

## **A simple and rapid method for the determination of mercury in gas condensates by inductively coupled plasma–mass spectrometry**

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A method for the accurate determination of mercury content in gas condensates is of important significance in the application of condensates. In this paper, we established a simple and rapid method for the determination of mercury in gas condensates using inductively coupled plasma–mass spectrometry (ICP-MS). We studied the effect of experimental conditions for mercury (including extraction reagent, sample mass, extraction time in water bath, and membrane filtering treatment) on the determination results. For the sample pretreatment method we selected a sample mass of 1.00 g, added 10 mL of aqua regia, and placed it in a boiling water bath for 1 h; samples thus prepared were used for the determination of mercury in gas condensates. After hydrophilic membrane filtering, 3% nitric acid (HNO<sub>3</sub>) was employed to dilute to 10 times and the ICP-MS determination was conducted. For this method, the limit of detection was 0.4 ng/g, the relative standard deviation range was from 2.8% to 5.4% for the determination of samples of different natures, and the standard addition recovery rate was 90.2%–98.8%, which shows the method was stable and reliable.

**Keywords:** Gas condensate; mercury; ICP-MS; determination.