

## COMMENTS ON CARB BIODIESEL RESEARCH PROPOSAL

We appreciate the opportunity to comment on ARB Biodiesel Research Proposal. We think this is an important step in the effort to develop a biodiesel fuel strategy and eventually a biodiesel specification for California. Our overall impression of the Biodiesel Research Proposal is that it covers most of the areas that need to be investigated to assess the impacts of biodiesel. While this is a good first draft, the proposal does not provide many of the details that are needed to implement the proposed programs. We hope that the plans of these programs will be well developed before they are carried out. It is our assumption that any Biodiesel (B100) to be used in the study in blends of up to 5% vol will meet ASTM D-6751 as minimum requirement and in the absence of standards for higher level blends, that the test specifications for biodiesel fuel recommended by EMA would be adopted:

<http://www.enginemanufacturers.org/admin/library/upload/924.pdf>

Our specific comments on each of the three main components of the ARB biodiesel research program are shown below:

### 1. Biodiesel emissions study:

- Section E, page 5, contains a list of proposed pollutants to be tested. The list is quite comprehensive. It would be helpful to have a corresponding list of sampling methodologies and a corresponding list of chemical analysis methods that will be employed. We would also need more details about the testing: single or multiple samples? Randomized sampling? Will sample spikes or deuterated pollutants be used as internal standards? It would also be helpful if this list included measured pollutant values obtained from the reference diesel fuel (ARB ULSD fuel) for a starting point, for illustrative purposes, and for future comparison. This would go a long way in demonstrating the types of data that will eventually be generated. References for sampling, analysis, and current measured values of the reference fuel should be provided.
- Section F.3: Proposed test design (page 6): Should we test B20, B50 and B100? As most engine manufacturers do not recommend high biodiesel blends and given the fact the B5 will likely be more prevalent due to OEM acceptance, it is important to test B5 for its emissions impact. We would like CARB to strongly reconsider testing B5. If funding were limited, B5 would be preferred over B50.
- Section G.3 on expand test study to include light duty diesel vehicles (page7): How are vehicle/engine selected? There are currently not many light-duty diesel vehicles models in the US. Suggested engine choices for HD On-road: A 2007 model year engine should be one of the engine choices and should be tested with the after-treatment system intact as manufactured. A second engine should have EGR. The third engine can be any pre-EGR engines preferably not the 1990's DDC Series 60.
- Section G.4 on page 7, it would be helpful to indicate which small set of samples will be used for the limited toxics and biological assays.
- Section G.5 on page 7, when will the list of additional toxics and biological tests be finalized?
- Regarding all toxics and biological tests, will emissions from ARB ULSD fuel cycles be used as a reference for comparison with biodiesel blends?
- Will the off-road vehicles be tested using the same duty cycles as the on-road vehicles? If so, it may not be appropriate due to significant difference between on-road and off-road.