
小球藻处理餐饮废水的效能及机理研究

摘 要

我国人民的生活水平不断提高，生活质量也越来越好，这导致了餐饮废水的排放量每年都会增加。废水中含有大量的 N、P 等营养物质，大量的排放使水体受到了很大的污染，水体富营养化问题普遍发生造成水体散发异味，增加了水处理的成本，严重影响了我国国民经济的可持续发展。正因如此，水环境的污染问题日益严峻，寻找一种新型可再生能源高效去除废水中的大量营养成分迫在眉睫。

目前，国内外许多学者发现藻类在废水处理领域具有很大的优势。废水中 N、P 等营养物质的含量可以利用藻类有效控制。而小球藻具有分布广泛、生长迅速、固碳能力强、易于培养、对营养物质需求低等优势，除此之外，它还可以吸收氮、磷等营养物质，在处理重金属含量方面也有着不错的效果。本文介绍了餐饮废水如何培养小球藻，并同时利用小球藻处理餐饮废水，测定了其对废水中氨氮、总氮、总磷以及化学需氧量的去除效果，探究了小球藻在处理餐饮废水方面的应用前景。

关键词： 餐饮废水；小球藻；脱氮除磷

Abstract

Our people's standard of living is improving and their quality of life is getting better and better, resulting in an increase in the amount of wastewater discharged from restaurants every year. There is a lot of nitrogen and phosphorus in the wastewater. The large amount of discharge has greatly polluted the water, and the eutrophication of water bodies it's becoming more common. Due to the problem of eutrophication of water bodies, algae in water bodies continue to decrease, while the number of individual species skyrocketed, which undoubtedly led to the emission of odors, increasing the cost of water treatment, causing great losses to the economy, and even seriously affect the sustainable development of China's national economy. Because of this, the pollution of the water environment is becoming more and more serious, and looking for a new type of renewable energy to efficiently remove large amounts of nutrients in wastewater is imminent.

At present, many scholars have found that that algae has great advantages in the field of wastewater treatment. Algae can effectively control the levels of nutrients such as N and P in wastewater. Chlorella has the advantages of wide distribution, rapid growth, strong carbon sequestration capacity, easy cultivation and low demand for nutrients, etc. It also absorbs nutrients such as nitrogen and phosphorus, and has a good ability to deal with heavy metal levels. This paper describes how chlorella is cultivated in food service wastewater and its ability to treat food service wastewater, including the removal of ammonia, total nitrogen, total phosphorus, and chemical oxygen demand from the wastewater. Explore the application prospects of chlorella in the treatment of catering wastewater.

Key words: restaurant wastewater; algae chlorella; nitrogen and phosphorus removal

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