WSPA
Western States Petroleum Association

Gina Grey
Manager
(916) 498-7754 FAX (916) 444-8997
gina@wspa.org

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Mr. Dean Simeroth
Chief, Criteria Pollutants Branch
Stationary Source Division
California Air Resources Board
2020 L Street
Sacramento, CA 95814

Dear Mr. Simeroth:

At the June 15, 2000 workshop, the Renewable Fuels Association presented proposed specifications for denatured ethanol for use in blending California Gasoline. WSPA appreciates the efforts of the RFA to survey its members and provide this survey and to propose specifications. You requested comments on the RFA proposal. These comments are submitted on behalf of the Western States Petroleum Association.

WSPA's position on denatured ethanol consists of 2 key points as follows:

- The denatured ethanol specifications should be set at a level that will encourage the maximum number of suppliers while at the same time recognizing refiners' need for clean blendstocks
- To help ensure the cleanest ethanol possible, Phase 3 RFG or its equivalent should be used as the denaturant.

The table below summarizes the RFA's proposed specifications.

Sulfur	15 ppm
Benzene	0.1 volume %
Olefins	0.5 volume %
Aromatics	1.70 volume %

We offer the following comments on these specifications.

Aromatics and Olefins

The levels proposed by RFA appear to be consistent with the WSPA position. That is, if one assumes a maximum 4.8% denaturant addition level (which approximates the ASTM maximum) and that there are no aromatics nor olefins in the "undenatured" ethanol, one can back calculate the level of these species in the denaturant. Back calculating for aromatics and olefins using these assumptions yields levels very close to the Phase 3 caps. We believe that this is appropriate, as an ethanol producer could not guarantee that purchased denaturant would be any cleaner than the cap level.

Benzene

If one performs a similar back calculation for benzene, it results in a value greater than 2% by volume. This suggests that gasoline with benzene levels higher than those allowed in Phase 3 could be present in the denaturant. Unless there is data presented indicating that there is benzene present in the undenatured ethanol, the WSPA position would suggest that a benzene limit of 0.05 % is more appropriate for denatured ethanol.

Sulfur

The RFA's proposed limit on sulfur is 15 ppm. At the workshop, the RFA presented survey data indicating that undenatured ethanol sulfur ranged from 1 to 11 ppm. The RFA representative commented that the 11 ppm level, in his opinion was "out of the norm".

The 15 ppm level proposed by RFA is consistent with the WSPA position if one assumes that ethanol with 11 ppm represents a significant potential supply volume. Responding to a question at the workshop, the RFA indicated that it would be possible to attach sulfur test results to estimated volumes represented by the survey. We suggest that CARB request this data from the RFA and, perhaps along with CEC, review it to determine the appropriate sulfur level in the undenatured ethanol. Once that level has been determined, a simple calculation can be performed considering the sulfur cap, to determine the sulfur limit in denatured ethanol.

Other Issues

All indications are that the data provided by RFA represents ethanol produced in the United States, primarily from corn. We suggest that CARB, in consultation with CEC, evaluate the impact of denatured ethanol specifications on the potential for supply from offshore as well as non-traditional sources of ethanol.

Finally, we note that the above comments are based on CARB allowing denaturant addition at levels up to 4.8% as allowed by ASTM. We note that lowering this limit for California purposes would result in ethanol with better properties for gasoline blending. However, such a limitation could be an impediment to certain suppliers. We recommend that CARB and CEC also consider this issue as they evaluate the impact of denatured ethanol specifications on ethanol supply.

Sincerely,

cc: Steve Brisby, CARB