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AIMS: The purpose of this study was to provide a standard method for the analysis of cyanide in blood.

METHODS: We performed method validation for cyanide in blood according to the EURACHEM (A Focus for Analytical Chemistry in Europe) guide. For the analysis of cyanide, we used a microdiffusion method. In microdiffusion device, 1 ml of blood and 2 ml of 1.0% H₂SO₄ were placed in the outer well, and in the inner well of which was filled 3 ml of 0.1N-NaOH solution. After 3 hour's incubation, the cyanide is measured spectrophotometrically after a colorimetric reaction involving the cyanide ion and chloramines-T, sodium phosphate monobasic plus pyridine-barbituric acid. To validate this method, we performed verification procedures with the following parameters: selectivity, linearity of calibration, accuracy, precision, recovery, limit of detection and quantification.

RESULTS: A straight standard curve was obtained in the wide range of concentrations (0.1-500 mg/L, R²>0.99). The LOD and LOQ of cyanide were 0.04 mg/L and 0.06 mg/L, respectively. From the results of the determination of intra- and inter-day precisions, the coefficients of variation (CVs) were less than 5% in all experiments. The recoveries of cyanide spiked to blood at 0.2 µg/ml and 1 µg/ml were 75.7% and 76.3%, respectively.

CONCLUSIONS: Our validation data according to the Eurachem guide were adequate for the purpose for the analysis of cyanide in blood.

KEYWORDS: *Cyanide, Microdiffusion method, Method validation*

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