

# 24M Unveils New Test Data for the 24M Impervio™ Battery Separator, Highlighting Breakthrough Innovation to Reduce Battery Fires

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Demonstrates 24M's ability to significantly improve safety and consumer confidence for batteries in electric vehicles, energy storage systems and consumer applications

CAMBRIDGE, Mass.--(BUSINESS WIRE)-- 24M today unveiled new testing data for its transformative battery separator – Impervio™ – that addresses the growing concern of battery safety for electric vehicles (EV), energy storage systems (ESS) and consumer applications. The new data coincides with mounting concerns after recent battery fires in the United States and internationally.

Impervio, **announced in January 2024**, in addition to its other benefits, addresses the safety risk of overcharging. Overcharging is when a battery exceeds its safe charging threshold yet continues to charge and overheats – which has caused numerous EV fires over the past year.

"Battery safety is a major roadblock to the widespread adoption of EVs. Recent EV fires around the globe have highlighted why new battery safety innovations are required," said Naoki Ota, 24M President and CEO. "A sustainable energy future is only possible with innovations like Impervio, which can help prevent battery fires and create new opportunities for battery innovation."

Overcharging can lead to dendrite formation and an internal short, which can result in a battery fire and/or explosion. Impervio obstructs dendrite propagation, by controlling the cell at the individual electrode level, preventing dendrites from propagating and enabling early fault detection. The technology can prevent thermal runaway by monitoring the cell's electrochemistry and enabling the implementation of a failsafe in the event of a

potential short.

In new testing conducted at 24M labs, the company compared performance and safety between two different battery pouch cells – a 10Ah high nickel NMC/Graphite pouch cell with an Impervio separator and another off-the-shelf nickel NMC graphite pouch cell with a conventional separator. Both cells were brought to a fully charged state and then advanced to 100% overcapacity or twice the manufacturers specified maximum voltage. The cells with Impervio demonstrated robust performance without shorting or overheating with a full hour of overcharge. In contrast, the off-the-shelf cells overheated consistently with dendrite-caused micro shorts occurring after 15 minutes of overcharging and the cell exploding into a massive fire after 38 minutes. Click **here** for a video of the side-by-side comparison.

## About 24M

24M answers the world's need for affordable energy storage by offering a revolutionary battery manufacturing and product design technology set enabled by the 24M SemiSolid™ and Unit Cell manufacturing platform. By re-inventing today's battery products and manufacturing methods, 24M solves the critical, decades-old challenge associated with the world's preferred energy storage products and technologies: reducing their high cost while improving their performance, safety and recyclability. Founded and led by some of the battery industry's foremost inventors, scientists and entrepreneurs, 24M is headquartered in Cambridge, Mass. For more information, please visit **[www.24-m.com](http://www.24-m.com)** .

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