



UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

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Safety Alert 01-23

SALTWATER INTRUSION CAUSES DAMAGE TO ELECTRIC VEHICLE BATTERIES

Recently, Hurricane IAN caused significant damage and flooding throughout Florida and the Southeastern United States. During the response and reconstitution after the hurricane, first responders encountered numerous vehicle fires involving Electric Vehicles (EVs) that are powered by Lithium-Ion batteries. Subsequent investigations have revealed that the vehicle fires resulted from exposure of the Lithium Ion batteries to salt water. Many vehicles had been susceptible to flooding. Saltwater exposure can significantly degrade lithium-ion (Li-ion) batteries, causing a chemical reaction that creates an extreme fire risk. Review of vehicle registration records revealed there are over 7,000 electric vehicles (EVs) in Lee County, Florida with potential for damage.



Naples Fire Department Responding to EV Fire

Vessels, ports, and shippers should be aware of this extreme risk and avoid loading EVs with damaged Lithium-Ion onto commercial vessels. [Safety Alert 01-22](#) highlights a recent example of the danger damaged batteries pose. The U.S. Fire Administration further details the hazard in their [Responding to Electric Vehicle Fires Caused by Salt Water Flooding](#) article.

The Coast Guard **strongly recommends** that vessels, ports, shippers, and regulators:

- Conduct a comprehensive review of the vehicle shipping requirements found in both the Hazardous Materials Regulations (49 CFR) and the International Maritime Dangerous Goods (IMDG) Code. All lithium batteries are hazardous materials regulated by the Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA). As such, they are required to comply with the [Lithium Battery Guide for Shippers](#).
- Conduct review of additional requirements for shipping damaged lithium ion batteries located in the [PHMSA Safety Advisory Notice for the Disposal and Recycling of Lithium Batteries in Commercial Transportation](#). Due to the large size of EV batteries, the packaging requirements to comply with damaged shipment regulations are inadequate.

As such, IMDG special provision 376 specifically requires approval from the competent authority (PHMSA or US Coast Guard) prior to shipment of damaged lithium batteries.

- Remain vigilant and ensure damaged lithium-ion vehicle batteries are not loaded onto vessels for shipment, placed within port facilities, or enclosed in containers.

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