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## Oxygen 93 Percent

### DEFINITION

Oxygen 93 Percent is Oxygen produced from air by the molecular sieve process. It contains NLT 90.0% and NMT 96.0% by volume of oxygen ( $O_2$ ), the remainder consisting mostly of argon and nitrogen.

### IDENTIFICATION

- **A.** The paramagnetic signal exhibited by the *Sample gas* in the Assay confirms the presence of oxygen.
- **B.** The *Sample gas* in the Assay meets the *Acceptance criteria*.

### ASSAY

#### • PROCEDURE

The certified standards called for in the following test are listed in [Reagents, Indicators, and Solutions](#).

**Zero gas:** Nitrogen certified standard

**Span gas:** 93% Oxygen certified standard

**Sample gas:** Oxygen 93 Percent under test

**Mode:** Paramagnetic oxygen measurement (see [Medical Gases Assay \(415\)](#))

**Analysis:** Determine the concentration of oxygen in percentage by volume in Oxygen 93 Percent using a suitable paramagnetic analyzer.

**Acceptance criteria:** 90.0%–96.0% oxygen by volume

### IMPURITIES

**Change to read:**

See [Impurities Testing in Medical Gases ▲ \(ERR-1-Nov-2020\) \(413\)](#). The detector tubes called for in the following tests are listed in [Reagents, Indicators, and Solutions](#).

#### • CARBON DIOXIDE

**Sample:** Detector tube manufacturer's recommended volume  $\pm 5\%$  of Oxygen 93 Percent

**Analysis:** Pass the *Sample* through a carbon dioxide detector tube at the rate specified for the tube by the detector tube manufacturer.

**Acceptance criteria:** NMT 300 ppm

#### • CARBON MONOXIDE

**Sample:** Detector tube manufacturer's recommended volume  $\pm 5\%$  of Oxygen 93 Percent

**Analysis:** Pass the *Sample* through a carbon monoxide detector tube at the rate specified for the tube by the detector tube manufacturer.

**Acceptance criteria:** NMT 10 ppm

### ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Preserve in pressurized containers. Container connections shall be appropriate for Oxygen 93 Percent. Adaptors shall not be used to connect containers to patient use supply system piping or equipment.
- **LABELING:** If Oxygen 93 Percent is piped from a remote location to the patient point of use, label each outlet "Oxygen 93 Percent".

**Auxiliary Information** - Please [check for your question in the FAQs](#) before contacting USP.

Topic/Question	Contact	Expert Committee
OXYGEN 93 PERCENT	<a href="#">Documentary Standards Support</a>	SM52020 Small Molecules 5
REFERENCE STANDARD SUPPORT	RS Technical Services <a href="mailto:RSTECH@usp.org">RSTECH@usp.org</a>	SM52020 Small Molecules 5

Chromatographic Database Information: [Chromatographic Database](#)

**Most Recently Appeared In:**

Pharmacopeial Forum: Volume No. PF 39(1)

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