

Building materials as a harmless solution for chemical waste

LOCATION:Huelva

DURATION:1 '44"

SUMMARY:The Radiations Physics and Environment Research Team from the University of Huelva has been searching for solutions for chemical waste produced by industry for decades, especially for phosphogypsum, red gypsum and tionite. Their proposal is to use them as raw material in the production of cements, ceramic materials, concrete... Their studies reveal that integrating them in these materials is harmless for nature and public health.

VTR:

Phosphogypsum, red gypsum and tionite. What you see here are three types of waste produced by the chemical industry. They are highly polluting if released into the environment, and an historical problem in the area of Huelva. These researchers from the University of Huelva have found a way to make the most of them without putting public health or nature at risk: they use them to manufacture building materials.

JUAN PEDRO BOLÍVAR
Professor of Applied Physics UHU

"Ceramics... Everything regarding building and civil engineering."

SILVIA PÉREZ
UHU researcher

"They don't have any economical application, and we are looking for a way to put them into the market."

Through, for example, ceramic materials like this one.

MANUEL CONTRERAS
UHU researcher

"And other project, that we are currently testing, is the use of natural clays, from rivers, non-commercial, natural, to which we add phosphogypsum."

Or these plates made with red gypsum, which can be an alternative to Pladur. The Radiations Physics and Environment Research Team was created three decades ago to find alternatives for this waste produced by the chemical industry.

JUAN PEDRO BOLÍVAR
Professor of Applied Physics UHU

"Here in Huelva there is a pretty large industrial zone where most of the waste generated is inorganic, so we chose to develop this research line."

However, a question is on the table. If these are polluting materials, and even contain some radiation, could they be harmful for the people who live in these buildings? According to their studies, no.

JUAN PEDRO BOLÍVAR
Professor of Applied Physics UHU

"The impact is far below from what is permitted by the law."

MANUEL CONTRERAS
UHU researcher

"It stays inside the matrix, it becomes part of the ceramic matrix, of the cement matrix, so it remains isolated, because it is inerted."

They are betting on circular economy, to stop sending contaminants to dumpsters and turn them into raw material for the industry instead.