to low solubility. *Persistence and degradability: stable inorganic material. *Bioaccumulation potential: no data available.
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.

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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 the toxicological and ecotoxicological effects are described in the chemical safety report for REACH registration.