

# Republic of the Marshall Islands

## MARITIME ADMINISTRATOR

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### MARINE SAFETY ADVISORY No. 09-26

**To: Owners/Operators, Masters, Nautical Inspectors, Recognized Organizations**

**Subject: RESUSCITATORS FOR MEDICAL OXYGEN CYLINDERS**

**Date: 10 June 2026**

The Republic of the Marshall Islands (RMI) Maritime Administrator (the “Administrator”) reminds vessel owners, operators, ships officers, and crewmembers that resuscitators attached to medical oxygen cylinders must be properly maintained, inspected, and used only with compatible equipment.

On 8 January 2025, a resuscitator attached to a medical oxygen cylinder on board an RMI-flagged vessel exploded during routine inspection and caused a fire in the ship’s hospital. Two people were seriously injured. The resuscitator and oxygen cylinder had a valid annual inspection certificate at the time of the incident.

The forensic investigation could not determine the precise cause of the explosion but identified contributing factors including contamination in the oxygen delivery system, moisture in the humidifier and flow tube, use of a cylinder charged to a higher pressure than other cylinders on board, degraded components, and evidence of inadequate maintenance.<sup>1</sup>

Ship managers and Masters of RMI-flagged vessels are therefore reminded of the following:

1. Pressure regulators must be suitable for the cylinder pressure used and should not be transferred to higher-pressure cylinders unless designed and approved for that pressure.
2. Resuscitators, pressure regulators, flow regulators, humidifiers, seal rings, and associated components must be inspected, maintained, and serviced in accordance with the manufacturer’s instructions.
3. Where manufacturer’s instructions are unavailable, pressure regulators and flow regulators should be serviced every five years by a competent person recognized by the manufacturer.

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<sup>1</sup> In oxygen systems, some contaminants can easily ignite and initiate a chain reaction leading to a fire, known as the kindling chain reaction.

This MSA is evaluated annually by the Administrator and expires one year after its issuance or renewal unless otherwise noted, superseded, or revoked.

4. Humidifier cups must not be filled above the maximum level and must be emptied, cleaned, and dried after use.
5. Moisture, foreign particles, degraded components, or other contaminants must not be present in the oxygen delivery system.
6. Seal rings should be replaced whenever the cylinder is exchanged, and Teflon (PTFE) seal rings should be checked for tightness after 24 hours.
7. Cylinder valves must be properly protected when not in use, including by a suitable metal cap or guard in accordance with ISO 11117, and tape must not be used to secure or protect the cylinder valve.
8. Pressure regulators should comply with ISO 10524-1.
9. Medical oxygen carried on board must comply with applicable RMI requirements, including Marine Notices [2-011-2](#) and [7-042-1](#).
10. Maintenance and inspection records must be kept up to date as part of the Safety Management System.

The Administrator recommends posting warning signs identifying the risks of pressurized medical oxygen.