



LITHIUM-ION BATTERY

The lithium-ion (li-ion) battery is a type of rechargeable battery using an intercalation process to store energy. Their higher energy density, higher energy efficiency, longer cycle life and a longer calendar life require proper handling, storage, and charging procedures to mitigate risks.

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MISTREATMENT OF LI-ON BATTERIES ARE AN ELEVATED RISK TO FLEET

Naval Safety Command (NAVSAFECOM) found 16 reported incidents involving li-ion batteries since 2019. Among these incidents, 15 resulted in fires, 10 caused equipment damage, 4 led to the poisoning of at least one Sailor, and 2 resulted in burns to Sailors during Local Area Assessments.

NAVSAFECOM has identified overall lack of adherence to fundamental policy, program structure and functional areas of responsibility.

- Electronic cigarettes and vapes are not authorized aboard naval vessels to ensure the safety, discipline, and operational effectiveness of naval units at sea.
- At sea, stored li-ion batteries shall not exceed 1000 Watt-hours in a single location, and the location shall be approved by the Damage Control Assistant (DCA) or Fire Marshal.



NAVSAFECOM RECOMMENDS THE FOLLOWING ACTIONS:

1. Avoid using incorrect chargers or charging beyond recommended voltage or current limits. Always use chargers provided by the manufacturer or certified alternatives.
2. Handle batteries carefully to prevent punctures, crushing or impacts that could lead to internal damage and potential leakage or thermal runaway.
3. Avoid exposing batteries to high temperatures, such as leaving them in direct sunlight or near heat sources, as this can lead to overheating and potential fire.
4. Store batteries in a cool, dry place away from direct sunlight and extreme temperatures.
5. Use batteries of the same type, brand and charge level when using multiple batteries in devices or equipment.
6. At sea, stored lithium batteries shall not exceed 1000 Watt-hours in a single location, and the location shall be approved by the DCA or Fire Marshal.
7. Follow the guidance in S9310-AQ-SAF-010 Navy Lithium Battery Safety Program for all aspects related to lithium batteries.



AFLOAT SAFETY, NAVAL SAFETY COMMAND - Keeping our sea warriors informed and ready



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