CLAIMS:

1. A catalyst comprising:

a zeolite component selected from a zeolite having 10-member ring pores, wherein the zeolite component is ZSM-48,

0.1 to 5 weight % of a hydrogenation component selected from Ag, Re and a binary mixture thereof, and

a hydrothermally stable binder component selected from tungsten oxide,

wherein the weight ratio of the zeolite component to the hydrothermally stable binder component is about 80:20.

2. The catalyst of claim 1, wherein the ratio of SiO_2:Al_2O_3 of the zeolite component is 200 or less.