

2.C.5 - Lead Production

Short description

Within this NFR subcategory, SO₂, PM_{2.5}, PM₁₀, TSP, As, Cd, Cu, Hg, Pb, Zn, PCB and PCDD/F emissions from the production of lead are reported.

Category Code	Method					AD					EF				
2.C.5	T1					AS					D, CS				
	NO _x	NM VOC	SO ₂	NH ₃	PM _{2.5}	PM ₁₀	TSP	BC	CO	Pb	Cd	Hg	Diox	PAH	HCB
Key Category:	-	-	-/-	-	-/-	-/-	-/-	-	-	-/-	-/-	-/-	-/-	-	-

Method

Activity data

The yearly production figures were taken from the annual statistical report of the German association for non-ferrous metals [\[Lit. 1\]](#).

Emission factors

The emission factors are either default values according to the 2019 EMEP/EEA air pollutant emission inventory guidebook [\[Lit. 2\]](#) or determined in several research projects. For heavy metals (HM), the applied emission factors are derived from a research project [\[Lit. 3\]](#).

Table 1: Tier 2 emission factors applied for primary lead production

	EF	Unit	Trend	Source
SO ₂	2.050	kg/t	constant	
PM _{2.5}	0.0175	kg/t	falling	
PM ₁₀	0.02125	kg/t	falling	
TSP	0.025	kg/t	falling	
As	49.213	mg/t	falling	NE-K-G [Lit. 3]
Cd	62.448	mg/t	falling	NE-K-G [Lit. 3]
Cu	162.663	mg/t	falling	
Hg	0.3	g/t	falling	NE-K-G [Lit. 3]
Pb	6.027521	g/t	falling	NE-K-G [Lit. 3]
Zn	664	mg/t		
PCB	2.1	mg/t		
PCDD/F	0.34	µg/t	falling	

Table 2: Tier 2 emission factors applied for secondary lead production

	EF	Unit	Trend	Source
SO ₂	2.050	kg/t	constant	
PM _{2.5}	0.0175	kg/t	falling	
PM ₁₀	0.02125	kg/t	falling	
TSP	0.025	kg/t	falling	
As	0.041179	g/t	falling	NE-K-G [Lit. 3]
Cd	0.019767	g/t	falling	NE-K-G [Lit. 3]
Hg	0.324515	g/t	falling	NE-K-G [Lit. 3]
Pb	4.506295	g/t	falling	NE-K-G [Lit. 3]
Zn	0.05	g/t	falling	NE-K-G [Lit. 3]

	EF	Unit	Trend	Source
PCB	2.1	mg/t		
PCDD/F	0.34	µg/t	falling	

Recalculations

With activity data and emission factors remaining unrevised, no recalculations were carried out compared to Submission 2022.



For **pollutant-specific information on recalculated emission estimates for Base Year and 2020**, please see the pollutant specific recalculation tables following [chapter 8.1 - Recalculations](#).

Planned improvements

No category-specific improvements are planned.

Bibliography

Lit. 1: German association for non-ferrous metals (WirtschaftsVereinigung Metalle): Annual statistical report:

<https://www.wvmetalle.de>

Lit. 2: EMEP/EEA, 2019: EMEP/EEA air pollutant emission inventory guidebook 2019, Copenhagen, 2019.

<https://www.eea.europa.eu/publications/emep-eea-guidebook-2019/part-b-sectoral-guidance-chapters/2-industrial-processes/2-c-metal-production/2-c-5-lead-production/view>

Lit. 3: Ökopol, IER, IZT, IfG: Bereitstellung einer qualitätsgesicherten Datengrundlage für die Emissionsberichterstattung zur Umsetzung von internationalen Luftreinhalte- und Klimaschutzvereinbarungen für ausgewählte Industriebranchen Teilvorhaben 2: NE-Metallindustrie, Kalkindustrie, Gießereien.