



# SHIP SAFETY BULLETIN

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**Subject: SMOKE SIGNAL – DANGER OF EXPLOSION**

Recently, the United States Coast Guard (USCG) published a Safety Alert concerning the danger of explosion of a smoke signal from Hansson Pyrotech AB of Sweden following an incident that occurred on a foreign ship in a U.S. port.

MOB Smoke Signals are secured to lifebuoys by a lanyard and stowed on the bridge wing “upside down” in a special bracket. When the lifebuoy is released from the bracket it pulls the smoke signal from the bracket. As the signal is pulled from the bracket the igniter mechanism is pulled out from the top of the signal, which starts the ignition. The pyrotechnic produces gas and a large volume of orange-coloured smoke. The pyrotechnic composition contains its own oxidizer so once the ignition process is started it cannot be stopped.

The USCG issued the Safety Alert after the death of a seaman, caused by the explosion of a self-activating smoke signal unit. In the process of checking a lifebuoy and smoke signal on the bridge wing the seaman started to move the signal out of its bracket. Since a movement of only 10 mm is necessary for the ignition to start, the signal began producing gas and smoke. The seaman apparently tried to stop the production of smoke by forcing the igniter back into the signal. This caused a pressure to build up rapidly inside the body of the signal unit and it subsequently exploded.

The Ikaros model Mk II Man-Overboard Smoke Signal was approved in Canada under two certificate numbers. T.C.003-034-001 for model MOB MK II – 345105 combined lifebuoy self-igniting lights and self-activating smoke signal; and T.C.003-034-002 for MOB MK II – 345205 lifebuoy self-activating smoke signal.

Hansson Pyrotech AB no longer manufactures either of these Ikaros MK II units. They have been replaced by a MOB MK III unit, which has been modified to prevent the possibility of explosion. The MOB MKIII – 345105 and 345205 are approved in Canada respectively under the following numbers: T.C.003.034.004 and T.C.003.034.005.

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**Keywords:**

1. Smoke Signal
2. Explosion
3. Safety pin

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Transport Canada recommends:

1. Whenever Hansson MOB MK II signals or their mounting arrangement are being serviced, the transport safety pin should be inserted in the signal, which will prevent it from being accidentally ignited. This pin is used when smoke signals are shipped. The pin is removed when the signal is placed in service. Crew are advised to keep these pins for use during signal maintenance. The pin should be stowed in the vicinity of the signal and the bracket.
2. A sign should be placed in a location where it can be readily seen in the vicinity of any MK II units remaining in service, warning against trying to move the signal without the transport safety pin inserted. The warning placard should also include directions for handling the marker in the event of an accidental ignition (e.g. “DO NOT RETURN TO BRACKET, EXPLOSION MAY OCCUR”). Such warnings are already located on the body of the signal, but they are in a position not normally visible to someone working on the signal. The sign(s) should be in both English and French languages.