

PP3 9V battery explosion

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A member has reported an incident in which a PP3 9-volt battery exploded. A loud bang was heard on the vessel bridge.

What happened?

Initially the noise was believed to be a lightbulb failing, but no trace could be found other than some debris embedded in a partition wall and a fragment which landed on a surveyor's shoulder.

After conducting a thorough search, a PP3 type 9-volt battery was discovered wrapped in a piece of paper with the terminals taped over ready for disposal. The bottom was blown off the battery housing exposing the individual 'AAAA' batteries inside. Fortunately, there were no injuries.

The following casual factors were noted:

- The battery was used beyond its recommended expiry date (see 3rd image).
- As a result of this over-use, one or more internal cells had leaked causing an internal short circuit.
- The battery overheated causing catastrophic failure.

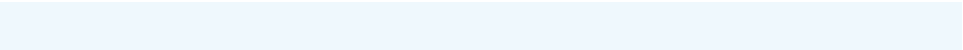
Our member took the following actions:

- Vessel checked for similar brand or make of battery – two such batteries were found in packaging, both expired. These were disposed of safely.
- Further checks were made of all other batteries currently in use or in stock to ensure expiry dates were not exceeded.
- Safety flash was issued to company globally and IMCA.

Whilst this incident involved a disposable alkaline battery, members will note that there have been explosions reported which have been caused by failure or malfunction of:

- Lead-acid batteries
- Lithium-ion batteries

All batteries involve dense storage of large amounts of energy, and as such, contain inherent hazards. members may wish to reiterate the importance of good battery management for all forms of batteries, whatever battery chemistry may be involved. This should particularly be the case for rechargeable Lithium-ion batteries.



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