



HIWI

Recycling of NMC & LFP cathode material using a mechanochemical approach

Lithium-ion batteries determine our everyday lives as they are used for portable electronics, vehicle propulsions, and other energy storage applications. But with the development of battery technology, the scale and variety of waste-batteries will also rise. As all currently employed recycling approaches have their pros and cons, now, there is no preferable industrial technology that can be identified as safe, reliable, environmentally friendly, and at the same time, profitable.

To address this technological and ecological challenge, a novel mechanochemical (MC) approach was developed and promising results were obtained on laboratory scale.



Within a large EU funded project involving participants from all around Europe, an industrial partner delivered us cathode material to test the MC recycling. Different leaching conditions will be investigated to optimize the extraction of valuable elements.

Task:

- Synthesis of Material by ball-milling
- Wet chemical processes in the lab
- Preparing samples in the glovebox
- Characterisation with powder-XRD (mainly)

Requirement:

- Background in chemistry, chemical engineering, material science or a related field
- Interest in batteries and/or crystallography

Location:

Campus North

Working hours:

5-10 per week

Start time:

As soon as possible

Contact:

If interested, contact david.geiss@kit.edu (Kontaktaufnahme auch auf deutsch möglich)