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This study was conducted to establish the standard method for the contents of magnesium in infant and follow-on formula. Magnesium was extracted from 0.2 g certified reference material (NIST SRM 1849a) with 70% HNO₃ and 7 ml by the MARS5 microwave lab station. Digests were then analyzed with Perkin-Elmer Optima 8300 inductively coupled plasma-optical emission spectrometer (ICP-OES) and Perkin-Elmer Analyst 700 atomic absorption spectrophotometer (AAS). Performance parameters were estimated for linearity, limits of detection (LOD) and limits of quantification (LOQ), accuracy and precision. The linearity of standard solution with correlation coefficient was higher than 0.999 in range of 0.05-1.5 mg/L. LOD were 0.01 mg/L and limits of quantification were 0.03 mg/L. Recovery of CRM were determined as approximately 100%. Currently, optimized method showed high accuracy (>90%) and precision was 0.2% relative standard deviation (RSD). The method was found to be suitable for routine quality control monitoring of infant and follow-on formulas.

Kyung Mi Hwang has completed her PhD from Pusan National University in Korea and Post-doctoral studies from Konkuk University, School of Bioinformatics.

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