

### Identifying and Managing the Risks Associated with Global Electromobility

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1. Battery Electric Vehicles (BEVs) are quickly becoming the dominant alternative energy vehicle. While Tesla maintains a large share of the market, virtually all of the world's automakers are committed to BEV's with legislation restricting internal combustion engine (ICE) vehicle sales on the horizon.
2. BEVs have been involved in numerous high-profile accidents that resulted in post-crash fires. While all vehicles present some potential for fire, BEV's present a unique challenge. When fires occur, they tend to burn longer and much hotter. They also produce significant volumes of toxic gases. The combination of these features create risks for occupants, bystanders, first responders and property owners.
3. The unique challenges presented by BEV's derive mostly from the use of lithium-ion batteries. These batteries require a liquid electrolyte which is flammable. Depending on battery construction or damage created in a crash, the compromise of battery structure can result in a runaway thermal event, clouds of toxic gas and fire.
4. Regulatory agencies in the United States and throughout the world have worked to better define regulations for BEV's and to enact standards that protect occupants and first responders.
5. A lack of standardization exists among manufacturers, industry responses to the challenges presented by BEV's are varied. The rapidly increasing market for BEV's and the mass production of lithium-ion batteries present an ongoing challenge for auto manufacturers, battery manufacturers and all associated industries by.