

Cetane Number ASTM D613

Comments on Alternative Diesel Fuels

Biodiesel is a very broad term and needs to be defined on a per sample basis. It could be pure vegetable oil or animal fat or a blend of diesel with either of these.

Pure animal fat based on our limited experience is a poor biodiesel. We have found that after 5 hours (depending on the sample) the heavy animal fat molecules precipitate out, resulting in homogeneity problems.

The pure vegetable oil requires a cetane number test. Cetane index is inappropriate, as there is no experience with other testing/parameters to calculate it.

For the blending of diesel with vegetable oil, Amdel have carried out some testing and found that up to about 20% vegetable oil is suitable as a fuel. Amdel have had no experience with samples containing more than 20% vegetable oil and testing to specifications would be needed to determine suitability.

Amdel's experience of diesel samples blended with animal fat has not been very positive and further research would need to be carried out to determine compliance to specifications.

For diesohol, suitability would depend on the amount of alcohol in the sample. Should the sample comply to the Australian standard for Reid Vapour Pressure and Flash Point we believe the cetane index will also comply.

It is in our opinion that a cetane index for alternative diesel fuels be used. The tables would need to reflect the quantity and type of biodiesel, such as 5% vegetable oil blend.

Amdel's experience with animal fat is limited however we are yet to determine its suitability as an alternative fuel for diesel.

Amdel is unaware of any machine in Australia to conduct cetane number of diesel or biodiesel.

Amdel are unaware of any test methods for determining the cetane number of diesohol or emulsified diesel.

Amdel have no information on ignition quality testing.

Amdel is willing to contribute to further discussions.