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PHYSICOCHEMICAL AND RADIOACTIVE
CHARACTERIZATION OF CO-PRODUCTS FROM THE
TITANIUM DIOXIDE NORM INDUSTRY FOR THEIR
VALORISATION IN CEMENTS MANUFACTURING

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The present study was focused to characterize the raw materials (ilmenite and slag), waste (red gypsum) and several co-products (sulphate monohydrate and sulphate heptahydrated) from titanium dioxide industry, in particular their elemental composition (major, minor and trace elements), mineralogy, and radioactive contents, with the objective to apply this knowledge to valorise some of these materials in fields such as construction, civil engineering, etc. Obviously, the environmental and health impact of these co-products should comply with existing regulations. In particular, we have studied the main properties of cements produced with different proportions of red gypsum, and their obtained improvements, in relation to Ordinary Portland Cements (OPC). In the produced RG cements, it has been also demonstrated that the levels of pollutants remains within safety limits.