



US Environmental Protection Agency  
Air and Radiation  
Office of Transportation and Air Quality

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## DETERGENT ADDITIVE CERTIFICATION PROGRAM

### QUESTIONS AND ANSWERS DOCUMENT #2

April 28, 1997

## **Questions and Answers on the Certification Program for Gasoline Deposit Control Additives**

This document addresses questions related to the recently promulgated certification program for gasoline deposit control additives which will be implemented on July 1, 1997, as well as the amendments to the existing interim gasoline detergent program which were made within the context of the detergent certification final rule (61 FR 35309, July 5, 1996). The questions and answers are divided into two categories as follows:

- I. Detergent Certification and Interim Detergent Registration
- II. Certification Test Fuels

Responses to other questions (particularly those related to the enforcement and compliance assurance provisions of the detergent program) will be addressed in a separate question and answer document.

Regulated parties may use this document to aid in achieving compliance with the requirements of the detergent certification program. However, this document does not in any way alter the requirements of these regulations. While the answers provided in this document represent the Agency's interpretation and general plans for implementation of the regulations at this time, some of the responses may change as additional information becomes available or as warranted by other circumstances.

This guidance document does not establish or change legal rights or obligations. It does not establish binding rules or requirements and is not fully determinative of the issues addressed. Agency decisions in any particular case will be made by applying the law and regulations to specific facts and actual actions.

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## **I. Detergent Certification and Interim Detergent Registration**

**1) Question:** Please clarify when regulated parties have to start complying with the detergent certification program. Specifically, can a detergent additive continue to be used at the lowest additive concentration (LAC) registered under the interim detergent program prior to the mandatory compliance date of the certification program if the detergent has also been certified before the deadline?

**Response:** Yes. The mandatory compliance date for the use of certified detergents is July 1, 1997. Prior to this date, a detergent that has both an interim program LAC and an LAC established under the certification program may continue to be used at the interim LAC (40 CFR 80.141(a)). Beginning July 1, 1997, detergent blenders must blend certified detergent at no less than the certified LAC into all gasoline they distribute, and distributors must sell or transfer only gasoline and post-refinery components (PRCs) properly additized with certified detergent. Beginning August 1, 1997, all gasoline sold to the ultimate consumer must be properly additized using certified detergents.

Prior to July 1, 1997, the blending instructions provided by the additive manufacturer to detergent blenders may identify one LAC for use in complying with interim program requirements and another for use in complying with certification program requirements. To begin complying with the certification program, a detergent blender using a detergent that has both interim and certification LAC's, could simply begin using the detergent at its certified LAC rather than its interim program LAC. Thus, the use of a detergent with both interim and certification program LACs might allow blenders more flexibility in the choice of when to begin complying with the provisions of the certification program prior to the mandatory compliance date, since additional time for change-over in the detergent additive stock used would not be required.

If different detergents are used to comply with the certification program than used under the interim program, the detergent blender must ensure that the residual interim program detergent is largely removed from their detergent inventory used for product additization prior to July 1, 1997. To facilitate the transition to a certified detergent, small quantities of residual interim program detergent (that is not also certified) may be used in combination with certified detergent until January 1, 1998 (40 CFR 80.169(c)(8)). However, the noncertified detergent must have been in the detergent blender's possession prior to July 1, 1997. In addition, it may account for no more than 10% of the detergent used at any one time, and the total detergent blended into gasoline must be sufficient to attain the LAC of the certified detergent. Use restrictions for the certified detergent must also be adhered to.

If a detergent is used at its certified LAC as identified on the blending instructions, and the certification is use-restricted, then all provisions related to use restrictions in the certification program must be observed, regardless of whether the detergent is used prior to July 1, 1996 or not.

**2) Question:** Once a certified LAC is established for a detergent additive, can a new, lower LAC be subsequently established for the same detergent additive, either under the certification option under which the detergent was originally certified or under another certification option?

**Response:** Yes. An additive manufacturer may establish a new, lower LAC for a detergent that had previously been certified for use at a higher LAC by recertifying the additive. The manufacturer may recertify the additive by providing performance data supporting the lower LAC to EPA (in a certification letter) under the same option originally used to certify the additive, or under certification options in addition to those under which a detergent was originally certified.

