

Recycling of Li-Ion HEV Batteries

Motivation and Target:

- spent batteries contain high valuable secondary raw materials
- recycling is prescribed by EU Battery Directive
- recovery of all valuable materials including lithium necessary



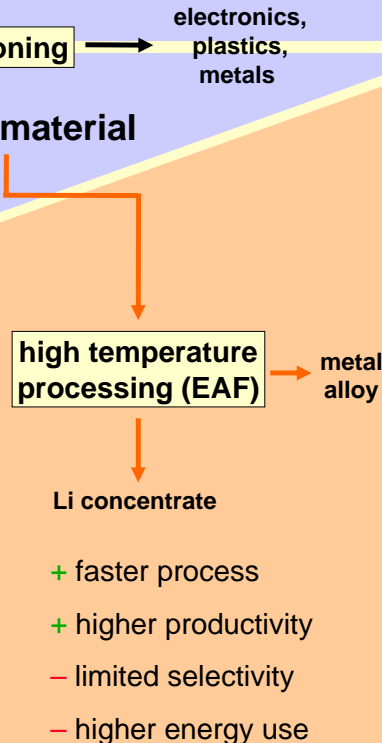
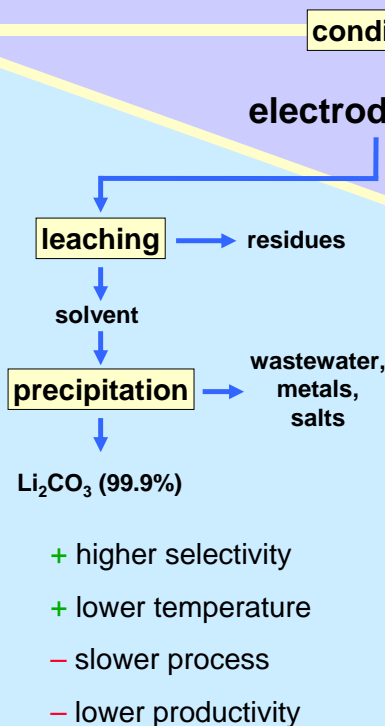
Challenges for Recycling of Li-Ion HEV Batteries:

- substitution of cobalt by less valuable metals compromises economic efficiency of recycling processes
- adjustment of existing recycling processes to future electrode materials
- backflow of spent batteries will increase drastically, i.e. current recycling capacities have to be increased

spent Li-ion batteries



Hydrometallurgical Route



Pyrometallurgical Route



Long-time Experience in Battery Recycling at IME:

- development of battery recycling processes for ZnC, Alkaline, NiCd, NiMH and Li-Ion
- proven pyrometallurgical processing for concept of portable consumer-type Li-Ion batteries

In March 2008 the IME received the „Kaiserpfalz-Award of Metallurgy 2008“⁴⁴ for its research works in battery recycling!

⁴⁴www.ime-aachen.de

