



## 论文摘要

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### 用锌焙砂中浸渣制备锰锌铁氧体共沉淀粉

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**摘要:** 以湿法炼锌过程中的中浸渣和挥发窑渣为原料, 经浸出、还原、净化和共沉淀等过程制备软磁铁氧体所需的锰锌铁氧体共沉淀粉料。确定浸出工艺条件、硫化沉淀和氟化沉淀工艺条件。实验结果表明, 中浸渣的最佳浸出工艺条件如下: 温度为 $90\sim 95\text{ }^{\circ}\text{C}$ , 搅拌速度为 $200\text{ r/min}$ , 硫酸用量为理论用量的1.15倍, 时间为2.5 h, 液固比为41:; 制得的共沉淀粉料中铁、锰和锌的平均含量比例与理论配方较符合, 尤其是共沉淀粉料中各杂质元素含量很低, 各杂质成分含量分别为Ca 0.018 0%, Mg 0.008 5%, Si 0.003 8%, Al 0.007 8%, Ni 0.017 0%, Pb 0.001 2%, Cu 0.003 3%, Cr 0.002 8%及Cd 0.000 2%, 达到锰锌软磁铁氧体材料对粉料的要求。

**关键字:** 锰锌铁氧体; 共沉淀粉; 中浸渣; 挥发窑渣

### Preparation of Mn-Zn ferrite coprecipitation powders from neutral leached residue of zinc calcine

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**Abstract:** Mn-Zn ferrite coprecipitation powders were prepared from neutral leached residues and kiln slags in zinc hydrometallurgy after the processes of leaching, reduction, purification and coprecipitation. The optimum conditions of leaching, sulfide precipitation and fluorination precipitation were determined. The best leaching conditions are as follows: the leaching temperature  $90\sim 95\text{ }^{\circ}\text{C}$ , the stirring speed  $200\text{ r/min}$ , the excess coefficient of sulfuric acid 1.15, the leaching time 2.5 h, and the ratio of liquid to solid 41:1. The results show that the content ratio of Fe, Mn and Zn of the coprecipitation powders accords well with theoretical prescription, especially with a low impurity content. The contents of impurity elements are as follows: Ca 0.018 0%, Mg 0.008 5%, Si 0.003 8%, Al 0.007 8%, Ni 0.017 0%, Pb 0.001 2%, Cu 0.003 3%, Cr 0.002 8%, Cd 0.000 2%, respectively, which can meet the qualification of powders being used in Mn-Zn soft magnetic ferrite.

**Key words:** Mn-Zn ferrite; coprecipitation powders; neutral leached residue; kiln slag

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