**3) Question:** What detergent concentration value must be reported on the detergent additive registration form submitted to fulfill the additive registration requirements of 40 CFR Part 79? What value must be reported as the lowest additive concentration (LAC) in the detergent certification letter? Must the minimum recommended concentration and the LAC be the same? Further, must they be equivalent to the concentration present in the certification test fuel used in the required deposit control performance testing, or may the additive manufacturer report a somewhat higher concentration as the minimum recommended concentration and the LAC?

**Response:** The LAC reported by the additive manufacturer when certifying the detergent and the minimum recommended concentration reported when complying with the additive registration requirements under 40 CFR Part 79 must be the same (40 CFR 80.161(b)(1)(ii), and (b)(3)(ix)). This is the minimum recommended additive concentration. The detergent manufacturer may report as the LAC either the detergent concentration present in the test fuel used for detergent certification, or any concentration higher than that amount which the manufacturer deems appropriate.

**4) Question:** Will EPA publish LACs and use restrictions for each additive certified?

**Response:** EPA has no current plans to publish such information.

**5) Question:** If a detergent additive component is determined by the additive manufacturer to be nondetergent-active, can other similar components be used under the same certification? For example, if certification testing is conducted on a detergent additive package containing a particular nondetergent-active carrier oil, can other nondetergent-active carrier oils with different distillation characteristics, and concentrations of oxygen and nitrogen be substituted in an otherwise identical detergent additive package?

**Response:** Yes. The identity and concentration of nondetergent-active components of a detergent additive package may vary under a single detergent certification, provided that such variability does not cause a change in the certified LAC (40 CFR 80.162(a)(3)(ii) and (iii)). If different nondetergent-active carrier oils are used, the manufacturer must provide compositional information for each separate formulation (40 CFR 80.162(c)). If there is variation in other nondetergent-active components (corrosion inhibitors, antioxidants, etc.), the concentration and identity of each such component must be reported for each compositional variant.

Additive manufacturers should be advised that, if product parameter measurements normally used for production batch quality control purposes will be used to meet affirmative defense

requirements<sup>1</sup>, and the variability in the formulation of nondetergent-active components would affect the parameter production target values, then separate production parameter target values must be reported for each additive package formulation.

**6) Question:** Pipeline gasoline transfer records normally do not identify which specific ethers are present but rather state that any of a certain group of ethers might be present. Given this fact, will EPA consider a system to certify a detergent for use in gasoline which might contain any one of a group of ethers? EPA's current certification options would require the use of a generic certified detergent (tested with 10 % ethanol) in a gasoline that does not have identifying information on the specific oxygenate present. A certification option covering the ether category would allow blenders the flexibility to reduce detergent treatment costs since ethers have a lesser impact on gasoline deposit forming tendency than ethanol.

**Response:** A generic-certified detergent must be used in a gasoline for which no information is available to identify the specific oxygenate present (40 CFR 80.163(a)(1), and 80.164(b)(1)). The generic certification option provides that testing in an ethanol-containing fuel will be sufficient to demonstrate a detergent's deposit control efficacy in gasoline containing any oxygenate. A certification that allows the use of a detergent in gasoline containing any of a group of oxygenates other than ethanol would be obtained under the oxygenate-specific certification option, with deposit control performance testing conducted on separate test fuels, each containing a different oxygenate from the group (40 CFR 80.163(a)(1)(ii)).

EPA took this approach because no data is available to rank the relative impact on fuel severity of oxygenates other than ethanol. If such data were available, EPA might consider revising the regulation to implement a certification option that would allow a detergent to be used in gasoline containing a selected group of oxygenates. Under such a potential option, it would likely be appropriate for the certification test fuel to contain the oxygenate in the group which was demonstrated to have the most impact on deposit forming severity.

**7) Question:** If a premium grade gasoline, properly-additized with a premium-certified detergent, is commingled with a properly-additized regular grade gasoline, will the resulting intermediate grade gasoline also be considered properly-additized?

