环境工程学报

霉菌HM6的成球条件及其对Pb（Ⅱ）的吸附研究

Studies on pelletization conditions of mould HM6 and its biosorption for Pb^{2+}

中文关键词： 霉菌菌丝球　Pb（Ⅱ）　生物吸附

英文关键词： mould mycelium pellet　Pb^{2+}　biosorption

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中文摘要：

霉菌因其菌丝体生长快、吸附能力强、固液分离效果好在处理重金属污染废水中受到普遍关注。通过对霉菌HM6培养条件的研究考查了培养条件对霉菌菌丝球产量、菌球特征及菌球吸附性能的影响。实验结果表明，该霉菌在液体查氏培养基，250mL三角瓶装液量为100mL，1%接种量（孢子悬液浓度106），pH=5，30 ℃，150r/min摇床培养60～72 h时，可形成直径在2.0～2.5 mm范围内的菌丝球，球体白色光滑均匀，具有一定的机械强度，对Pb（Ⅱ）具有一定的吸附能力。培养条件的改变对菌球的特征、干湿比、产量影响较

英文摘要：

Mould is widely concerned for its rapid growth,great sorption capacity,good effect of solid liquid separation on treating heavy metal wastewater.The culture conditions of mould HM6 were studied for examining the culture conditions which make a difference to the yield of mould mycelium pellet ,the character of mould mycelium pellet and sorption hysteresis.The experimental results showed that in the czapeksmedium,100 mL of the mould and 1% inoculum size(sporule suspension concentration is 10^6pcs/mL) were put into 250mL triangle bottle and this mould was cultured for 60～72h by shaking table with rotation speed 150r/min,pH=5,temperature 30℃.Under the conditions the mould can be shaped mycelium pellet which diameter is 2.0～2.5mm .The mycelium pellet is lubricity and uniformity ,and it has definite mechanical strength; Pb^{2+} can be adsorbed by the mycelium pellet.The change of culture conditions exercised great influence on the yield and the characters of mould mycelium pellet,but it had a little effect on sorption hysteresis of mould mycelium pellet .Alkali treatment can increase the ratio of dry and wet mould mycelium pellet and reinforce its mechanical strength,but alkali treatment can not improve adsorption capacity of Pb^{2+}.

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