



## **PLENARY LECTURE**

### **EFFICIENT EXTRACTION OF VANADIUM FROM VANADIDUM SLAG**

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#### **Abstract**

*The high roasting temperature and low leaching efficiency of vanadium from vanadium-bearing converter slag are regarded as the main factors significantly influencing the application of roasting–leaching processes in the cleaner production of vanadium. Composite salt roasting with CaO/MgO and subsequent acid leaching were conducted to improve the recovery rate of vanadium from vanadium-bearing converter vanadium slag. It has been shown that the leaching efficiency of vanadium can be improved by roasting it with a composite salt of CaO/MgO. The maximum vanadium leaching efficiency of 94% was achieved under the optimum MgO/(CaO+MgO) mole ratio of 0.5. A mechanical activation treatment was also performed to enhance the extraction of vanadium from the vanadium-bearing converter slag. The results demonstrated that the mechanical activation significantly decreased the optimum roasting temperature from 900 °C to 800 °C and increased the leaching efficiency from 86.0% to 90.9%.*

**Keywords:** Vanadium slag, Roasting, Leaching, Mechanical activation, Vanadium.