

### 论文摘要

中国有色金属学报

ZHONGGUO YOUSEJINSHUXUEBAO XUEBAO

第18卷 专辑1 2008年6月

 [PDF全文下载]  [全文在线阅读]

文章编号: 1004-0609(2008)S1-0192-07

## Zn(II)-NH<sub>3</sub>-Cl<sup>-</sup>-CO<sub>3</sub><sup>2-</sup>-H<sub>2</sub>O体系中Zn(II)配合平衡

王瑞祥<sup>1, 2</sup>, 唐谟堂<sup>1</sup>, 杨建广<sup>1</sup>, 杨声海<sup>1</sup>, 张文海<sup>1</sup>, 唐朝波<sup>1</sup>, 何 静<sup>1</sup>

(1. 中南大学 冶金科学与工程学院, 长沙 410083; 2. 江西理工大学 材料与化学工程学院, 赣州 341000)

**摘要:** 用双平衡法研究Zn(II)-NH<sub>3</sub>-Cl<sup>-</sup>-CO<sub>3</sub><sup>2-</sup>-H<sub>2</sub>O体系中Zn(II)配合平衡热力学, 求出氨水浓度和氯离子浓度在0~10 mol/L范围内变化时, 体系中各物种的平衡浓度, 绘制热力学平衡图, 并对热力学计算结果进行实验验证和差异分析。结果表明: 锌离子浓度理论计算值与实验值之间的平均相对误差为7.47%, 这说明该热力学模型是正确的, 所选数据的准确性较好。

**关键字:** 热力学; Zn(II)配合平衡; 双平衡法

## Thermodynamics of Zn(II) complex equilibrium in system of Zn(II)-NH<sub>3</sub>-Cl<sup>-</sup>-CO<sub>3</sub><sup>2-</sup>-H<sub>2</sub>O

WANG Rui-xiang<sup>1, 2</sup>, TANG Mo-tang<sup>1</sup>, YANG Jian-guang<sup>1</sup>, YANG Sheng-hai<sup>1</sup>,  
ZHANG Wen-hai<sup>1</sup>, TANG Chao-bo<sup>1</sup>, HE Jing<sup>1</sup>

(1. School of Metallurgical Science and Engineering, Central South University, Changsha 410083, China;  
2. Faculty of Materials and Chemical Engineering, Jiangxi University of Science and Technology,  
Ganzhou 341000, China)

**Abstract:** Thermodynamics of Zn(II) complex equilibrium in the system of Zn(II)-NH<sub>3</sub>-Cl<sup>-</sup>-CO<sub>3</sub><sup>2-</sup>-H<sub>2</sub>O was studied by the double equilibrium method. Varying the concentration of ammonia and chloride ion, respectively, in range of 0~10 mol/L, the equilibrium concentrations of all the species in the system were calculated, and thermodynamic diagrams were plotted. The relative errors between theoretic calculation and the experimental values of total concentration of zinc were analyzed. The results show that the relative average error between the theoretic calculation and the experimental values is 7.47%. The critical data and the thermodynamic model are believable.

**Key words:** Thermodynamics; Zn (II) complex equilibrium; double equilibrium method

版权所有：《中国有色金属学报》编辑部

地 址：湖南省长沙市岳麓山中南大学内 邮编： 410083

电 话： 0731-8876765, 8877197, 8830410 传真： 0731-8877197

电子邮箱： [f-ysxb@mail.csu.edu.cn](mailto:f-ysxb@mail.csu.edu.cn)