

OXYGENATE CONVERSION REACTOR CATALYST COOLERS

ABSTRACT

A process of converting oxygenates to light olefins is disclosed including an oxygenate feedstream with contacting catalyst inside a reactor and converting the oxygenate feedstream to said light olefins. The catalyst becomes spent as deposits from the reaction clog up pores on the catalyst surface. A portion of the spent catalyst is regenerated in a regenerator and a portion is circulated back to contact more of the oxygenate feedstream. A catalyst cooler attached to the reactor can cool the spent catalyst circulated through the cooler before the spent catalyst contacts more of the oxygenate feedstream. In an embodiment, all of the spent catalyst that enters the catalyst cooler is withdrawn from the bottom of the catalyst cooler.

Figure 1