

**MAIB SAFETY BULLETIN 1/99**

Sail training vessel

***LORD TRENCHARD***

Explosion on board: four people injured

30 June 1999

Issued July 1999

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This document, containing a Safety Recommendation, has been produced for marine safety purposes only on the basis of information available to date.

The Merchant Shipping (Accident Reporting and Investigation) Regulations 1994 provide for the Chief Inspector of Marine Accidents to release information as to material facts at any time during the course of an investigation if, in his opinion, it is necessary or desirable to do so. Similarly, recommendations may also be made at any time during the course of an investigation.

The Marine Accident Investigation Branch (MAIB) is carrying out an Inspector's Investigation into the explosion onboard the sail training vessel *Lord Trenchard* in Poole harbour on 30 June 1999 in which four people were injured, one seriously. The MAIB will publish its findings within ten months of the accident and will make the report publicly available.

This Safety Bulletin is issued to draw the attention of owners, skippers and crews to the potential hazards associated with using Liquid Petroleum Gas (LPG) onboard craft and to draw attention to previously published advice from the Maritime and Coastguard Agency on the safety of LPG installations aboard pleasure craft and other vessels.



J S Lang  
Rear Admiral  
Chief Inspector of Marine Accidents

16 July 1999

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# SAFETY RECOMMENDATION

## ***Background***

Early on the morning of Wednesday, 30 June, an explosion occurred in the 16.5 metre sail training vessel *Lord Trenchard* while berthed alongside in Poole Harbour. Four people were on board; all were injured, one very seriously. The vessel was badly damaged.

The investigation into the accident is progressing and details of the causes have yet to be confirmed. It appears, however, that leakage of liquid petroleum gas (LPG) was a crucial factor.

*Lord Trenchard* was being operated under the Maritime and Coastguard Agency's Code of Practice for Small Commercial Sailing Vessels. She was therefore required to comply with minimum standards of equipment, survey, maintenance and manning.

Large numbers of pleasure vessels (and other small vessels) with LPG (bottled gas) fuelled cookers, refrigerators and heaters are likely to be in use at this time of year. Many may not necessarily be equipped and maintained to the standards required of *Lord Trenchard* while others will have been chartered by skippers and crew who are unfamiliar with the installation of stored gas onboard. Others may need reminding of the basic procedures for using them.

It is therefore appropriate to publish this warning of some of the potential dangers associated with use of LPG in small craft. Little of this advice is new, and may be seen in earlier publications of the Maritime and Coastguard Agency and British Standards BS 5482 Part 3, but this tragic accident highlights its relevance.

## ***Safety Recommendation***

Owners and Skippers are advised to take careful note of the previously published advice from the Maritime and Coastguard Agency on the safety of LPG installations aboard pleasure craft and other vessels. In particular the MAIB wishes to highlight the following:

1. LPG is heavier than air and is highly flammable. A small quantity of gas in air can form an explosive mixture and any gas which leaks from the system will attempt to migrate to the lowest part of a compartment.
2. Where gas bottles are stored in a locker on deck, the locker should be vented to atmosphere at both low and high levels and in such a way that gas cannot enter the vessel's hull.
3. Where gas piping passes from bottles stored in a deck locker into the vessel's hull the penetration should be gas tight.

4. When empty bottles are replaced by full, care should be taken to ensure that pipe to bottle connections are properly tightened and leak free. It might help if a second competent person makes an independent check that this has been done.
5. A gas detector system is strongly recommended. Such a system should have its sensor head(s) positioned in the lowest part of the compartment(s) monitored.
6. Any gas detection system or instrument should receive adequate and expert maintenance in service.
7. Never use gas appliances without ventilation.
8. Always read and observe the appliance manufacturers instructions.
9. Naked lights should never be used as a means of locating gas leaks.