



UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

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Safety Alert 06-20

RECOGNIZING FIRE HAZARDS & PROPER CARGO STOWAGE ON RO-RO VESSELS

In June 2020, U.S. Coast Guard Sector Jacksonville received notification of a marine casualty involving a “roll-on/roll-off” (Ro-Ro) cargo vessel carrying used vehicles, which varied in condition from like new to partially destroyed. After the cargo was loaded, and prior to getting underway, the vessel’s crew observed smoke coming from ventilation ducts which led from cargo holds. While attempting to identify the source of the smoke, the crew discovered a vehicle fire. The crew’s attempts to fight the fire were unsuccessful and they abandoned the vessel after the fire became out of control. Local fire fighters after arrived on scene shortly thereafter and began fighting the fire. Subsequently, several explosions occurred and the vessel burned for over a week. This marine casualty highlights an important safety issue: Ro-Ro cargo vessels carry unique cargo that can have higher potential to introduce fire hazards if required safety protocols are not properly implemented in accordance with applicable regulations.

As the Coast Guard investigation began, several causal factors were identified. These causal factors included: vehicles leaking fluids, personal goods and combustibles stored within vehicles, and the failure to protect batteries from short circuiting. Coast Guard Investigators discovered numerous vehicles throughout the vessel not in compliance with the requirements onboard.



Ammunition found in trunk of vehicle from deck 5 of cargo ship, taken in June 2020, provided by the Coast Guard.



Cargo and structural fire damage on deck 8 of a cargo ship, taken in June 2020 provided by the Coast Guard.



Leaking fuel from vehicle on deck 1 of cargo ship taken in June 2020, provided by the Coast Guard.



Paint and cardboard in a vehicle on deck 5 of cargo ship, taken in June 2020, provided by the Coast Guard.



Heavily corroded battery with terminals still connected found in vehicle on Ro-Ro, taken in June 2020, provided by the Coast Guard.

Because the vessel had previously loaded vehicles in multiple ports across the country, it became evident that the hazardous conditions onboard this vessel were not limited to a single Captain of the Port (COTP) zone. Within three months of the aforementioned incident, a similar Ro-Ro vessel suffered a vehicle fire onboard while in the Sector Jacksonville's area of responsibility. Although this fire was not as severe as the incident in June of this year, it is likely due to the same contributing factors based on initial findings.

Vehicles that are shipped on vessels from ports in the United States are required to meet the International Maritime Dangerous Goods Code (IMDG Code) or 49 Code of Federal Regulations (CFR) 176. In accordance with the IMDG Code, to which international Ro-Ro vessels are subject as per 74 SOLAS (2014) Ch. VII Reg. 7, motor vehicles are assigned the hazardous material number UN 3166 and have IMDG Code special provisions 312, 356, 961, 962, and 970.

In accordance with current requirement, the Coast Guard **would like to remind** vessel owners, operators, charterers, and business entities engaged in shipping of vehicles on vessels of the requirements:

- Protect vehicle batteries against short circuiting, for example by disconnecting the battery if appropriate;
- Remove all personal and combustible material from vehicles prior to loading them onto a vessel;
- Inspect and remove leaking vehicles from the vessel prior to sailing and do not permit vehicles known to be leaking to be loaded onto the vessel;
- Verify receiving guidelines of shippers and charterers are in alignment with the IMDG Code to include fuel levels prior to loading.

Investigations and inspections personnel are encouraged to maintain an acute awareness of these issues and initiate corrective actions as needed.

This Safety Alert is provided for informational purposes only and does not relieve any domestic or international safety, operational, or material requirement. Developed by the Investigators of Sector Jacksonville and distributed by the Office of Investigations and Analysis. Questions may be sent to HQS-PF-fldr-CGF-INV@uscg.mil.