**Response:** In nearly all cases, the product of commingling two properly additized gasolines

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If the detergent production batch used in a noncompliant product was produced more than one year prior to the manufacturer's notification by EPA of the possible violation, product parameter measurements may be used to meet affirmative defense requirements regarding the demonstration by the additive manufacturer of the consistency in the identity and concentration of the detergent-active components present in the batch with the information provided at the time of certification, provided the certifier chooses to submit the required information on such parameters at the time of certification, and other regulatory requirements are satisfied (40 CFR 80.169(c)(4)(i)(D)(2)). If the detergent batch was produced less than one year before the manufacturer was notified by EPA of the possible violation, then the manufacturer must provide FTIR test results for the batch in question (40 CFR 80.169(c)(4)(i)(C)).

will be a properly additized gasoline. An unusual exception occurs if one of the source gasolines was additized with a detergent certified only for use in gasoline sold in one PADD and the other source gasoline was additized with a detergent certified only for use in gasoline sold in another PADD. The product of commingling two such differently-restricted PADD-additized gasolines would be an improperly additized gasoline. Provided that such a condition does not exist for the two additized gasolines described in the question, the product of their commingling would be a properly-additized gasoline. See 40 CFR 80.168(a)(2)(ii), and 80.163(b).

**8) Question:** Should the sample of the detergent package submitted to EPA as part of the certification process be equivalent in composition to the package used for certification testing, and should both contain nondetergent-active ingredients (such as corrosion inhibitors, demulsifiers, etc...)? Certain nondetergent additives (such as demulsifiers) are necessary to maintain the integrity of the detergent samples submitted to EPA.

EPA allows the nondetergent-active components of a detergent additive package to vary under a single certification provided other compositional requirements are satisfied (40 CFR 80.162(a)(3)(ii)). If detergent samples that are used in certification testing and those submitted to EPA must contain nondetergent-active additives, which of the detergent package variants (containing a given variation of nondetergent-active additives) should be represented in the detergent sample submitted to EPA? Also, please clarify which variation of nondetergent-active components of the detergent package should be present in the sample on which the FTIR test is conducted for certification purposes.

**Response:** The sample of the detergent additive package submitted to EPA at the time of certification must be of the same composition with respect to the identity and relative concentrations of detergent-active components as the detergent package that was used for certification testing. The sample submitted must also contain nondetergent additive(s) used by the additive manufacturer to ensure product stability (e.g. demulsifier). The identity and concentration of nondetergent additive(s) present in the detergent sample submitted to EPA may vary within the range specified in the detergent certification (40 CFR 80.162(a)(3)(ii)). The identity and concentration of nondetergent additives present in the sample submitted to EPA must be specified in the documentation which accompanies the sample. Other nondetergent additives (ie, those not required for product stability) must not be included in the detergent sample submitted to EPA.<sup>2</sup> The FTIR test submitted to EPA for certification purposes must be conducted on a sample of the detergent additive package which meets the requirements described above for the detergent sample submitted to EPA.

The purpose of requiring submission to the Agency of FTIR test results on a detergent

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Other nondetergent-active additives may be present in certification test fuels. Such nondetergent additives do not need to be identified to EPA. However, upon request by EPA, the detergent certifier should provide documentation to substantiate that no unidentified detergent-active ingredients were present in the certification test fuel. A signed report by the test fuel manufacturer stating that no unidentified detergent-active additives were present in the blendstocks used in the manufacture of the test fuel would suffice for this purpose.

sample and an actual physical sample of the detergent additive package at the time of certification is to provide EPA with adequate means to determine whether the composition of detergent production batches can be considered equivalent to the composition reported at the time of certification. In addition to being an important factor in EPA's ability to determine whether future batches of detergent are in conformity with the product that underwent certification testing, a qualitative and quantitative FTIR test method (to help characterize the composition of the additive package in its pure (i.e. unmixed state) will also serve as a baseline for manufacturers wishing to establish an affirmative defense to presumptive liability in cases of nonconforming detergent-additized gasoline.

