

## 捕集阱顶空气相色谱/质谱法测定水中的二氯一溴甲烷

王萍亚\*, 赵华, 周勇, 许镇坚, 戴意飞, 张薇英

国家海洋食品质量监督检验中心, 浙江 舟山 316021

## Determination of dichlorobromomethane in water by headspace-trap gas chromatography/mass spectrometry

WANG Pingya\*, ZHAO Hua, ZHOU Yong, XU Zhenjian, DAI Yifei, ZHANG Weiyong

National Marine Food Quality Supervision and Testing Center, Zhoushan 316021, China

摘要	参考文献	相关文章
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**摘要** 建立了捕集阱顶空气相色谱/质谱测定水中二氯一溴甲烷的方法。采用正交实验设计对平衡温度、平衡时间、循环次数3个参数进行了优化,在平衡温度70 ℃、平衡时间20 min、循环次数2次的优化条件下,对水中的二氯一溴甲烷进行测定。结果显示,在0.1~10.0 μg/L范围内,二氯一溴甲烷的质量浓度和峰面积呈良好的线性关系,相关系数为0.9991。方法的检出限(S/N=3)为0.03 μg/L,定量限(S/N=10)为0.1 μg/L,回收率为83.1%~111.3%,相对标准偏差为1.7%~5.2%(n=6)。将该方法应用于水中二氯一溴甲烷的定性定量分析,效果良好。

**关键词:** 捕集阱顶空气相色谱/质谱法 二氯一溴甲烷 水

**Abstract:** A novel method was developed for the determination of dichlorobromomethane in water using headspace-trap gas chromatography/mass spectrometry (GC/MS). Three parameters of headspace-trap including thermostatic temperature, time and cycle number were optimized by orthogonal experiment analysis. Dichlorobromomethane in water samples was analyzed under the optimized conditions of 70 ℃ and 20 minutes with the cycle number of two. The results showed that the calibration curve was linear in the range of 0.1~10.0 μg/L, and the correlation coefficient was 0.9991. The detection limit was 0.03 μg/L. The average recovery was 83.1%~111.3% with the relative standard deviation (RSD) not more than 5.2% (n=6). This method is rapid, sensitive and reproducible for the routine detection of the low concentration of dichlorobromomethane in water.

**Keywords:** headspace trap gas chromatography/mass spectrometry (GC/MS) dichlorobromomethane water

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Corresponding Authors: 王萍亚

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