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广东省工业点源大气汞排放清单更新研究

### Update of atmospheric mercury emission inventory from industrial point-sources in Guangdong Province

关键词: [工业点源](#) [大气汞排放清单](#) [大气汞模拟](#) [大气汞沉降](#)

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摘要: 基于包含工业点源位置、排放信息的2006年广东省环境统计数据 and 能源统计年鉴,编制了广东省2006年工业点源汞排放清单.利用该清单更新了1999年中国区大气汞排放清单中广东省行政区域内相应的点源清单数据内容.采用CMAQ-Hg模型基于同一气象、初始浓度和边界浓度输入条件对两套清单进行了更新效果评估.结果表明,使用包含工业点源位置及排放细节的bottom-up方法编制的排放清单有效提高了模拟结果的准确度.更新清单前后,本地和跨省大气汞沉降增量差异的初步研究结果说明不同形态的大气汞具备不同的干、湿沉降特征.据此提出,需要尽快开展符合我国实际的各类工业源大气汞排放因子和排放形态因子更新研究.

**Abstract:** Atmospheric mercury emission inventory of industrial point-sources in Guangdong province in 2006 was compiled based on environmental statistical data and energy statistical yearbook of Guangdong province at the same year. The updated emission inventory of Guangdong industrial point-sources in 2006 was used to replace the corresponding part of the point-source atmospheric mercury emission inventory of China in 1999. The two sets of data (the original 1999 inventory and the one replaced with the industrial point-sources of Guangdong) was simulated using the CMAQ-Hg based on the same meteorological condition, initial concentration and boundary concentration. The result shows that the accuracy of simulation data was improved using the updated industrial point-sources inventory in Guangdong province. The preliminary study result on different increasing deposition amounts of atmospheric mercury between local and neighboring provinces shows that the different species of atmospheric mercury have different dry/wet deposition characteristics. This implies that updating atmospheric mercury emission factors with different mercury species on all kinds of industrial point sources in China is urgently needed.

**Key words:** [industrial point-sources](#) [atmospheric mercury emission inventory](#) [atmospheric mercury simulation](#) [atmospheric mercury deposition](#)

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