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**INDUSTRY STANDARD OF THE  
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**Soil Testing. Part 11: Method for determination of soil total  
arsenic**

土壤检测 第11部分：土壤总砷的测定

**(English Translation)**

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### 1 Scope of application

This part applies to the measurement of total arsenic of all kinds of soils.

### 2 Method summary

Arsenic acid solution, in the hydride generator, is subjected to hydrogenation reaction with the reducing agent potassium borohydride, forming the arsenic hydride gas. USE argon as the carrier gas to lead the arsenic hydride gas into the quartz furnace for atomization, AND the heated arsenic hydride is dissociated into arsenic gas atoms. Arsenic atoms are excited under the light source characteristic radiation to produce atomic fluorescence, which reaches to the detector and is converted into electrical signals; after being amplified by the electronic amplifier, USE the reading device to read out the results. The fluorescence intensity produced is proportional to the measured element content in the sample, AND the content of the measured element can be found from the calibration curve.

Most of the elements in the soil after decomposition can also enter the test solution, AND  $\text{Cu}^{2+}$ ,  $\text{Co}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Cr}^{6+}$ ,  $\text{Au}^{3+}$ ,  $\text{Hg}^{2+}$  will interfere with the measurement, which can be eliminated by adding thiourea.

The detection limit was 0.4  $\mu\text{g/L}$ .

#### 3.2 Arsenic double cathode hollow cathode lamp

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