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Phosphogypsum management in Egypt

Phosphoric acid (PA) produced from phosphate rocks by the wet-acid process using sulphuric acid attack accounts for over 90% of phosphate fertilizer production worldwide. Accordingly, the solid wastes produced as a by-product, phosphogypsum (PG) from these processes increase and accumulate around the world. PG is composed mainly of gypsum (CaSO4 2H2O) and contains some impurities of environmental concern such as fluorides (F), trace elements (e.g., Fe, Mn, Pb, Cd, etc.) and naturally occurring radioactive materials (NORM), which originate from the phosphate rocks used in this processing. Ra-226 presents the major source of radioactivity in PG
wastes produced from sedimentary phosphate rocks. Radioactivity present in PG can enter the environment and may pose radiation exposure concerns through several pathways. This work reviews PG management in Egypt and discusses possible use cases of PG.

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