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 Do not distribute

Helium

He 4.00

Helium.

Helium CAS RN®: 7440-59-7; UNII: 206GF3GB41.

» Helium contains not less than 99.0 percent, by volume, of He.

Packaging and storage—Preserve in cylinders.

[**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.]

Identification—The flame of a burning splinter of wood is extinguished when inserted into an inverted test tube filled with Helium. [**NOTE**—Use caution.] A small balloon filled with Helium shows decided buoyancy.

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 monoxide—Pass 1000 ± 50 mL through a carbon monoxide detector tube (see under *Reagents* in the section [Reagents, Indicators, and Solutions](#)) at the rate specified for the tube: the indicator change corresponds to not more than 0.001%.

Air—Not more than 1.0% of air is present, determined as directed in the *Assay*.

Assay—Introduce a specimen of Helium into a gas chromatograph by means of a gas sampling valve. Select the operating conditions of the gas chromatograph such that the standard peak signal resulting from the following procedure corresponds to not less than 70% of the full-scale reading. Preferably, use an apparatus corresponding to the general type in which the column is 6 m in length and 4 mm in inside diameter and is packed with porous polymer beads, which permits complete separation of nitrogen and oxygen from Helium, although the nitrogen and oxygen may not be separated from each other. Use industrial grade helium (99.99%) as the carrier gas, with a thermal-conductivity detector, and control the column temperature: the peak response produced by the assay specimen exhibits a retention time corresponding to that produced by an air-helium certified standard (see under *Reagents* in the section [Reagents, Indicators, and Solutions](#)), and indicates not more than 1.0% of air when compared to the peak response of the air-helium certified standard, and not less than 99.0%, by volume, of He.

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

Topic/Question	Contact	Expert Committee
HELIUM	Documentary Standards Support	SM52020 Small Molecules 5

Chromatographic Database Information: [Chromatographic Database](#)

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