

BP AUSTRALIA SUBMISSION

PROPOSED DIESEL / BIODIESEL BLENDS

BP is in general agreement with the proposal from the AIP that biodiesel blends up to 5% can be supplied to the retail market without labeling provided the blend meets the Australian diesel standard and the biodiesel used meets the Australian biodiesel standard.. BP has experience in producing biodiesel blends for the commercial market and renewable diesel for the retail market and has identified a number of issues which need to be considered if the introduction of biodiesel blends is to proceed without negative perceptions around quality. These issues are covered in the following sections.

1. DIESEL DENSITY SPECIFICATION.

The development of a retail and commercial biodiesel supply pattern will be facilitated if a consistent blend formulation can be developed that does not depend on the properties of the diesel or the B100 component. This will enable the development of long term supply contracts that will facilitate the development of feedstock supplies and enable the development of alternative B100 feedstocks that are not linked to food crops.

The current Diesel Density standard precludes consistent blending of some biodiesels up to 5%, on occasion limiting it to 1% maximum and restricting the optimum setting of biodiesel/diesel blend facilities. The following table illustrates this point by comparing the blending of a high density diesel with a high density biodiesel such as tallow or Palm oil which have densities in the range 0.87 to 0.89.

Biodiesel Blend	Biodiesel density	Diesel density	Blend density	Conformance to diesel standard
B2	0.870	0.850	0.8504	Conforms
B2	0.890	0.850	0.8508	Does not conform
B5	0.870	0.850	0.851	Does not conform
B5	0.890	0.850	0.852	Does not conform

The table indicates that the current diesel standard will restrict biodiesel blends to a range from 1% to 5 % depending on diesel density and biodiesel density and feedstock. This will affect consistency of supply of a B5 blend to the retail market and will make it difficult to predict consistent demand for a B100 biodiesel. In a worst case situation it could restrict biodiesel blends to 1% maximum for the duration of high density diesel supply.

For example if a terminal was blending 30 million litres of biodiesel per month it would use 1.5 million litres of B100. If the diesel supply changed to diesel with a density of 0.850 then in order to meet the diesel standard the biodiesel would be restricted to B1 using 300,000 litres of B100, a difference of 1.2 million litres. This impact becomes more pronounced when higher levels of biodiesel are blended into the diesel.

2.1 Potential to block filters

Biodiesel blends have known surface active properties, this poses problems with older vehicles and retail systems where the biodiesel can remove age related gums from fuel tanks and cause filter blockage. This will have safety concerns where the fuel is supplied to marine vessels and emergency vehicles. Advice on potential filter blocking and fuel filter change out periods should be supplied to customers so that preventative action can be taken.

2.2 Impact on lubricating oil

Biodiesel has a higher boiling range than diesel and it has been reported that it can accumulate in engine oil crank cases leading to deposit build up in the engines. This potentially has an impact on oil drain periods and it would be expected that increasing the frequency of oil drains would be recommended where an operator is using biodiesel blends.

2.3 Cold Temperature Operability

Some biodiesels have significantly higher cloud points than diesel depending on the season and this can lead to operability problems. A means of addressing this issue needs to be incorporated in the standard for the protection of consumers. BP proposes that a statement to the effect that biodiesel blends shall comply with the cold temperature properties outlined in AS 3570 of 1998 would be sufficient.

BP is of the opinion that these issues need to be investigated further to ensure that the introduction of biodiesel blends into the retail market does not result in market issues that damage the credibility of biodiesel as an alternative fuel.

Note 1: calculated using BS 2869 part 11

Note 2: taken from A Comprehensive Analysis of Biodiesel Impacts on Exhaust Emissions”, US Environmental Protection Agency, EPA420-P-02-001, October 2002.