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Subject: The Use of E-Diesel Fuel in Compression Ignition Engines:

The Department of the Environment and Heritage has called for public submissions regarding Setting National Fuel Quality Standards for the use of e-diesel fuel in Australia. Caterpillar's position follows:

Blending alcohol or gasoline with diesel fuel will create an explosive atmosphere in the fuel tank. Caterpillar recommends against such blends.

Caterpillar's warranty position on aftermarket products as found in *Caterpillar SEBU6251 March 2004* is as follows:

When auxiliary devices, accessories or consumables (filters, oil, additives, catalysts, fuel, etc.) made by other manufacturers are used on Caterpillar products, the Caterpillar warranty is not affected simply because of such use. Failures that result from the installation or usage of other manufacturers auxiliary devices, accessories or consumables, however, are not Caterpillar factory defects and therefore are NOT covered by Caterpillar's warranty.

Caterpillar is not in a position to evaluate the many auxiliary devices, accessories or consumables promoted by other manufacturers and their effect on Caterpillar products. Installation or use of such items is at the discretion of the customer who assumes All risks for the effects that result from this usage.

The ASTM International's D 975 reads that #2 diesel fuel must have a minimum flashpoint of 126 deg F or 55 deg C. Diesohol blends typically have a flashpoint of approximately 55 deg F/13 deg C. This fact alone raises safety concerns regarding storage and handling issues. In addition, the vapor pressure of ethanol is significantly higher than that of conventional diesel fuel rendering a relatively safe product into a potentially dangerous one. This explosive characteristic could be enhanced by the increased fuel tank temperatures characteristic of fuel injection systems that circulate fuel through the high temperature engine components and back to the fuel tank.

In addition, Caterpillar Inc. has other concerns regarding the use of alcohol in diesel fuel.

These concerns include engine operation, performance, durability, and component compatibility.

- 1.) ASTM D 975 requires a diesel fuel to have a minimum cetane level of 40, where ethanol has a cetane level of less than 15. This drop in cetane level would adversely affect the fuels ignition quality.
- 2.) The energy content of an alcohol diesel blend will be lower than that of diesel. This would adversely affect engine power and fuel economy.
- 3.) Ethanol is a good solvent and thus would prevent the fuel from providing lubrication to the fuel injection components, thus reducing component life. Elastomers used in the fuel injection system may not be compatible with ethanol blends.

On the basis of the above information, primarily safety issues, Caterpillar dose not support the use or regulation of (diesohol) alcohol diesel fuel blends.

Sincerely,

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