CHAPTER 6

CONCLUSION

6.1 Vanadosilicate catalysts with optimum Si/V charged ratios between 3200 and 400 are among the best synthetic catalysts for the MTG reaction.

6.2 Even though the activity for the Si/V charged ratio ∞ is high, it is expected that it would give a lower activity than ratios of 3200 to 400 at low reaction temperatures.

6.3 At a high space velocity, the Si/V charged ratio ∞ has low activity.

6.4 The optimum reaction temperature for Si/V charged ratios ranging from 3200 to 400 is about 280-300 $^{\circ}$C.

6.5 The MeOH concentration has little effect on the activity of vanadosilicate, especially for the Si/V charged ratio 1600.

6.6 Vanadium forms crystal with silicon when the Si/V charged ratio ranges from ∞ to 90. For the Si/V charged ratio of 40, some or all of the vanadium separates from crystals to form vanadium oxide.

6.7 Vanadosilicate catalyst has higher activity and selectivity than ZSM-5 catalyst. Therefore, H-Si-V catalyst may be used for the MTG reaction.

NOTE :

It is recommended that metallosilicate catalyst which is used for the MTG reaction have pore sizes between 5.5-6.5 $^{o}_{A}$