

**METHODS OF PREPARING ACTIVE CHROMIUM/ALUMINA
CATALYSTS VIA TREATMENT WITH SULFATE**

ABSTRACT

Methods of preparing a polymerization catalyst are provided that include contacting a support comprising alumina with a sulfating agent and with chromium. In an embodiment in which the chromium is provided from a chromium compound such as chromium oxide, the support may be calcined after loading the sulfating agent and the chromium on the support. Alternatively, the sulfating agent can be loaded on the support while calcining it. In another embodiment in which the chromium is provided from an organochromium compound, the support may be calcined after contacting it with the sulfating agent and before contacting it with the organochromium compound. Catalysts compositions formed by the foregoing method are provided. In an embodiment, catalyst compositions comprise chromium and a sulfate treated alumina support. The catalyst compositions have an activity for ethylene polymerization that is at least about 25% greater than an activity of the same catalyst without sulfate.

FIGURE : 1