VIRTUAL EVENT
International Conference on
Management of Naturally Occurring Radioactive Material (NORM) in Industry
19–30 October 2020 #NORM2020

Contribution ID: **122** Type: **Poster**

El-Sebayea Phosphogypsum Treatment for Industrial Applications, radiological assessment

Phosphogypsum is considered hazardous waste which produced as a byproduct during the commercial manufacture of phosphoric acid by the wet process. Phosphogypsum is classified as TENORM (Technologically Enhanced Naturally Occurring Radioactive Material), that is, a solid waste containing naturally occurring radioactive elements from the rock matrix. The approach of phosphogypsum conversion into potentially useful products is important for reducing the environmental burden and enhancing economic benefit. The presence of radionuclides has given rise to many restrictions on the potential applications of PG. Therefore, this work concerning the radiological assessment for the conversion of El-Sebeaya phosphogypsum into calcium carbonate and potassium sulfate. The environmental radiation impact as well as radiation hazard indices factors; for phosphogypsum (PG), calcium carbonate and potassium sulfate samples have been measured. The obtained results clarify that the produced calcium carbonate and sodium sulfate from the phosphogypsum conversion process has a normal level of natural background where these values are within the world permissible limits. This means that the produced sodium carbonate and sodium sulfate are acceptable for use in industrial applications.

Primary author: Dr MONTASER, Mohamed (Nuclear Materials Authority)

Co-authors: Prof. MIRA, Hamed (Nuclear Materials Authority); Dr KORANY, Korany (Nuclear Materials Authority); Prof. GADO, Hady (Nuclear Materials Authority); Dr SEYAM, Osama (Nuclear Materials Authority); Prof. KHAWASSEK, Yasser (Nuclear Materials Authority); Prof. HUSSIEN, Ahmed (Nuclear Materials Authority)

Presenter: Dr MONTASER, Mohamed (Nuclear Materials Authority)

Session Classification: Session IV - Characterization in Industrial Facilities and in the Environment

Track Classification: NORM Characterization, Measurement, Decontamination