Evaluation on QSAR-driven health risk of particulate matters of indoor air pollutants in subway station

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Abstract

The present study aims to evaluate the health risk in computational toxicology of subway particulate matters (PMs) in Seoul, Korea by quantitative structure activity relationship (QSAR) method. People in the metropolitan areas take underground subway, and expose to PMs for a considerable time in the underground microenvironments. Iron-containing particles are the most abundant and the most frequently encountered particles, and the toxicity of subway particles are attributed to the high iron content. Therefore it is necessary to evaluate the health risk of subway PMs. In this study, QSAR utilizes chemical structures to predict properties and activities of the iron substances that are related to subway PMs. The results confirm that the PMs in subways have the potential health risks to induce health problems with long-term exposure.