When the detergent certification final rule was published, the Agency did not have a full appreciation of the extent to which the presence of nondetergent additives in FTIR test samples and in the physical detergent sample provided to EPA could interfere with the Agency's ability to determine detergent product conformity. Therefore, EPA did not provide explicit guidance on the nondetergent additives that should (or should not) be present in the samples on which baseline FTIRs are performed or in the sample submitted to EPA for certification. The choice of the nondetergent additives present was left to the certifier, provided that the sample and FTIR test results would be suitable for EPA's use in comparing the equivalency of different samples of a detergent additive package (with respect to detergent-active components). EPA now understands that, in some cases, the presence of nondetergent additives might obscure FTIR indicators used to determine the identity and concentration of detergent-active components. Thus, EPA is now clarifying that only those nondetergent additives which are necessary to maintain sample integrity may be present in the sample submitted to EPA at certification. Consistent with this approach, EPA intends to propose amendments to 40 CFR 80.161(b)(2) regarding the composition of the sample submitted at certification, and 40 CFR 80.162(d) regarding the FTIR test results submitted at certification.

Within the limits established for a given detergent certification, additive manufacturers may choose which nondetergent additives are present in the detergent production sample on which an FTIR is conducted for affirmative defense purposes, provided that the presence of such additives does not prevent a meaningful comparison with the FTIR result submitted at the time of certification. To help ensure that FTIR batch test results are suitable for affirmative defense purposes, nondetergent additives which tend to mask FTIR indicators of detergent-active additive components should be excluded from the detergent batch sample on which an FTIR test is conducted (unless required to ensure product stability). If such nondetergent additives are present in a detergent batch sample on which an FTIR is conducted, to ensure that the FTIR batch test results are suitable for affirmative defense purposes, the additive manufacturer should provide additional information and/or test data to sufficiently resolve any potential interferences with the FTIR indicators of detergent-active components.

EPA understands that the presence of certain nondetergent additives which are required for product stability might partially mask FTIR indicators of detergent-active components. Nevertheless, the Agency recognizes that it is impractical to exclude such additives from production samples that are retained for later FTIR testing by the manufacturer, since these additives are needed for product stability. In cases where the same stability enhancing additives are used in a production batch as were present in the sample submitted to the Agency, EPA expects that the information



submitted at certification will help resolve potential interferences with FTIR indicators of detergent-active components. When other stability-enhancing additives are used, the manufacturer should provide additional information and/or test data to resolve the interferences which result from their presence. Consistent with this response, EPA intends to propose that an advisory note be added to the regulatory text at 40 CFR 80.169(c)(i)(4)(C)(2) regarding the demonstration that FTIR batch test results are consistent with the FTIR test results submitted at certification.<sup>3</sup>

9) **Question:** Can a gasoline blending component such as toluene be used by detergent blenders to dilute an additive for winter use without requiring a new additive certification?

**Response:** The criteria which must be met by a detergent blender who wishes to dilute a detergent package for cold weather use without incurring additional registration and certification requirements can be found at 40 CFR 80.162(a)(3)(iv) for the certification program and section 40 CFR 80.141(c)(2) for the interim program requirements. As stated in these sections, gasoline is the only diluting agent which may be used. Other diluting agents, such as toluene or other gasoline blending components which do not conform to specifications for commercial gasoline may not be used. These sections also provide the other criteria for such dilution.

10) **Question:** I am an additive manufacturer who formulates a detergent additive package using a detergent-active component produced by another additive manufacturer as well as other components produced at my own facility. My detergent component supplier manufactures two different types of detergent additive components using the same production equipment. During the change-over in production from one detergent component to another (which occurs every 6 months), my detergent component supplier states that there is some contamination of the new detergent component being produced by the previously produced component. The contamination can be limited to less than 0.5% of the total volume of the new detergent component being produced. How should this situation be handled in the context of meeting detergent manufacturer detergent composition reporting and production quality control requirements?

**Response:** There are no special provisions that allow for increased variability in detergent product composition during the times of production change over described by the questioner. The production variability from the contamination which occurs during the described production change-over must be controlled by the additive manufacturer so that the concentration of detergent-active components in detergent package production batches does not fall below that described in the certification. Demonstration of compliance of detergent production batches with compositional requirements typically involves the manufacturer ensuring that information provided to EPA for affirmative defense purposes is in agreement with the information provided at the time of certification (see 40 CFR 80.169(c)(4)). The certifier must ensure the sample of detergent additive package used during certification testing and the sample provided to EPA at the time of certification contains no other detergent-active substances than those listed in the certification.

