

研究报告

电气石对海水pH值的调控

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摘要

利用化学全分析、XRD分析、原子力显微镜等方法对内蒙古产黑色电气石进行测试表征, 并研究了该电气石对海水pH值的影响, 探讨了电气石用量、海水盐度、初始pH值等因素对pH调控的影响. 结果表明, 电气石能够调节初始pH值为3和10的海水pH值分别至7.9和8.1; 电气石对低盐度海水pH调控速率大于高盐度海水, 处理120 min后初始pH均为5, 盐度为5、10、15、20、35的海水pH分别增加了3.24、3.16、3.06、2.99、2.85; 电气石对海水电导率基本无影响. 本研究为将电气石应用于调控水产养殖水体pH提供了实验基础.

关键词 [电气石](#), [海水](#), [pH](#), [盐度](#)

分类号

Regulation effects of tourmaline on seawater pH value

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Abstract

In this paper, chemical analysis, X-ray diffraction and atomic force microscopy were employed to examine the characteristics of tourmaline produced in east Inner Mongolia Autonomous Region, and batch experiments were conducted to study its regulation effects on seawater pH value. The factors affecting the regulation, such as the dosage of tourmaline and the salinity and initial pH value of seawater, were also studied. The results showed that tourmaline could regulate the seawater pH value from its initial 3 and 10 to 7.1 and 8.9, respectively, and the regulation effect was greater in the seawater with lower salinity, e.g., after 120 minutes treatment, the initial pH value (5.0) of the seawater with a salinity of 5, 10, 15, 20 and 35 was increased by 3.24, 3.16, 3.06, 2.99 and 2.85 unit, respectively. Tourmaline had little effect on seawater conductivity. This study would provide an experimental base for the application of tourmaline in aquaculture.

Key words [Tourmaline](#) [Seawater](#) [pH value](#) [Salinity](#)

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