

UPDATED INFORMATIVE DIGEST

Amendments to the Test Method Designated for Determining the Oxygen Content of Gasoline

Sections Affected: Amendments to Title 13, California Code of Regulations, Sections 2258(c), 2251.5(c), and 2263(b)

An ARB regulation establishes minimum and maximum oxygen content requirements for gasoline sold in the wintertime from November 1992 through February 1996. The ARB has also adopted the Phase 2 reformulated gasoline (Phase 2 RFG) regulations, which establish a set of specifications for eight properties of California gasoline starting in March, 1996. These include year-round minimum and maximum oxygen content limits. In both programs, the regulations provide that compliance with the oxygen content limits is to be determined through the use of American Society of Testing and Materials (ASTM) Method D 4815-93, "Standard Test Method for Determination of MTBE, ETBE, TAME, DIPE, tertiary-Amyl Alcohol and C₁ to C₄ Alcohols in Gasoline by Gas Chromatography." This method is also designated for use in determining the ethanol content of gasoline under the ARB's regulation limiting the Reid vapor pressure (RVP) of gasoline.

The Board has now amended the designations of the test method for determining the oxygen content of gasoline, by designating ASTM's updated Method D 4815-94. The previously specified method had been approved by ASTM in 1993, while the updated method was approved by ASTM in 1994. The instrumentation, materials, operating parameters and procedures used in the two methods are identical or nearly identical. The 1994 method contains an improved calibration procedure, which improves the precision of the test method as reflected in an improved reproducibility. The amendments also designate the updated method for use in determining the ethanol content of gasoline in the current RVP regulation.

In an October 6, 1994 letter, the Western States Petroleum Association (WSPA) petitioned the ARB to amend its regulations to update the method for measuring oxygen in gasoline by designating ASTM method D 4815-94. The ARB's Executive Officer granted the petition in a letter dated November 15, 1994. He indicated that the requested rulemaking would be scheduled in time for the updated test method to apply when the 1995-1996 wintertime oxygenate season starts on October 1, 1995.

The U.S. Environmental Protection Agency (U.S. EPA) administers regulations requiring that gasoline sold in various areas with poor air quality meet standards for "federal" reformulated gasoline. These regulations have applied in most of Southern California since December 1994. One of the requirements is that the gasoline meet year-round minimum oxygen content standards. The federal regulations provide that oxygen and oxygenate content is to be determined by a gas chromatographic procedure using an oxygenate flame ionization detector (GC/OFID). Until January 1, 1997, refiners and importers are allowed to use ASTM D 4815-93 as long as the results are correlated with U.S. EPA's GC/OFID method. (40 C.F.R. sec. 80.46(g).) The ARB has worked with U.S. EPA and gasoline producers to avoid unnecessary

duplication and conflicts between the federal and state enforcement requirements. As a result of this cooperative effort, the federal regulations allow producers and importers of California gasoline to use a test method specified in the ARB's Phase 2 RFG regulations in lieu of the otherwise applicable federal method. (40 C.F.R. sec. 80.81(h).)