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The Agency will use scientific judgement in evaluating the consistency of FTIR test results from detergent production batches with the information provided at detergent certification.

**11) Question:** Do the physical parameters specified as affirmative defense elements (pursuant to 40 CFR 80.169(c)(4)(i)(D)(2)) for detergent production batches apply to the complete detergent additive package or only to the detergent-active components? If they apply to the complete additive package formulations, and the viscosity varies by more than 10% of the target value due to nondetergent active components, (for example, variability in nondetergent-active carrier oil or solvent diluent), then how is the acceptable basis for defense effected?

**Response:** The physical parameters measurements used to establish an affirmative defense apply to the complete detergent additive package. If the use of different nondetergent-active components in separate additive package formulations changes the product parameter evaluative criteria, then the additive manufacturer should submit separate production parameter information for each distinct additive package formulation in order to successfully establish an affirmative defense based on these parameters. EPA does not expect this to be a burden, since it is expected that the parameters being supplied to EPA are the same ones that the manufacturer normally uses to monitor production quality. Therefore, it is assumed that the additive manufacturer will have such separate product parameter information available for its own quality control purposes for each separate formulation.

**12) Question:** For measuring detergent additive physical parameters, may non-ASTM (American Society for Testing and Materials) procedures be used? If so, how will variability be considered in non-standardized tests?

**Response:** The regulations require the use of standardized procedures. In addition, the ASTM repeatability values for the procedures must be reported (40 CFR 80.162(e)(2)). Exceptions are allowed with prior written approval from EPA. Requests for use of non-standard procedures must fully justify the adequacy of the procedure (40 CFR 80.162(e)(4)). This should include data on the expected variability of the results. EPA will assess the adequacy of the procedure and its variability on a case-by-case basis, and expects to approve very few such requests for exceptions.

**13) Question:** Explain what is meant in 40 CFR 80.162(e)(3) by an expected range of variability equivalent to 10 percent of the target value.

**Response:** If a target value of a physical parameter is 100 units (eg, ppm), then an expected range of variability of 90 to 110 units is equivalent to 10 percent of the target value.

**14) Question:** Please clarify the variability requirement in 40 CFR 80.162(e)(3) for analysis of nitrogen as a production parameter in detergent production batches. Does the 10 ppm measurement provision apply to the detergent additive itself or the detergent additive as it is mixed in gasoline? Most detergent active components will have nitrogen concentrations which are orders of magnitude greater than 10 ppm.

**Response:** The provisions in 40 CFR 80.162(e)(3) regarding the measurement of specific chemical elements or compounds in detergent production batches (as product parameters for affirmative defense purposes) does not set limits on the maximum (or minimum) concentrations of these parameters which may be present. This provision applies to the detergent additive prior to its addition to gasoline. EPA recognizes that most detergent active components will have concentrations of nitrogen far in excess of the 10 ppm threshold. However, based on discussions with additive manufacturers, EPA believes that this might not always be the case. Thus, the measurement provision was provided to make the necessary allowance for increased difficulty in measuring concentrations below 10 ppm when the target value is less than 10 ppm for nitrogen or another specific chemical compound or element.

**15) Question:** Can EPA confirm that the detergent rule does not apply to detergents intended for export?

**Response:** Detergents intended solely for export are not required to comply with the certification requirements of the detergent rule. To help avoid potential violations associated with the mistaken use in the U.S. of uncertified detergents actually intended for export, such detergents should be segregated and labeled as suitable for export only, and not for use in U.S. gasoline.

## II. Certification Test Fuels

16) **Question:** Can different batches of test gasoline be used to conduct the intake valve deposit (IVD) and fuel injector deposit (PFID) performance tests?

**Response:** Yes. Different batches of test gasoline can be used, provided that both gasoline samples conform to all applicable test fuel criteria including the IVD deposit demonstration test.

17) **Question:** If compositional data is available on two gasoline samples that are blended together to formulate a finished test fuel, and each of the blend stocks meets compositional specifications, must the fuel parameter measurements be repeated on the finished test fuel to confirm that it meets specifications?

