

SEA NO.26 JUN.2002

## SEA5120 analysis of cadmium within plastic

### 1. Overview

We evaluated analytical performance of the SEA5120 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	SEA5120
Time	210 seconds
Chamber Atmosphere	Air
Collimator	$\phi$ 2 mm
Voltage	50 kV
Current	600 $\mu$ A
Filter	Zr ( t : 0.2 mm)

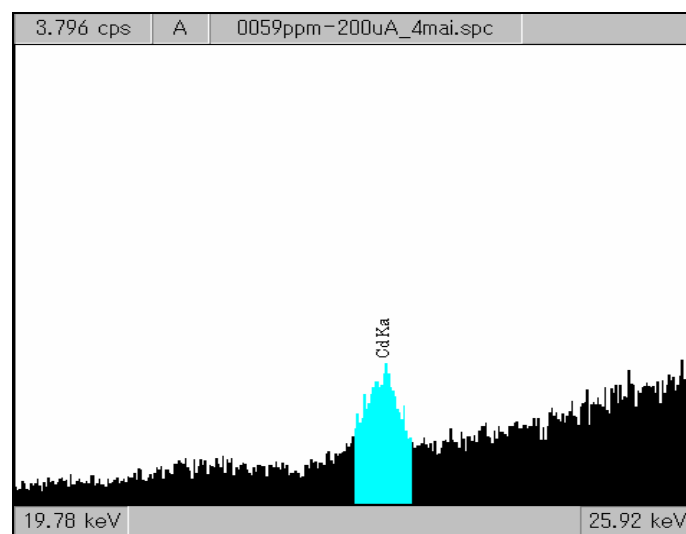


Figure 1 Cd : 59 ppm Spectrum

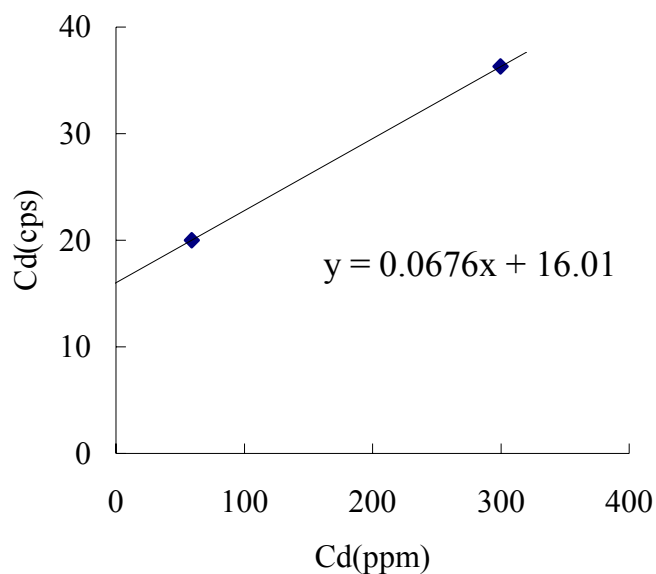


Figure 2 Cd Calibration Curve

### 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	10
Quantitative Limit	30