



SEMAPHORE

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Lithium Batteries Transportation Whitepaper

A whitepaper highlighting the safety threat created by the transportation of lithium-ion (Li-ion) batteries has been published by insurers the TT Club and United Kingdom P&I Club in partnership with scientific consultants Brookes Bell.

Despite increasing incidents of “thermal runaway” being recorded during Li-ion battery transportation, the publishers said it was apparent the broad maritime community and logistics supply chain remains “predominantly unaware of the hazards and potential consequences”.

“When a lithium-ion battery fails, the speed of failure (seconds), production of significant quantities of toxic, corrosive and flammable gases (thousands of litres) as well as the rapid development of intense heat and explosive situations (+450°C) continue to be underestimated,” they stated.

“This paper has been produced to provide some insight into this phenomenon as we move towards a ‘greener’ power source. While there may only be a small perceived risk, the [paper] profiles some of the numerous challenges and raises awareness of the potentially catastrophic situations caused by a battery failure.

“Recognising the various challenges presented by Li-ion batteries, the topics covered in this paper include background science on Li-ion batteries, the dangers associated with transporting them and why they arise, battery testing and correct declaration.

“The paper also provides a review of current dangerous goods regulatory provisions, focusing on the International Maritime Dangerous Goods Code, with recommendations for change or further work. The final section of the paper discusses the current state of the firefighting provision and changes that could be implemented.”

The whitepaper outlined a number of initial calls to action for “any industries involved in manufacturing or using this increasingly crucial power source, who enter the goods or related products into the freight supply chain”.

These cover:

- test certificates
- classification of Li-ion powered electric vehicles (EVs)
- exemption for EVs carried on roll-on/roll-off vessels and car carriers
- mandatory markings for EVs
- preventing short circuits
- state of charge
- battery condition on loading
- damaged or defective batteries

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