

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.

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>)
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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
As: Arsenic	2.84
Cd: Cadmium	0.07
Co Cobalt	0.15
Cr: Cromium	0.32
Cu: Copper	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
Zn: Zinc	2.12
Hg: Mercury	0.000054

NA means that the value is not available.