

2.C.7.a - Copper Production

Short description

Within this NFR sub-category, SO₂, PM_{2.5}, PM₁₀, TSP, PCDD/F, HCB, As, Cd, Cu, Hg, and Pb emissions from the production of copper are reported.

Method	AD	EF	Key Category Analysis
T1	AS	D, CS	L & T: Cd

Methodology

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. The EF for the heavy metals (HM) are taken from a research project [\[Lit. 3\]](#).

Table 1: Tier1 emission factors applied for entire time series

Pollutant	EF	Unit
HCB	1	mg/t
PCDD/F	2.9	µg/t
TSP	0.100	kg/t
PM ₁₀	0.085	kg/t
PM _{2.5}	0.07	kg/t
SO ₂	3.0	kg/t
As	7	g/t
Cd	15	g/t
Cu	57	g/t
Hg	0.031	g/t
Pb	16	g/t

Uncertainties

Recalculations

Recalculations were necessary



For pollutant-specific information on recalculated emission estimates for Base Year and 2018, 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: 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.