In 2019 the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA), in coordination with the Federal Aviation Administration (FAA), published an Interim Final Rule banning the transportation of UN3480 lithium ion batteries as cargo on board passenger aircraft. These hazardous materials present both chemical and electrical hazards which create a high flammability risk and the ability to propagate to other batteries in close proximity when thermal runaway is reached. A fire encompassing significant quantities of lithium batteries may exceed the fire suppression capability of the aircraft and lead to a catastrophic loss of the aircraft.
Bulk shipments of batteries not packed with or contained within equipment may only be transported on cargo aircraft with the batteries not exceeding 30% state of charge (SOC). An analysis was conducted in order to investigate the fire risks and hazards that are still prevalent with battery shipments since these regulations have been established. This was done by evaluating the interior packaging of various lithium ion battery shipments in addition to testing and analysis of the SOCs of the batteries within. This presentation will feature the initial findings from this analysis.