



UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

November 9, 2015
Washington, DC

Safety Alert 11-15

DRIED NOT FRIED

Laundering safety issues.

Owners and operators of vessels employing large laundry operations and extra-large-capacity drying machines are warned of the potential fire hazards this equipment poses. They are also encouraged to be aware of and familiar with the equipment and all associated safety systems and to ensure these systems are properly maintained and operational.

Recently a small fire developed in a dryer onboard a cruise ship. The fire was quickly extinguished by the vessel's crew and caused no significant damage. Subsequently, it was discovered that a built-in fire suppression system, a component of the dryers designed to spray water into the drums in case of fire, had been disabled on all six of the vessel's installed dryers. Initial investigation of the associated processes and procedures related to these suppression systems indicated they were not included in the vessel's maintenance systems such as "Infoship."

Regular inspections and evaluations of this fire suppression equipment did not occur, despite other excellent laundry room risk reduction actions routinely undertaken by the crew. Another area of concern involved the shared responsibility for inspection and maintenance of the laundry equipment by two sub-departments: Galley Service Technicians and the Electrical Department. Their specific responsibilities for this equipment were unclear.

The exact cause of the fire is unknown. Highly worn cleaning cloths were being dried and the crew reported that none of their routine cleaning fluids were considered flammable. Investigators suspect that a minor spark occurred due to a loose or disconnected wire, igniting lint in the spaces under the dryer and then the rags in the dryer drum. Thermostats, thermistors, and other electrical components were destroyed, preventing a complete analysis of causal factors.



Laundry systems and the normal production of dryer lint create significant fire hazards due to the flammability of the lint. Nearly two decades ago, a fire occurred on a cruise ship due to a welding spark igniting lint. As a result, operators have developed dryer fire prevention procedures that

describe the exact process for securing the equipment and cleaning the machine's internal and external areas.

Naval publications indicate that the majority of dryer fires are caused by spontaneous combustion of residual soils, paint, edible oils, etc. Furthermore, they are also caused by human errors or negligence such as leaving dried materials unattended in the dryer; not properly washing, rinsing and extracting clothes; not cooling down dryer loads for ten minutes at ambient temperatures; improper cleaning lint traps; and damaged lint traps. Other important concerns are the need for properly operating automatic temperature controls, timing devices, cool down cycles and the absence of fire sensing and smothering devices. The involved dryer in this case was equipped with all of these components.

Although the impact of this incident was relatively small, if not for the response of the vessel's crewmembers and firefighters, the outcome could have been much worse. As a result, the Coast Guard **recommends** that owners and operators having similar industrial sized drying equipment:

- Re-evaluate the risks associated with the equipment;
- Identify and maintain all associated safety equipment and extinguishing systems;
- Establish clear lines of responsibility for equipment inspections, maintenance, and repair;
- Prohibit all personnel from overriding safety components; and
- Consider the necessity of additional signage and instructions in proper languages.

This Safety Alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Special thanks to the Prevention Department of Sector Jacksonville and LT John Nee. Developed and distributed by the Office of Investigations and Casualty Analysis, Washington DC. Questions may be sent to HQS-PF-fl-dr-CG-INV@uscg.mil.

Naval Signage Example:

WARNING

SPONTANEOUS COMBUSTION CAN OCCUR IN FRESHLY LAUNDERED ITEMS WITHIN 1 TO 4 HOURS AFTER COMPLETION OF DRYING CYCLE. THIS MAY BE DUE TO A COMBINATION OF HIGH TEMPERATURES AND SOIL RESIDUE.

TO PREVENT FIRES:

- 1) ACCOMPLISH ALL LAUNDRY CYCLES.
- 2) ENSURE THAT ALL DRYER LOADS RECEIVE A FINAL 10 MINUTE TUMBLING WITH DAMPERS SET TO DELIVER AIR AT AMBIENT ROOM TEMPERATURE. (*Cool down period.*)
- 3) REMOVE ALL LAUNDERED ITEMS FROM DRYER WHEN THE DRYER CYCLE IS COMPLETED.
- 4) OVERHAUL ALL DRYER LOADS TO PREVENT RESIDUAL HEAT BUILDUP. DO NOT LEAVE LAUNDRY UNMANNED UNTIL THIS HAS BEEN ACCOMPLISHED.