

## 13. ES 13: Service life (professional worker); Service life of cobalt-containing tools in professional settings

### 13.1. Title section

Article category: Machinery, mechanical appliances, electrical/electronic articles (AC 2), Metal articles (AC 7)

Environment	
1: Service life of cobalt-containing tools in professional settings	ERC 10a, ERC 11a
Worker	
2: Automated use of cobalt-containing tools with confined and/or extracted machines	PROC 21
3: Manual tasks using cobalt-containing tools	PROC 24
Exposure scenario of the uses leading to the inclusion of the substance into the article	
ES 7: Use at industrial sites; Various products; Various sectors; Production and industrial use of cobalt containing alloys, steels and tools	
ES 8: Use at industrial sites; Various products; Manufacture of fabricated metal products, except machinery and equipment; Industrial use of cobalt in the production of diamond tools	

### 13.2. Conditions of use affecting exposure

#### 13.2.1. Control of environmental exposure: Service life of cobalt-containing tools in professional settings (ERC 10a, ERC 11a)

Conditions and measures related to biological sewage treatment plant
Municipal sewage treatment plant is assumed.
Conditions and measures related to external treatment of waste (including article waste)
Dispose of waste product or used containers according to local regulations.

#### 13.2.2. Control of worker exposure: Automated use of cobalt-containing tools with confined and/or extracted machines (PROC 21)

Product (article) characteristics
Maximum emission potential covered in this ES: Medium (abrasion based).
Limit the concentration of the substance in mixture to <= 25 %.
Physical form covered in this ES: Bound in article.
Amount used (or contained in articles), frequency and duration of use/exposure
Duration of exposure: Not restricted.
Technical and organisational conditions and measures
Process has to be fully automated.
Use of a local exhaust ventilation with an efficiency of at least 72% is required.
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.

Use suitable eye protection.; For further specification, refer to section 8 of the SDS.
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APF of RPE = 10 (90% respiratory protection).
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### 13.2.3. Control of worker exposure: Manual tasks using cobalt-containing tools (PROC 24)

<b>Product (article) characteristics</b>
Maximum emission potential covered in this ES: High (abrasion based).
Concentration of the substance in mixture is not restricted.
Physical form covered in this ES: Bound in article.
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>
Duration of exposure: Not restricted.
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>
Wear suitable gloves tested to EN374.; For further specification, refer to section 8 of the SDS.
Use suitable eye protection.; For further specification, refer to section 8 of the SDS.
APF of RPE = 10 (90% respiratory protection).

## 13.3. Exposure estimation and reference to its source

### 13.3.1. Environmental release and exposure: Service life of cobalt-containing tools in professional settings (ERC 10a)

Release route	Release rate	Release estimation method
Water	0 kg/day	Estimated release factor
Air	0 kg/day	Estimated release factor
Soil	0 kg/day	Estimated release factor

### 13.3.2. Worker exposure: Automated use of cobalt-containing tools with confined and/or extracted machines (PROC 21)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	17 µg/m <sup>3</sup> (MEASE)	0.425

### 13.3.3. Worker exposure: Manual tasks using cobalt-containing tools (PROC 24)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	11 µg/m <sup>3</sup> (Measured data)	0.275

## 13.4. 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".