بررسی روش‌های جذب فلزات سنگین از فاضلاب‌های صنعتی با بکارگیری جلبکهای
سبز-آبی
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خلاصه:

نتایج: بررسی‌های انجام شده نشان داده‌اند که از روی نوین، با توجه به معاوض روشهای متداول، جهت حذف فلزات سنگین، فلزات سریع‌موردن، فلزات متنوع، فلزات شیشه‌ای و فلزات پلاستیکی، باعث بهبود در حین افزایش کیفیت محصولات می‌شود.

مواد و روش‌ها: از سایت‌های ScienceDirect و Scopus، PubMed، Google scholar
Different methods to adsorb heavy metals in wastewater by blue-green algae

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Abstract:

Background: Among the today`s main problems related to wastewater is pollution caused by heavy metals. These heavy metals are toxic and have detrimental effects on the body. So the existence of such metals in the food chain is a serious problem for human health.

Materials and Methods: Scopus, Pubmed, Google scholar and ScienceDirect databases were searched.

Results: Studies indicate a requirement to use a new method for removing heavy metals from wastewater. Biosorption method by microalgae is one of the newest methods which have the properties such as cost, selective adsorption, high processing rate and no sludge production. In this process in order to clean up wastewater by adsorption, the two algae Chlorella and Spirulina are optimal. In comparing these two algae, Chlorella algae has better ability to attract as well as more balanced with the absorption effect. Remove ions such as lead, nickel and zinc occurs by interactions between the metal ions and carboxyl groups present on the cell wall that stabilize metal binding. Notable point in this process is that the removal ability decreases by increasing the metal concentration. In addition, Chlorella can be used to adsorb Chromium that Betacaroten first extracted and then the remaining biomass is used for Chromium adsorption.

Conclusions: According to the case studies, the method is convenient and cost effective for the removal of metal contaminants from wastewater and will help to reduce environmental pollution.

Keywords: algae, adsorption, heavy metals, wastewater