

**Name of the file:** HeavyMetals\_Final.xlsx

**Release date:** 15/01/2025

**Sheet “2009” :** Includes Samples collected in 2009 and 2012 (only for Bulgaria & Romania).

NUTS\_0 = NUTS level 0 (country)

NUTS\_1 = NUTS level 1 (region)

NUTS\_2 = NUTS level 2 (province)

NUTS shapefile 2021 was used to get the NUTS codes:

<https://ec.europa.eu/eurostat/web/gisco/geodata/statistical-units/territorial-units-statistics>

Below is the chemical property (measured as in mg per Kg)\*:

As\_mg\_kg = Arsenic concentration

Cd\_mg\_kg = Cadmium concentration

Co\_mg\_kg = Cobalt concentration

Cr\_mg\_kg = Chrome concentration

Cu\_mg\_kg = Copper concentration

Fe\_mg\_kg = Iron concentration

Mg\_mg\_Kg = Magnesium concentration

Mn\_mg\_kg = Manganese concentration

Pb\_mg\_kg = Lead concentration

Hg\_mg\_kg = Mercury concentration

Sb\_mg\_kg = Antimony concentration

V\_mg\_kg = Vanadium concentration

Zn\_mg\_kg = Zinc concentration

Ni\_mg\_kg = Nickel concentration

LC0\_Desc\_2009 = Land Cover description year 2009 (according to LUCAS)

LC0\_Desc\_2012 = Land Cover description year 2012 (according to LUCAS)

USDA texture = soil texture according to US Department of Agriculture  
(<https://www.nrcs.usda.gov/sites/default/files/2022-09/The-Soil-Survey-Manual.pdf>)  
using ad hoc R library (<https://cran.r-project.org/web/packages/soiltexture/index.html>)

pH\_Class = pH class (interval= 0.5)

OC\_Class = Organic Carbon expressed in g/Kg (interval = 50)

Sampling Depth: For 2009/2012, the sampling depth is always 0-20cm.

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**Sheet "2018"** : Includes data collected in 2018.

As\_mg\_kg = Arsenic concentration

Cd\_mg\_kg = Cadmium concentration

Co\_mg\_kg = Cobalt concentration

Cr\_mg\_kg = Chrome concentration

Cu\_mg\_kg = Copper concentration

Hg\_mg\_kg = Mercury concentration

Ni\_mg\_kg = Nickel concentration

Pb\_mg\_kg = Lead concentration

Sb\_mg\_kg = Antimony concentration

V\_mg\_kg = Vanadium concentration

Zn\_mg\_kg = Zinc concentration

Depth = Depth of the soil sample taken

NUTS\_0 = NUTS level 0 (country)

NUTS\_1 = NUTS level 1 (region)

NUTS\_2 = NUTS level 2 (province)

NUTS shapefile 2021 was used to get the NUTS codes:

<https://ec.europa.eu/eurostat/web/gisco/geodata/statistical-units/territorial-units-statistics>

LC0\_Desc = Land Cover description (according to LUCAS)

USDA texture = soil texture according to US Department of Agriculture

(<https://www.nrcs.usda.gov/sites/default/files/2022-09/The-Soil-Survey-Manual.pdf>)  
using ad hoc R library (<https://cran.r-project.org/web/packages/soiltexture/index.html>)

pH\_Class = pH class (interval= 0.5)

OC\_Class = Organic Carbon expressed in g/Kg (interval = 50)

\*As a note, LOD values means Lower than Limit of Detection Level. Below the LOD values used in the laboratory analysis per element.

Element	LOD as mg per Kg
<u>As: Arsenic</u>	2.84
<u>Cd: Cadmium</u>	0.07
Co Cobalt	0.15
Cr: Cromium	0.32
<u>Cu: Copper</u>	0.26
Fe: Iron	0.66
Mg: Magnesium	3.58
Mn: Manganese	0.02
Ni: Nickel	0.27
Pb: lead	1.16
Sb: Antimony	0.81
V: Vanadium	0.66
<u>Zn: Zinc</u>	2.12
<u>Hg: Mercury</u>	0.000054

NA means that the value is not available.