

6.3 Moisture (direct drying)

6.3.1 instrument

6.3.1.1 Constant temperature drying oven: Temperature control precision $\pm 2^{\circ}\text{C}$

6.3.1.2 Analytical balance: precision 0.1 mg.

6.3.1.3 Weighing dish :50 mm \times 30 mm

6.3.1.4 Dryer: Use color-changing silica gel as desiccant.

6.3.2 Analysis steps

2 g(accurate to 0.0001g) of the sample was weighed in a weighing dish that had been dryd to a constant weight, and dried in a constant temperature drying oven at $105^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 2h. The sample was then transferred to a dryer for cooling, and weighed 30 min later. Then put it into the thermostat and dry it for 1 h. Weigh it until the weight is constant.

6.3.3 Results calculation

The moisture content of the sample is calculated according to Formula (1), and the value is expressed as %

$$X_1 = \frac{(m_1 - m_2)}{(m_1 - m)} \times 100$$

X_1 - mass fraction of the sample moisture,%;

M_1 - The value of the mass of the weighing dish plus the sample before drying in grams (g);

M_2 - The value of the weight of the dish plus the sample after drying in grams (g);

M - The value of the mass of a weighing dish in grams (g).

The result is expressed as a decimal number.