



UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

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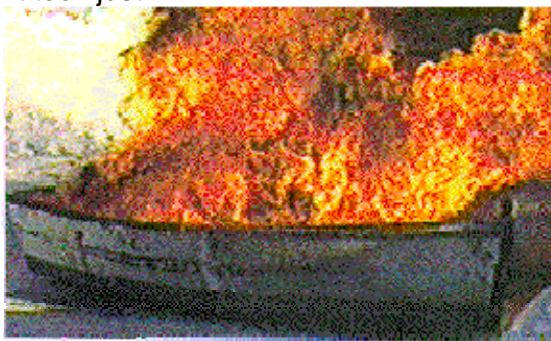
Safety Alert 03-96

PORTABLE SPACE HEATERS

The U.S. Coast Guard recently identified a number of sea urchin vessels with an extremely dangerous fire hazard resulting from the use of portable propane space heaters. Portable space heaters are frequently utilized onboard vessels in this fishery to warm divers and to keep sea urchins from freezing.

Coast Guard personnel have observed, at sea, a number of fishing vessels using these portable heaters while also carrying portable fuel containers, including those used to carry gasoline for outboard engines. If gasoline or other flammable liquids are carried onboard a vessel it is **critically important** to ensure that these items are well separated from any potential ignition sources and secured or lashed in place to prevent shifting.

Accidental spillage of any flammable liquid, especially gasoline, in the vicinity of an open flame source can result in a catastrophic fire that will quickly engulf a vessel. To research the hazard, Coast Guard personnel recently conducted a controlled experiment utilizing a 17 foot open wood skiff. In this test, a portable propane space heater was placed in the vessel with two partially filled gasoline containers to recreate the conditions observed in the top photograph. In this experiment, one gasoline container and the ignited space heater were tipped at the same time, similar to what might be experienced from a large wave or wake from a passing vessel. The experiment demonstrated the inherent dangers of improperly stowed gasoline and portable heaters. From the time the fuel container and propane space heater were tipped on the test vessel it took just:



Test vessel burns 2 minutes 50 seconds after ignition

33 seconds for large amounts of flame to develop.

2 minutes 10 sec. for fire to spread from stem to stern.

3 minutes 28 sec. for the the hull to fail (vessel would have started to sink).

Flame spread in actual fire conditions will vary depending on a large number of factors. This test documents that improper stowage of flammable liquids, especially near open heat sources, is exceptionally dangerous. This type of fire will quickly overwhelm crew members and must be prevented at all

costs.

Portable fuel containers must be secured against shifting

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