



## 论文摘要

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## $Sb_4O_5Cl_2$ 阻燃助剂的制备工艺

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**摘要:** 氯氧化锑 $Sb_4O_5Cl_2$ 同卤素配合, 具有优异的阻燃协效性能. 与三氧化二锑、锑酸钠等相比, 它还能降低彩色塑料中的色料用量, 对高聚物的透明性影响较小. 直接以含锑复杂矿的氯化浸出液为原料, 经还原后水解, 再进一步除杂, 从而制得高纯度、高白度的微细 $Sb_4O_5Cl_2$ . 实验结果表明: 提高水解搅拌速度可显著减小产品的粒径; 混合溶液A(有机酸与无机酸的混合物)对水解产物有显著的除杂效果, 能提高 $Sb_4O_5Cl_2$ 的白度, 细化粉末, 增强产品的光稳定性; 经除杂处理后的微细粉末, 平均粒径为 $4.35\mu m$ , 白度为96.6, 纯度为99.85%, 产物颗粒为椭球形; 本工艺简便易行, 生产 $Sb_4O_5Cl_2$ 的成本比生产三氧化二锑、锑酸钠的成本低, 具有广阔的工业应用前景.

**关键字:**  $Sb_4O_5Cl_2$ ; 氯氧化锑; 阻燃助剂; 水解

## Preparation of antimony oxychloride $Sb_4O_5Cl_2$ as flame retardant

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**Abstract:** When used in conjunction with a halogenated organic compound, the antimony oxychloride  $Sb_4O_5Cl_2$  embodies efficient synergistic flame-retardant effect. In this paper,  $Sb_4O_5Cl_2$  is directly prepared from the chlorination-leaching solution of jamesonite concentrate. The chlorination-leaching solution has been reduced, hydrolyzed to produce a crude  $Sb_4O_5Cl_2$  which is purified to obtain the  $Sb_4O_5Cl_2$  flame retardant with ellipsoid shape,  $4.35\mu m$  average granularity, high purity and high white degree. The particle size can be reduced evidently when improving the hydrolysis stirring rate. When treated with the mixture solution A, the purity and light stability of the product  $Sb_4O_5Cl_2$  can be improved. The flame-retardant of  $Sb_4O_5Cl_2$  with Cl in soft PVC is superior to ultra-fine  $Sb_2O_3$ , and the dosage of coloring matter lowered, the transparency of final product increased. This process is simple and the production cost of  $Sb_4O_5Cl_2$  is lower than that of  $Sb_2O_3$  and  $NaSb(OH)_6$ . It can be applied easily in industry.

**Key words:** Sb O Cl ; antimony oxychloride; flame retardant; hydrolyze

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