

25. ES 25: Service life (worker at industrial site); Service life of cobalt-containing batteries in industrial settings

25.1. Title section

Article category: Electrical batteries and accumulators (AC 3)

Environment	
1: Service life of cobalt-containing batteries in industrial settings	ERC 12a
Worker	
2: Handling of sealed containers	PROC 21
Exposure scenario of the uses leading to the inclusion of the substance into the article	
ES 24: Use at industrial sites; Manufacture of computer, electronic and optical products, electrical equipment; Production of cobalt-containing batteries	

25.2. Conditions of use affecting exposure

25.2.1. Control of environmental exposure: Service life of cobalt-containing batteries in industrial settings (ERC 12a)

Amount used, frequency and duration of use (or from service life)
Daily amount per site $\leq 6E-3$ tonnes/day
Annual amount per site ≤ 2.007 tonnes/year
Conditions and measures related to biological sewage treatment plant
Municipal sewage treatment plant is assumed.
Assumed domestic sewage treatment plant flow $\geq 2E3$ m ³ /day
Conditions and measures related to external treatment of waste (including article waste)
Dispose of waste product or used containers according to local regulations.

25.2.2. Control of worker exposure: Handling of sealed containers (PROC 21)

Product (article) characteristics
Maximum emission potential covered in this ES: Very low.
Concentration of the substance in mixture is not restricted.
Cobalt is included in a sealed container (battery).
Amount used (or contained in articles), frequency and duration of use/exposure
Duration of exposure: Not restricted.
Technical and organisational conditions and measures
Process is carried out at ambient pressure.
Process is carried out at ambient temperature.

25.3. Exposure estimation and reference to its source

25.3.1. Environmental release and exposure: Service life of cobalt-containing batteries in industrial settings (ERC 12a)

Release route	Release rate	Release estimation method
---------------	--------------	---------------------------

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

25.3.2. Worker exposure: Handling of sealed containers (PROC 21)

Route of exposure and type of effects	Exposure estimate	RCR
Inhalation, local, long term	1E-3 µg/m ³ (Qualitative assessment)	< 0.01

25.4. 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”.