

PRE-INSTALLATION CHECKLIST

Customer: _____ (Seal)

Confirmer: _____ (Signature)

Telephone: _____

Confirmation Date: _____

Installation Date: _____

Please check the lab condition for installation and tick with “√” which has already been prepared .

General:

- Prepare one electric balance with a resolution of 0.1 mg.

1. 5E-DMA3000 Automatic Mercury Analyzer

1) Equipment and Tools Preparation

- Floor space: 800 mm (W) × 1200 mm (L)
- Power supply 220V/50Hz, power 3KW(grounded well)
- Oxygen, purity 99.5%.
- Please confirm the connectors of cylinder are according with Chinese standard (G5/8"-RHF) (the screw thread is on the outside), so that it can match with the reducing valve the instrument is equipped, if not, please prepare the reducing valve(gauge for cylinder is 0-25MPa, gauge for outlet is 0-1MPa) by yourself

2) Chemical Reagent Preparation

- GR Nitric Acid (ρ= 1.41 g/ml), 1 bottle
- GR Potassium Dichromate, 1 bottle

3) Solution Preparation

Unless otherwise stated, only the GR guaranteed reagent and the first level water or homogeneous water that complies with GB/T 6682 requirements can be used in the analysis.

- 2.1 Nitric Acid (ρ= 1.41g/ml), GR grade
- 2.2 Nitric Acid solution (5+95) : weight 50mL Nitric Acid and slowly add it to 950mL water.
- 2.3 Potassium Dichromate, GR grade
- 2.4 Potassium Dichromate Nitric Acid solution (0.5g/L) : take 0.5g Potassium Dichromate (1.3) and dissolve it in 1000mL Nitric Acid solution (2.2).

- 2.5 Mercury stock standard solution (1000 $\mu\text{g}/\text{mL}$) : prepare according to GB5009.17-2014 method, or directly use certified mercury standard solution.
- 2.6 Mercury standard solution (100 $\mu\text{g}/\text{mL}$) : accurately take 10 mL of mercury stock standard solution (2.5) to a 100 mL volumetric flask, fix volume with Potassium Dichromate Nitric Acid solution (2.4), and mix. This solution contains 100 $\mu\text{g}/\text{mL}$ mercury.
- 2.7 Mercury standard solution (10 $\mu\text{g}/\text{mL}$) : accurately take 10 mL of mercury stock standard solution (2.6) to a 100 mL volumetric flask, fix volume with Potassium Dichromate Nitric Acid solution (2.4), and mix. This solution contains 10 $\mu\text{g}/\text{mL}$ mercury.
- 2.8 Mercury standard solution (1.0 $\mu\text{g}/\text{mL}$) : accurately take 10 mL of mercury stock standard solution (2.7) to a 100 mL volumetric flask, fix volume with Potassium Dichromate Nitric Acid solution (2.4), and mix. This solution contains 1.0 $\mu\text{g}/\text{mL}$ mercury.
- 2.9 Mercury standard solution (0.1 $\mu\text{g}/\text{mL}$) : accurately take 10 mL of mercury stock standard solution (2.8) to a 100 mL volumetric flask, fix volume with Potassium Dichromate Nitric Acid solution (2.4), and mix. This solution contains 0.1 $\mu\text{g}/\text{mL}$ mercury.
- 2.10 Mercury standard solution (0.01 $\mu\text{g}/\text{mL}$) : accurately take 10 mL of mercury stock standard solution (2.9) to a 100 mL volumetric flask, fix volume with Potassium Dichromate Nitric Acid solution (2.4), and mix. This solution contains 0,01 $\mu\text{g}/\text{mL}$ mercury.
- Calibrate the pipette with 10~100 μL , and take 0, 10, 20, 40, 60, 80, 100, 200 μL mercury standard solution (2.10) separately to draw a low concentration curve, which is suitable for the test of sample with mercury concentration below 0.0150mg/kg.
- Calibrate the pipette with 10~100 μL , and take 0,10,20,40,60,80,100,200 μL mercury standard solution (2.9) separately to draw a low concentration curve, which is suitable for the test of sample with mercury concentration within 0.01-0.150mg/kg.
- Calibrate the pipette with 10~100 μL , and take 0, 10, 20, 40, 60, 80, 100, 200 μL mercury standard solution (2.8) separately to draw a low concentration curve, which is suitable for the test of sample with mercury concentration within 0.1-1.5mg/kg.
- Calibrate the pipette with 10~100 μL , and take 0, 10, 20, 40, 60, 80, 100, 200 μL mercury standard solution (2.7) separately to draw a low concentration curve, which is suitable for the test of sample with mercury concentration within 1-15mg/kg.

Note:

Stability of mercury standard solution will generally last for 24 ~48 hours. Fresh mercury standard solution is required to be used at once after preparation.

Note: distilled water with resistivity greater than $3\text{M}\Omega$ must be used in solution preparation.