**Response:** No. Compositional data on two gasoline samples used to formulate a finished test fuel will be accepted as adequately describing the composition of the finished test fuel, provided that each of the blendstocks themselves satisfied compositional specifications for the finished test fuel.

The concentration of most fuel parameters in the final test fuel is directly related to their respective concentrations in the blendstocks used to formulate the finished test fuel, and the relative proportions of these blendstocks used. Therefore, if the concentrations of these parameters in the gasoline blendstocks used meets test fuel specifications, the finished test fuel will also meet compositional specifications for these parameters. The T-90 level in the finished test fuel can not strictly be determined by volume weighting the T-90 levels in the in the blendstocks used to manufacture the fuel. However, in nearly all cases, the T90 level in the finished test fuel will not be below the lowest level in the blendstocks used, and in the rare instances where this might occur, the difference will be insignificant. Thus, EPA believes that measuring the T90 level in the finished test fuel is unnecessary if the specified T90 level has been met in all of the gasoline blendstocks used.

18) **Question:** Please clarify the requirement regarding the minimum concentration of ethanol which must be present in certification test fuels. Since analytical test methods measure pure ethanol, does this mean impurities in the ethanol are not considered in meeting the requirement that test fuels contain 10% pure ethanol? Such a situation is different from requiring 10 volume percent fuel-grade ethanol (fuel ethanol) or 10 volume percent denatured ethanol.

**Response:** Certification test gasolines used for generic detergent certification must contain 10 volume percent ethanol (40 CFR 80.164(a)(2)(i)). This means 10 volume percent fuel-grade ethanol (40 CFR 80.164(a)(2)<sup>4</sup>) or fuel ethanol as that term is used in the industry accepted

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The use of specially processed ethanol which would not normally be used as a fuel component for motor vehicles is prohibited to ensure that the ethanol used in certification test fuels is representative with respect to the presence of

standard for ethanol used in motor vehicle fuels.<sup>5</sup> The standard for fuel ethanol specifies that fuel ethanol may contain impurities (including water but excluding denaturants) but must contain at least 98% by volume ethanol.

EPA understands that some parties have interpreted the regulatory requirements to call for certification testing using 10 volume percent *denatured fuel* ethanol (containing 95 % pure ethanol) rather than 10% fuel ethanol as EPA intended. Given the potential for ambiguity in the regulation, and the relatively insignificant difference in ethanol content between final test fuels blended with denatured fuel ethanol rather than fuel ethanol (0.3%), EPA will not reject test data conducted using 10% denatured fuel ethanol, provided that the tests were begun prior to April 28, 1997. However, tests begun after this date must be conducted using a fuel that contains 10% fuel ethanol (at least 98% pure ethanol content) as specified.

See question and answer #20 regarding tolerances on test fuel oxygenate content.

**19) Question:** Please clarify EPA's requirements regarding the minimum required oxygenate content for oxygenate-specific certification test fuels.

**Response:** EPA requires that the test fuel for oxygenate-specific certification must contain the subject oxygenate at a concentration such that the finished test fuel contains the oxygenate at the highest concentration at which the specific oxygenate may be used in in-use gasoline (40 CFR 80.164(a)(2)(iii)). This means an oxygenate of fuel-grade quality (40 CFR 80.164(a)(2)<sup>6</sup>). The volume of fuel-grade ethanol used in test fuels (discussed above) typically includes the amount of impurities which would be present pursuant to common industry practice. EPA will use a similar approach for MTBE and other oxygenates. For MTBE, EPA will use criteria for fuel-grade MTBE now under consideration for standardization by ASTM as the best evidence of common industry practice. Under this criteria, fuel grade MTBE must contain at least 95 percent pure MTBE. Thus, test fuels for MTBE-specific certification should contain 15 volume percent fuel-grade MTBE, where fuel-grade MTBE is defined as containing at least 95% pure MTBE by volume.

