

## U.S. PHARMACOPEIA

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## Medical Air

» Medical Air is a natural or synthetic mixture of gases consisting largely of nitrogen and oxygen. It contains not less than 19.5 percent and not more than 23.5 percent, by volume, of O<sub>2</sub>.

**Packaging and storage—** Preserve in cylinders or in a low pressure collecting tank. Containers used for Medical Air are not to be treated with any toxic, sleep-inducing, or narcosis-producing compounds, and are not to be treated with any compound that would be irritating to the respiratory tract when the Medical Air is used.

NOTE—Reduce the container pressure by means of a regulator. Measure the gases with a gas volume meter downstream from the detector tube in order to minimize contamination or change of the specimens.

The various detector tubes called for in the respective tests are listed under *Reagent Specifications* in the section *Reagents, Indicators, and Solutions*.

**Labeling—** Where it is piped directly from the collecting tank to the point of use, label each outlet "Medical Air."

**Water and oil—** Support 1 container in an inverted position (with the valve at the bottom) for 5 minutes. Cautiously open the valve slightly, maintaining the container in an inverted position. Vent the gas with a barely audible flow against a stainless steel mirror for a few seconds: no liquid is discernible on the mirror.

**Odor—** Carefully open the container valve to produce a moderate flow of gas. Do not direct the gas stream toward the face, but deflect a portion of the stream toward the nose: no appreciable odor is discernible.

**Carbon dioxide—** Pass 1000 ± 50 mL through a carbon dioxide detector tube at the rate specified for the tube: the indicator change corresponds to not more than 0.05%.

**Carbon monoxide—** Pass 1000 ± 50 mL through a carbon monoxide detector tube at the rate specified for the tube: the indicator change corresponds to not more than 0.001%.

**Limit of nitric oxide and nitrogen dioxide—** Pass 550 ± 50 mL through a nitric oxide–nitrogen dioxide detector tube at the rate specified for the tube: the indicator change corresponds to not more than 2.5 ppm.

**Sulfur dioxide—** Pass 1050 ± 50 mL through a sulfur dioxide detector tube at the rate specified for the tube: the indicator change corresponds to not more than 5 ppm.

**Assay—** Determine the oxygen concentration of Medical Air using an electrochemical cell analyzer readable to 0.1% of oxygen and calibrated with ambient air to an accuracy of ± 0.2% of oxygen. [NOTE—The instrument utilizes the variations of electric current produced by the interaction of oxygen with an electrochemical cell to display the oxygen strength of a confined sample or an in-line flow of the gas. This current generates a signal proportional to the oxygen concentration, which is displayed on a meter.]

**Auxiliary Information—** *Staff Liaison* : [Kahkashan Zaidi, Ph.D., Senior Scientific Associate](#)

*Expert Committee* : (AER05) Aerosols05

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*Phone Number* : 1-301-816-8269