

## 14. ES 14: Use at industrial sites; Use of silver-nickel contact materials

### 14.1. Title section

Product category: Base metals and alloys (PC 7)

Sector of use: Manufacture of fabricated metal products, except machinery and equipment (SU 15)

Environment	
1: Use of silver-nickel contact materials- only air	ERC 5
Worker	
2: Handling of silver-nickel contact materials	PROC 21
3: Wet cleaning	PROC 28
4: Cleaning/removal of dust	PROC 28

### 14.2. Conditions of use affecting exposure

#### 14.2.1. Control of environmental exposure: Use of silver-nickel contact materials- only air (ERC 5)

Amount used, frequency and duration of use (or from service life)
Daily amount per site $\leq 3E-4$ tonnes/day (All the amounts and concentrations are expressed as Ni as this is the driver for the environmental risk assessment.)
Annual amount per site $\leq 3E-4$ tonnes/year
Emission days $\geq 1$ days/year
Technical and organisational conditions and measures
Electrostatic precipitator or wet electrostatic precipitator or cyclones or fabric/bag filter or ceramic/metal mesh filter or wet scrubber
The substance should not be released to water
Conditions and measures related to external treatment of waste (including article waste)
Dispose of waste product or used containers according to local regulations.

#### 14.2.2. Control of worker exposure: Handling of silver-nickel contact materials (PROC 21)

Product (article) characteristics
Maximum emission potential covered in this ES: Very low.
Physical form of product; Massive object
Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.; For further specification, refer to section 8 of the SDS.
Other conditions affecting workers exposure
The ES excludes the use of contact materials for welding and where contacts could experience high levels of erosion (e.g. under the influence of an arc).

#### 14.2.3. Control of worker exposure: Wet cleaning (PROC 28)

Product (article) characteristics
Maximum emission potential covered in this ES: Very low.
Physical form of product: Solution and other liquid materials, e.g. suspensions are also covered.

<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>
Covers daily exposures up to 8 hours
<b>Technical and organisational conditions and measures</b>
Cleaning machines such as power sweeper, no direct manual cleaning.
Covers use at ambient temperatures.
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>
APF of RPE = 10 (90% respiratory protection).

#### 14.2.4. Control of worker exposure: Cleaning/removal of dust (PROC 28)

<b>Product (article) characteristics</b>
Physical form of product: Residual dust.
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>
Covers daily exposures up to 8 hours
<b>Technical and organisational conditions and measures</b>
Cleaning is conducted using cleaning machines, in particular hovering is applied and the use of compressed air is omitted.
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>
APF of RPE = 20 (95% respiratory protection). For further specification, refer to section 8 of the SDS.

### 14.3. Exposure estimation and reference to its source

#### 14.3.1. Environmental release and exposure: Use of silver-nickel contact materials- only air (ERC 5)

Release route	Release rate	Release estimation method
Water	0 kg/day	Estimated release factor
Air	9E-6 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

Protection target	Exposure estimate	RCR
Agricultural soil	16.2 mg/kg dw (EUSES 2.1.2)	0.542

#### 14.3.2. Worker exposure: Handling of silver-nickel contact materials (PROC 21)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long term	9E-3 mg/m <sup>3</sup> (Measured data)	0.18
Inhalation, local, long term	9E-3 mg/m <sup>3</sup> (Measured data)	0.18
Inhalation, local, acute	0.037 mg/m <sup>3</sup> (Measured data)	< 0.01
Dermal, local, long term	5.18 µg/cm <sup>2</sup> (Measured data)	0.148
Combined, systemic, long term		0.18

#### 14.3.3. Worker exposure: Wet cleaning (PROC 28)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long term	6E-3 mg/m <sup>3</sup> (Measured data)	0.12
Inhalation, local, long term	6E-3 mg/m <sup>3</sup> (Measured data)	0.12
Inhalation, local, acute	0.026 mg/m <sup>3</sup> (Measured data)	< 0.01
Dermal, local, long term	0.76 µg/cm <sup>2</sup> (Measured data)	0.022
Combined, systemic, long term		0.12

#### 14.3.4. Worker exposure: Cleaning/removal of dust (PROC 28)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, systemic, long term	0.032 mg/m <sup>3</sup> (Measured data)	0.64
Inhalation, local, long term	0.032 mg/m <sup>3</sup> (Measured data)	0.64
Inhalation, local, acute	0.189 mg/m <sup>3</sup> (Measured data)	0.016
Dermal, local, long term	0.76 µg/cm <sup>2</sup> (Measured data)	0.022
Combined, systemic, long term		0.64

#### 14.4. Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance: Please refer to Section 0.3 of this "ES for Communication".