

BAB V

KESIMPULAN DAN SARAN

5.1 Kesimpulan

Berdasarkan penelitian pengolahan limbah LDPE menjadi bahan bakar cair melalui *catalyticcracking* dapat disimpulkan bahwa:

1. *Paraffin wax* tidak dapat digunakan sebagai pelarut karena tidak menghasilkan produk cair saat pengujian
2. *Paraffinic oil 95* kemungkinan memerlukan temperatur operasi lebih dari 350 °C untuk dapat dijadikan pelarut karena percobaan menggunakan *paraffinic oil 95* pada temperatur 350 °C belum menghasilkan produk fraksi cair yang signifikan
3. Katalis ZSM-5 merupakan variasi katalis terbaik karena menghasilkan fraksi cair yang lebih banyak dibandingkan dengan katalis bentonit meskipun perbedaan yang ditimbulkan tidak terlalu signifikan
4. Variasi waktu 2 jam merupakan variasi waktu terbaik karena pada waktu reaksi 2 jam ditemukan fraksi cair terbanyak baik dengan katalis bentonit maupun dengan katalis ZSM-5

5.2 Saran

Saran untuk penelitian pengolahan limbah LDPE menjadi bahan bakar cair melalui *catalyticcracking* adalah :

1. Dapat dilakukan penelitian menggunakan *paraffinic oil 95* sebagai pelarut pada temperatur yang lebih tinggi dari 350 °C
2. Dapat dilakukan penelitian dengan waktu reaksi diantara 1 dan 2 ataupun 2 dan 3 jam untuk mencari waktu terbaik untuk mendapat perolehan fraksi cair yang lebih besar
3. Dapat dilakukan penelitian dengan plastik yang memiliki zat pengotor untuk mengamati pengaruhnya terhadap perolehan fraksi cair
4. Dapat dilakukan penelitian dengan penambahan alat berupa kondensor selama *cracking* dilakukan untuk menekan perolehan produk fraksi gas.

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