



AEROSPACE STANDARD

AS1304**REV. B**

Issued	1973-05
Revised	1996-10
Reaffirmed	2011-06
Stabilized	2014-06

Superseding AS1304A

Continuous Flow Chemical Oxygen Generators

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

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1. SCOPE:

This SAE Aerospace Standard (AS) applies to performance and testing of solid chemical oxygen generators which produce oxygen at essentially ambient pressure for use aboard aircraft whose cabin pressure altitude does not exceed 40,000 ft (about 12,200 m). Portable chemical oxygen devices are covered by AS1303.

2. REFERENCES:

2.1 Applicable Documents:

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AS1303	Portable Chemical Oxygen
ARP1894	Useful Life Determination for Chemical Oxygen Generators
AS8010	Aviators Breathing Oxygen Purity Standard

2.1.2 RTCA Documents: Available from Radio Technical Commission for Aeronautics Secretariat, Suite 500, 1425 K Street, N.W., Washington, DC 20005. The latest issue of applicable RTCA documents shall apply.

RTCA/DO-160	Environmental Conditions and Test Procedures for Airborne Equipment
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2.1.3 EUROCAE Documents: Available from EUROCAE - 11, rue Hamelin - 75783 PARIS CEDEX 16, France.

ED-14 Environmental Conditions and Test Procedures for Airborne Electronic/Electrical Equipment and Instruments

NOTE: EUROCAE ED-14C and RTCA/DO-160C are equivalent documents. It is anticipated this equivalency will be maintained in future revisions. However, in the event of differences between future versions of these documents, the requirements stated in RTCA/DO-160 shall take precedence.

2.2 Related Publications:

2.2.1 NATO Publications: Available from North Atlantic Treaty Organization, Military Agency for Standardization (MAS), 1110 Brussels, Belgium. Also available from Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

STANAG 3688 GGS Characteristics Of Breathable Oxygen Supplied By Chemical Solid Generators

2.3 Definitions:

CHEMICAL CORE: An object, composed of sodium chlorate or an analogous alkali metal chlorate or perchlorate, formulated with fuels, catalysts, and other modifiers and additives as required by the particular design, which evolves oxygen by a controlled chemical decomposition reaction, when actuated. Also sometimes called a chlorate candle.

CHEMICAL OXYGEN GENERATOR: A device comprising a chemical core and its surrounding mechanical enclosure, insulating material, actuation means for the chemical core, pressure relief means, and any necessary filtering means. A means of conveying evolved oxygen to the masks is also frequently included, although that function can also be fulfilled by an external manifold.

CHLORATE CANDLE: An alternate term sometimes applied to a chemical core, possibly because the progress of the organized decomposition reaction along the length of the core can be likened to the burning of a candle. This term is also sometimes loosely applied to the entire chemical oxygen generator.

DESCENT PROFILE: A curve relating altitude to elapsed time following a decompression, which can be utilized in determining the flow rate of oxygen which should be supplied by a chemical oxygen generator at each point in time following initiation of an emergency descent. This curve is established by the aircraft designers, based on the performance features of the aircraft under various operating conditions. It sometimes is modified to reflect assumptions about height of local terrain which might be encountered in operating the aircraft over a given route.