Support Tools for Release Source Management and Environment Improvement Validation Using PRTR Scheme

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[Abstract]

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   As the development goal of this study whole, we provided a tool for business operators in actual sites to utilize PRTR data more practically and to practice voluntary efforts to improve chemicals management. It also provided a tool for the national government to comprehensively understand through local governments how much the actual environmental situations have been preserved and improved by the emission control efforts conducted in actual sites.

   In sub-theme SII-4-2(1), a simple tool to assess environmental risk of chemical compounds around sites was developed to support business operators in actual sites. The tool requires only five input parameters. The users have to select the ranks of the parameters and perform addition of the ranks to assess the environmental risk in ambient air around each site. In addition, an extensive database for automated identification and quantification of GC-MS total ion monitoring (TIM) data was developed for about five hundreds PRTR chemicals.

   In sub-theme SII-4-2(2), a simple tool to estimate environmental concentration of chemicals in ambient air around the emission source was developed to support business operators by using Microsoft Excel. The tool is established to become user friendly, and the users are not required any complicated analytic skills. The outputs by the tool are visual and easy to understand the environmental risk affected from a site to its around.

   In sub-theme SII-4-2(3), a method to analyze the pollution situations of chemicals in local area by using the PRTR data was developed to support local governments. The emission sources were categorized by business types and by emission scales, and the accuracy of the PRTR data was verified. In addition, the 1-week monitoring method to evaluate annual average concentration of chemicals accurately were developed. By using the analytical data and tools, the environmental risks could be understood in each municipal area and visualized in a GIS application.

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