Radiological and non-radiological leaching assessment of alkali-activated materials containing ground granulated blast furnace slag and phosphogypsum

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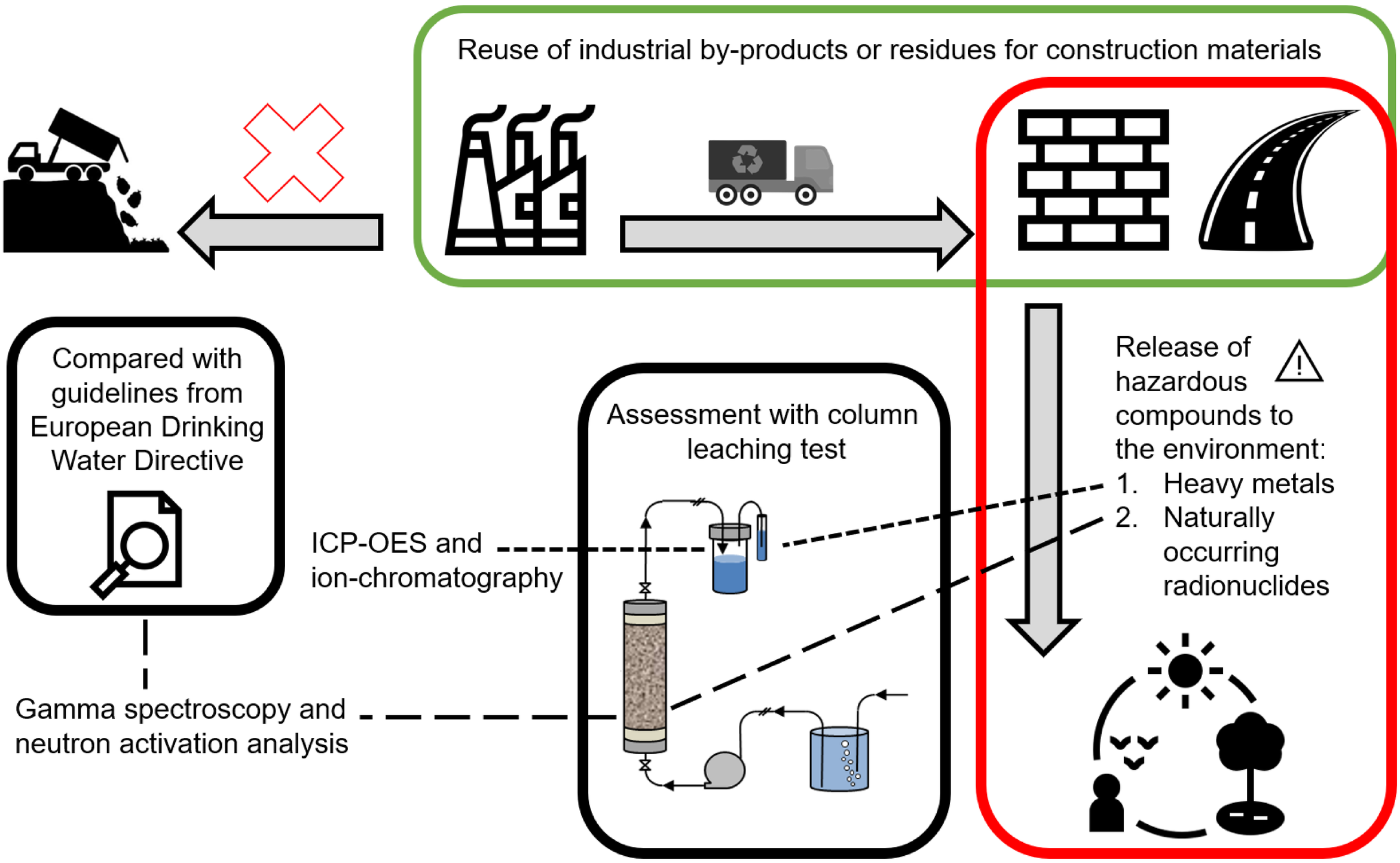
Introduction and experimental set-up



Results and conclusions

- Naturally occurring radionuclides (NOR) from phosphogypsum can enter the environment by leaching
- Disequilibrium in the ^{238}U and ^{232}Th decay chains due to industrial processing
- Assessment of NOR with a half-life long enough to behave independently in the environment
- Combination of gamma spectroscopy and neutron activation analysis for radiological assessment
- ^{238}U, ^{226}Ra, ^{210}Pb, and ^{228}Ra were retained very well, ^{232}Th and ^{40}K leached out
- Drinking water is not endangered by leaching of NOR
- Different alkali activators substantially affected leaching of non-radiological elements

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