



eGRAPHENE

CONDUCTIVE ADDITIVE FOR BATTERIES

electrochemical exfoliation

water-based-process

large, thin, flexible flakes

in-situ functionalization

surfactant-free

dispersions or pastes (in water, DMF, NMP, DMSO, others)

typical flake thickness: <3nm

No. of layers: 1-10

avg. lateral flake size: 0,5-1 µm

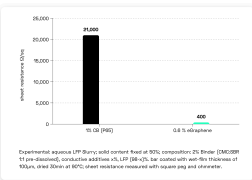
film conductivity (bulk): 140.000 S/m

formulation flexibility in wt-%: 0,1-10 %

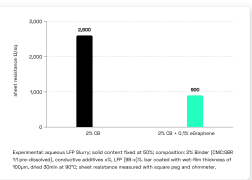
Carbon black *limits performance at low loadings. SWCNTs solve it—at high cost and complexity.*

NMC & LFP Cathode Conductive Additive

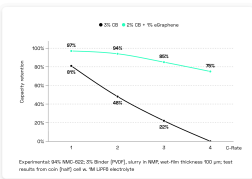
52x more conductive LFP-cathode with 0,6% eGraphene compared to 1% CB (SuperC P95).



3x more conductive LFP-cathode with 0,1% eGraphene compared to 2% CB (SuperC P95).



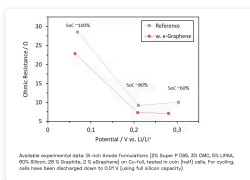
3x improved charging speed by adding 1% eGraphene to 2% CB in NMC-cathodes (compared to only 3% CB).



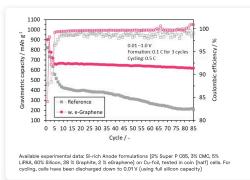
eGraphene offers better conductivity (faster charging) at lower loadings than carbon black (and thus enable increased active material volume), when added as a conductive additive to cathode slurries.

Si & LTO Anode Conductive Additive

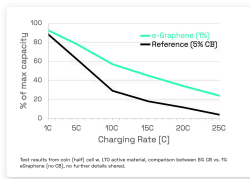
50% more conductive Si-rich anode with eGraphene compared to the reference with base Graphite content.



30% better first cycle efficiency: number of cycles required to reach >99% CE decreased from 7 to 5.



3x Increased charging rate by factor for LTO anode (5 min to 60% vs. 15min) combined with +8% capacity increase.



eGraphene can enhance for example Si-rich anodes towards low weight/volume and high energy densities or enable LTO anodes with even higher cycling speeds.

52x more conductive than carbon black (at equal wt-% loading) and ~30x cheaper than SWCNT (per kg).

Beyond Conductive Additives:
Interfaces & Coatings

Interface Material for Li-Metal-Anode

eGraphene forms a conductive, chemically stable interlayer that promotes uniform lithium plating and suppresses void and dendrite formation.

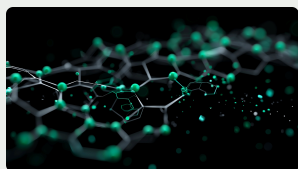
Current Collector Primer Coatings

Ultra-thin eGraphene primers enhance adhesion, conductivity, and corrosion resistance between metal foils and electrode layers.

Separator Membrane Coating

Conductive graphene layers improving stability, barrier properties, ionic transport, and crossover resistance in PFAS-free membranes.

10+ global patents € 2.6m total funding 50 t/a dispersion production capacity 100x Customization options 10 years of R&D



Functional groups at the flake-surface



Onsite production possibility



Future container-based production

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