

Colombia battery safety

Their research ranges from electrolyte characterization, energy storage, and non-invasive battery failure determination. As lithium-based batteries become more prevalent in all settings, the need to address their risks and how to use them safely increases.

Safety Guidelines. Purchase and use devices from reputable sources and only batteries and devices that have an Underwriters Laboratories (UL) or Electrical Testing Laboratories (ETL) mark, which indicate that the battery and/or device has been safety tested and will perform as expected compared to non-UL or non-ETL products.

In Colombia, battery waste recycling is just started to being implemented, see Fig. 2, only Zn-C batteries. Before grinding, the batteries are sorted manually to ensure the same type [25]. The legislation that exists regarding batteries is aimed at the producer and importer, but not the final consumer.

Lithium batteries power our phones and modern lifestyle, but they have also been known to catch on fire. Colombian scientist Laura Loaiza is working on ways to increase the safety of batteries by finding ways to move away from volatile and flammable components.

Loaiza, apostdoc researcher at Chalmers University of Technology in Gothenburg says despite all the research into battery technology, there is still a great deal to discover - and there is huge interest from industry.

"Lithium is not an abundant material and its sources might pose geopolitical problems or are located in natural reserves, and if everything goes electrified, there would be not enough lithium to satisfy the demand," she said, adding that finding alternative technologies based on more abundant and cheaper materials such as sodium-, potassium, magnesium-, calcium- or aluminum-ion is essential to satisfy all the demand.

"Batteries are everywhere, in our laptops, our cellphones, it is a research field that has gain relevance in these last years, and even the Chemistry Nobel Prize of 2019 was awarded to the creators of the Lithium-ion battery," she said.

"A battery is a very complex system, formed of several different parts; anode, cathode, electrolyte, current collector, separator, and each of this component is a whole field of study," she said, "Being in the center of all this activity is interesting, you know that every little thing you do, can contribute for a better understanding."

Loaiza says her path in science started early: her mother worked in a clinical laboratory when Loaiza was a child and allowed her to look through the microscope to see cells and how to distinguish between them.

"I left my hometown in Salento, Colombia to go to Toulouse, France where I did the first semester," she said,

adding that she made many professional contacts through-out the battery research world during this time.

"For the Global South there are many things to change, one of them is that we need to leave behind the dependence of our economy, for instance in Colombia, on the fossil fuels, this is no longer sustainable at the economic and environmental level," she said.

"I think countries in South America should give more opportunities for scientist that have been trained overseas to come back and transfer this knowledge," she said. "There is a huge human potential that is not being used because there is not enough funding for research and to guarantee job stability."

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