



Emerging risks have unique characteristics that require specialist technical, management and organizational skills. Our Risk Consulting expertise across different industries and lines of insurance business around the world is key to helping companies understand and mitigate these. In our Emerging Risk Trend Talk series, we address such topics, highlight loss events and look at targeted loss prevention measures.

The risk

A lithium-ion (Li-ion) battery is a type of rechargeable battery used to power a wide range of consumer and electronic goods, as well as electronic vehicles (EVs). They are also widely used in grid-scale energy storage and aerospace applications.

Compared to other rechargeable battery technologies, Li-ion batteries have high energy densities, low self-discharge, and no memory effect. They have a Battery Management System (BMS) which can monitor not only the State of Charge (SoC) of the battery but also the conditions of the cells and modules. The BMS acts as a safety back-up if conditions are outside the normal parameters and will shut down the device. For larger applications, such as a Battery Energy Storage System (BESS), an Energy Management System (EMS) with integrated thermal management and monitoring processes is utilized to track the entire system.

Li-ion batteries can be a safety hazard if not properly

Natural Resources and Construction

Event Summary

A fire broke out at a large-scale battery storage site in Australia. A single container-based Battery Energy Storage System (BESS) unit caught fire and spread to a neighboring container. The fire did not spread beyond these two units and eventually burned itself out over six hours.

A liquid coolant leak caused thermal runaway in battery cells. It is important to note that some of the circumstances which caused the fire are unlikely to be repeated when these systems are operational. As the unit in question was undergoing testing it had been manually disconnected

from some of the monitoring, control and data collection systems.



Marine

Event Summary

An intermodal freight container reportedly loaded with computer parts was being transported by highway from Raleigh, North Carolina to the Port of Virginia in the US for loading to a container vessel for transport to a port in China. The cargo caught fire on the highway while in transit resulting in the loss of the cargo and significant damage to the intermodal freight container.

The responding fire department determined that the heat produced from the fire burned hot enough to burn a hole through the metal container's structure. A subsequent investigation determined the actual cargo was illegally-





Conclusion

t ↘	0-3 years / 4-10 years / >10 years All lines of business/industries: 0 to 3 years Liability: 10 years on end of life products										
t ↘	<p>Low / Medium / High</p> <table><tr><td>Property:</td><td>Medium</td></tr><tr><td>Natural Resources and Construction:</td><td>Medium (BESS becoming more standardized)</td></tr><tr><td>Marine:</td><td>High (General Average claims)</td></tr><tr><td>MidCorp:</td><td>Medium</td></tr><tr><td>Liability:</td><td>Low-High</td></tr></table> <p>The assessments in this table are based on the level (and severity) of potential claims activity that could emerge from this emerging risk.</p>	Property:	Medium	Natural Resources and Construction:	Medium (BESS becoming more standardized)	Marine:	High (General Average claims)	MidCorp:	Medium	Liability:	Low-High
Property:	Medium										
Natural Resources and Construction:	Medium (BESS becoming more standardized)										
Marine:	High (General Average claims)										
MidCorp:	Medium										
Liability:	Low-High										
All t ↘	Low / Average / High / Very High										

Further information and contacts

For more detailed information on any type of Li-ion battery please contact your regional Allianz Risk Consulting risk consultant(s).

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