Given the lack of final or near-final ASTM specifications for the purity of fuel-grade oxygenates other than ethanol and MTBE, EPA believes it is appropriate that the more liberal specification for fuel-grade MTBE (at least 95% pure MTBE) rather than that for fuel-grade ethanol (at least 98% pure ethanol) should apply to other oxygenates (ETBE, TAME, etc...). The majority of the other oxygenates that will be used in gasoline are ethers for which industry standards similar

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impurities which may tend to increase deposit forming severity.

A specification for fuel ethanol is included in American Society for Testing and Materials (ASTM) standard D 4806, "Standard Specification for Denatured Fuel Ethanol for Blending with Gasoline for Use as Automotive Spark-Ignition Engine Fuel".

This provision prohibits the use of specially processed oxygenates which would not normally be used as a fuel component for motor vehicles.

to that for MTBE are likely to be adopted. Thus, a test fuel for any oxygenate-specific (as opposed to generic) certification (MTBE, ETBE, TAME, etc.) should be blended using a fuel-grade sample of the subject oxygenate that contains at least 95% of the pure oxygenate.

See question and answer #20 regarding tolerances on test fuel oxygenate content.

**20) Question:** Will there be any tolerance for oxygenate concentration in certification test fuels? Can certification test fuels contain more than the required oxygenate?

**Response:** No downward tolerance is allowed in meeting the minimum required concentration of oxygenate in certification test fuels since such a downward tolerance would inappropriately lessen test fuel deposit forming severity. The regulations set an upward limit on the oxygenate content of detergent certification test fuels (40 CFR 80.164(a)(2)(i) and (iii)). However, EPA did not intend to impose such a limit and believes it is not necessary since test fuel deposit forming severity will tend to increase as oxygenate concentration increases, provided that other test fuel requirements are satisfied. Thus, such a limit is not needed to ensure the emissions benefits of the program. In addition, EPA believes that a reasonable upper limit on oxygenate content will be observed in practice due to industry concerns about increasing test fuel severity unnecessarily as well as other practical considerations. Therefore, EPA does not intend to reject certification data collected using fuels which contain the specified oxygenate at a concentration that is above the maximum required level in section 80.164(a)(2). In an upcoming notice, EPA intends to propose that the regulatory text be modified to clarify these requirements in a manner consistent with this response.

See questions 18 and 19 for a discussion of the purity requirements for fuel-grade oxygenates.

**21) Question:** Is it sufficient for a report on the formulation of a certification test fuel to report that 10 volume percent fuel ethanol was added to a fuel which conformed to other applicable test fuel specifications, or is analysis of the ethanol-containing fuel necessary to demonstrate conformity with specifications on ethanol content?

**Response:** It is sufficient to report that 10 volume percent fuel ethanol was added to a test fuel that conformed to other specifications. An additional test on the finished ethanol-containing fuel is not required.

See question 18 for a discussion of the purity requirements for fuel-grade ethanol.

**22) Question:** What are the circumstances under which a certifier would not have to run the unadditized deposit demonstration test?

**Response:** The deposit demonstration test is required when test fuels for national and PADD certification are formulated using refinery blendstocks (40 CFR 80.164(b)(3)). The deposit

demonstration test is not required for test fuels that are taken directly from finished gasoline stock and require no further formulation to meet compositional specifications other than the addition of oxygenate as applicable. The deposit demonstration test is also not required for fuel-specific test fuels, for CARB-based certifications, and for leaded gasoline-specific detergent certification.

**23) Question:** Can a final batch of gasoline from a refinery be considered "finished gasoline" (and therefore not subject to IVD demonstration testing requirements) if it is to have ethanol added at the terminal?

**Response:** Yes. A final batch of gasoline that is finished gasoline in all other respects would still be treated as finished gasoline under section 80.164(b)(2) even if it was intended for blending with ethanol at a terminal. A test fuel sampled from this finished fuel would not need a deposit demonstration test prior to its use for certification testing purposes (40 CFR 80.164(b)(3)). Deposit demonstration testing is required on nonoxygenated base test fuels that are not taken directly from finished gasoline to prevent potential variability in the severity of such fuels from inappropriately influencing the results of deposit control performance testing. The potential variability in the severity of the oxygenate component of certification test fuels is accounted for separately, by requiring that oxygenate samples added to certification test fuels be of fuel-grade quality and be at least at the highest level allowed in-use.