

## 2.C.5 - Lead Production

### Short description

Within this NFR subcategory, SO<sub>2</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, 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 <sub>x</sub>	NM VOC	SO <sub>2</sub>	NH <sub>3</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	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 <sub>2</sub>	2.050	kg/t	constant	
PM <sub>2.5</sub>	0.0175	kg/t	falling	
PM <sub>10</sub>	0.02125	kg/t	falling	
TSP	0.025	kg/t	falling	
As	49.213	mg/t	falling	NE-K-G <a href="#">[Lit. 3]</a>
Cd	62.448	mg/t	falling	NE-K-G <a href="#">[Lit. 3]</a>
Cu	162.663	mg/t	falling	
Hg	0.3	g/t	falling	NE-K-G <a href="#">[Lit. 3]</a>
Pb	6.027521	g/t	falling	NE-K-G <a href="#">[Lit. 3]</a>
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

Pollutant	EF	Unit	Trend	Source
SO <sub>2</sub>	2.050	kg/t	constant	
PM <sub>2.5</sub>	0.0175	kg/t	falling	
PM <sub>10</sub>	0.02125	kg/t	falling	
TSP	0.025	kg/t	falling	
As	0.041179	g/t	falling	NE-K-G <a href="#">[Lit. 3]</a>
Cd	0.019767	g/t	falling	NE-K-G <a href="#">[Lit. 3]</a>
Hg	0.324515	g/t	falling	NE-K-G <a href="#">[Lit. 3]</a>
Pb	4.506295	g/t	falling	NE-K-G <a href="#">[Lit. 3]</a>
Zn	0.05	g/t	falling	NE-K-G <a href="#">[Lit. 3]</a>

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

## Recalculations

Since the activity data and emission factors remain unrevised, no recalculations have been carried out compared to last year's submission.



For **pollutant-specific information on recalculated emission estimates for Base Year and 2019**, 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.