Application Brief

Hitachi High-Tech HITACHI

Hitachi High-Tech Science Corporation
RBM Tsukiji Bldg., 15-5, Shintomi 2-chome, Chuo-ku, Tokyo 104-0041
TEL:+81-3-6280-0068 FAX:+81-3-6280-0075
http://www.hitachi-hitec-science.com

SEA NO.25 MAY.2002

SEA2100 analysis of cadmium within plastic

1. Overview

We evaluated analytical performance of the SEA2100 in analyzing cadmium (Cd) in plastic.

2. Analysis Conditions.

Table 1 shows the analytical conditions, figure 1 shows the spectrum, and figure 2 shows the calibration curve.

Table 1 Analysis Conditions

Measurement Tool	SEA2120
Time	240 seconds
Chamber Atmosphere	Air
Collimator	ϕ 10.0 mm
Voltage	50 kV
Current	200 μA
Filter	Zr (t : 0.2 mm)

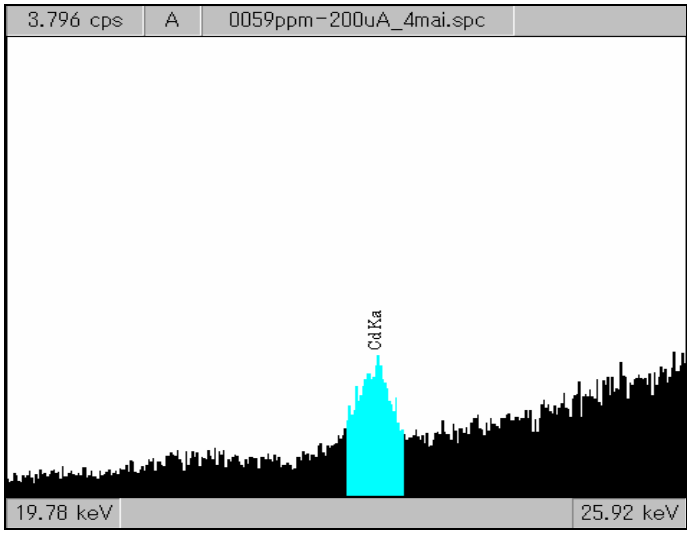

Figure 1 Cd : 59 ppm Spectrum

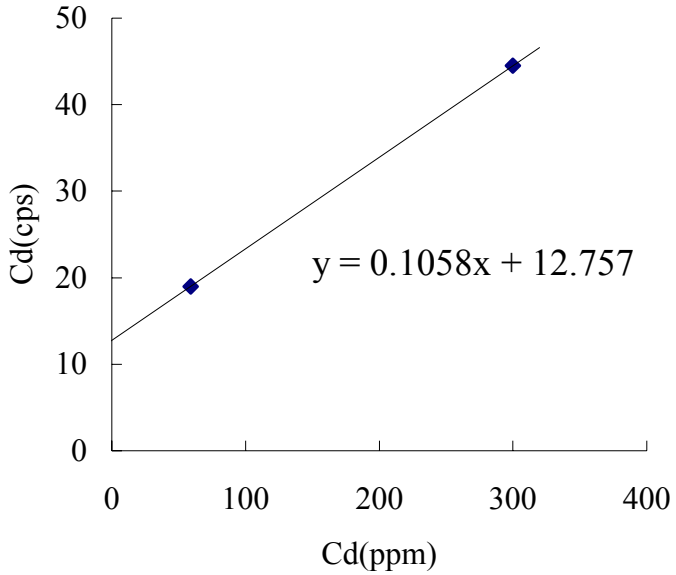

Figure 2 Cd Calibration Curve

3. Estimation of Detection Limits and Quantitative Limits

We estimated the detection lower limit and quantitative lower limit from the calibration curve in Figure 2. Here, the detection limit is three times the standard deviation of background, and the quantitative lower limit is defined as 10 times the detection intensity of background standard deviation. Estimated results are shown in table 2.

Table 2 Estimate of Analysis Lower Limit Values

	Estimated Value (ppm)
Detection Limit	7
Quantitative Limit	24