

THE BATTERY LIFE CYCLE: MATERIALS TESTING AT EVERY STAGE

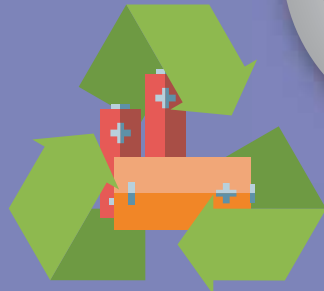
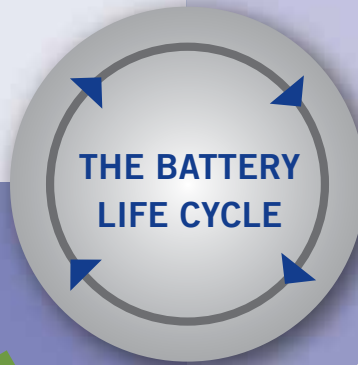
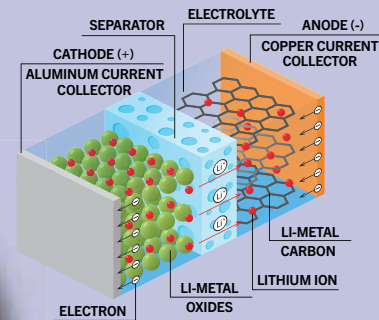
RAW MATERIALS

Small levels of unwanted contaminants may influence the characteristics of materials in terms of physical, electrical, or other properties. Eurofins EAG offers trace elemental analysis to identify and detect unwanted impurities.



MANUFACTURING PROCESS

Battery advancements and improved safety require a better understanding of the factors affecting performance and life cycle. Eurofins EAG offers elemental and chemical analyses providing vital information about the electrochemical processes.



The growth in the lithium-ion battery market has increased the need for raw materials used in production. Recycling materials is an alternative to mining. At Eurofins EAG, we can ensure that your recycled materials are of the highest purity.



When a battery fails or there is a decrease in battery performance, materials analysis is needed to investigate the root cause of the battery failure. Eurofins EAG offers services to assess batteries using various analysis techniques.

RECYCLE

APPLICATION / USE

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	Advanced Microscopy	Bulk Material Analysis	Chemical Analysis	Failure Analysis	Gas Analysis	Materials Characterization	Reliability Testing	Surface Analysis
Raw Materials								
Impurity survey analysis (electrode raw materials)		•			•	•		
Compositional analysis (metal/lithium content of electrode raw material)	•	•	•			•		
Phase identification (electrode raw materials)		•	•			•		
Manufacturing Process								
Elemental composition (electrode, electrolyte, separator)	•					•		•
Elemental analysis, mapping and depth profiling (electrode, separator)	•		•			•		•
Chemical state and composition (electrode, separator)	•		•			•		•
SEI characterization (electrode, separator)	•					•		•
Particle size, particle coating analysis and particle depth profiling (electrode, separator)	•					•		•
Identification and quantification of anions and cations (electrode, electrolyte)			•			•		
Levels of atmospheric species (electrode, electrolyte)			•		•			
Organic composition (electrode, separator)						•		•
Characterization of volatile organic species (electrode, electrolyte)			•		•	•		
Impurity detection (electrode, electrolyte, separator)		•				•		
Organic compound degradation (electrode, electrolyte, separator)						•		•
Crystallinity phase (electrode, electrolyte)	•					•		
Thermal properties (electrode, electrolyte, separator)			•			•		
Application/Use								
Corrosion and contamination analysis	•			•		•		•
Delamination and void identification	•			•		•		
Battery Cycling							•	
Recycle								
Trace elemental analysis (recycled battery materials)		•			•			
Composition analysis (recycled battery materials)	•	•				•		