

Recycling of Sclareolide in the Crystallization Mother Liquid of Sclareolide by Adsorption and Chromatography

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Abstract : Sclareolide is made from sclareol by oxidative synthesis and subsequent crystallization, while the crystallization mother liquor still contains 15%~30%wt of sclareolide to be reclaimed. With the reaction material of sclareol is provided as plant extract, many sorts of complex impurities exist in the mother liquor. Due to the difficulty in recycling sclareolide after solvent recovery, it is common practice for the factories to discard the mother liquor, which not only results in loss of sclareolide, but also contributes extra environmental burden. In this paper, a process based on adsorption and elution has been presented for recycling of sclareolide from mother liquor. After pretreatment of the crystallization mother liquor by HZ-845 resin to remove parts of impurities, sclareolide is adsorbed by HZ-816 resin. The HZ-816 resin loaded with sclareolide is then eluted by elution solvent. Finally, the eluent containing sclareolide is concentrated and fed into the crystallization step in the process. By adoption of the recycle from mother liquor, total yield of sclareolide increases from 86% to 90% with a stable purity of the final sclareolide products maintained.

Keywords : sclareolide, resin, adsorption, chromatography

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