

**TITLE OF INVENTION: THERMAL COUPLING METHOD FOR
PREPARING ETHYLENE BY ETHANOL DEHYDRATION AND DEVICE
THEREOF**

Abstract

The present invention relates to a thermal coupling method for preparing ethylene by ethanol dehydration and device thereof. The device includes an ethanol dehydration reaction system, a quenching compression system, an alkaline washing system, a molecular sieve drying system and an ethylene purification and propylene refrigeration cycle system; the circulating ethylene serves as a cold source for cooling of an overhead gas of a demethanizing tower and cooling of propylene; low-temperature propylene serves as a cold source for cooling of an overhead gas of a purification tower and further cooling of ethylene; and hot propylene serves as a heat source for heating of the tower bottoms of the demethanizing tower, the tower bottoms of the purification tower and the products of ethylene.

[FIG. 1]