

我国69个城市地下水有机污染特征研究

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中文摘要:全国31个省的69个城市地下水有机污染检测结果表明,在检测的791个样品中有383个至少有一项有机污染组分被检出,检出率为48.42%;有18个样品的单项有机污染组分超标,除苯并[a]芘外,超标组分全部为挥发性有机物,其超标率由高到低分别为:四氯化碳0.75%、苯0.5%、氯仿0.25%、1,2-二氯乙烷0.25%、三氯乙烯0.13%、1,1,2-三氯乙烷0.13%、1,2-二氯丙烷0.13%、苯并[a]芘0.13%。采样井主要为工、农业生产及生活用水井,个别为供水水源地水井,超标井均为非供水水源地水井。检测指标为38项的“三致”(致畸、致癌、致突变)和有毒有害组分,其中卤代烃15项,氯代苯类5项,单环芳烃6项,有机氯农药11项,多环芳烃1项。分析研究结果表明:我国城市地下水有机污染超标率较低,但是检出率较高,单项组分检出率较高的有机污染组分为氯仿20.23%、苯并[a]芘16.21%、总六六六6.03%、 β -六六六5.65%、四氯乙烯5.03%、1,2-二氯乙烷4.4%、1,2-二氯丙烷4.15%、四氯化碳3.89%、三氯乙烯3.77%、二氯甲烷3.64%,苯2.01%,其它污染组分的检出率均低于2%。

中文关键词:[地下水](#) [有机污染](#) [特征研究](#) [主要城市](#)

Research on Groundwater Organic Contamination Characteristics in 69 Cities of China

Abstract:Organic contamination detection results from 69 cities of 31 provinces show that at least one organic matter was detected in 383 samples among 791 samples detected, with the detection ratio of 48.42%. Single organic pollutant exceeds the standard in 18 samples, and the over-limit of carbon tetrachloride, benzene, chloroform, 1,2-dichloroethane, trichloroethylene, 1,1,2-trichloroethane, 1,2-dichloropropane, and benzo(a) pyrene is 0.75%, 0.5%, 0.25%, 0.25%, 0.13%, 0.13%, 0.13% and 0.13% respectively. Most sampling wells are agricultural, industrial and domestic wells, and some of them are water supply wells. Concentrations of organic pollutants in the wells of the water resource area are lower than those of the drinking water standard. Detection indicators are 38 substances that cause abnormality, cancer and mutation, and harmful and toxic and hazardous substances, comprising 15 halohydrocarbons, 5 chlorobenzenes, 6 monocyclic aromatic hydrocarbons, 11 organochlorine pesticides and 1 polycyclic aromatic hydrocarbon. The analytical results show that, although the over-limit ratio is relatively low, the detection ratio is relatively high for organic matter in groundwater in main cities of China. Some organic matters were detected with relatively high detection ratios. The detection ratio of chloroform, benzo(a) pyrene, total HCH, β -HCH, tetrachloroethylene, 1,2-dichloroethane, 1,2-dichloropropane, carbon tetrachloride, trichloroethylene, dichloromethane, and benzene is 20.23%, 16.21%, 6.03%, 5.65%, 5.03%, 4.4%, 4.15%, 3.89%, 3.77%, 3.64% and 2.01% respectively, whereas that of other substances is lower than 2%.


keywords:[groundwater](#) [organic contamination](#) [characteristic research](#) [main cities](#)

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