

## 22. ES 22: Service life (professional worker); Professional handling of surface treated articles (passivated/plated/sprayed)

### 22.1. Title section

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

<b>Environment</b>	
1: Handling of surface treated articles (passivated/plated/sprayed)	ERC 10a, ERC 11a
<b>Worker</b>	
2: Handling of articles	PROC 21
<b>Exposure scenario of the uses leading to the inclusion of the substance into the article</b>	
ES 17: Use at industrial sites; Metal surface treatment products; Industrial use of cobalt in passivation processes in surface treatment	
ES 18: Use at industrial sites; Metal surface treatment products; Manufacture of fabricated metal products, except machinery and equipment; Passivation processes in surface treatment at large industrial sites with continuous processes	
ES 19: Use at industrial sites; Metal surface treatment products; Industrial use of cobalt in plating processes in surface treatment	
ES 20: Use at industrial sites; Metal surface treatment products; Industrial use of cobalt in thermal spraying in surface treatment	

### 22.2. Conditions of use affecting exposure

#### 22.2.1. Control of environmental exposure: Handling of surface treated articles (passivated/plated/sprayed) (ERC 10a, ERC 11a)

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

#### 22.2.2. Control of worker exposure: Handling of articles (PROC 21)

<b>Product (article) characteristics</b>
Maximum emission potential covered in this ES: Very low.
Concentration of the substance in mixture is not restricted.
Physical form covered in this ES: Massive object.
<b>Amount used (or contained in articles), frequency and duration of use/exposure</b>
Duration of exposure: Not restricted.
<b>Technical and organisational conditions and measures</b>
Room volume is $\geq 1000 \text{ m}^3$ .
Process is carried out at ambient temperature.
Outdoor use is not permitted.

<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.
Wear respiratory protection providing a minimum assigned protection factor of 10 (a minimum efficiency of 90%) unless inhalation exposure to the substance can be excluded. For further specification, refer to section 8 of the SDS.

## 22.3. Exposure estimation and reference to its source

### 22.3.1. Environmental release and exposure: Handling of surface treated articles (passivated/plated/sprayed) (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

### 22.3.2. Worker exposure: Handling of articles (PROC 21)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	8.6 µg/m <sup>3</sup> (Measured data)	0.215

## 22.4. 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".