



Advisory

To: Distributors and
Retailers of Motor
Vehicle Gasoline

Number 315

April 2003

BLENDING CALIFORNIA GASOLINE CONTAINING ETHANOL WITH CALIFORNIA GASOLINE NOT CONTAINING ETHANOL

Summary

This advisory outlines the procedures that distributors and retailers need to follow to avoid violations of the California Phase 3 Reformulated Gasoline (CaRFG3) regulations regarding the commingling or mixing of gasoline containing ethanol with non-ethanol gasolines. For purposes of this advisory, non-ethanol gasolines are defined either: 1) methyl tertiary butyl ether (MTBE) oxygenated gasoline, or 2) non-oxygenated gasoline, which is primarily distributed in the Bay Area.

Mixing ethanol and non-ethanol gasolines will likely result in a gasoline that exceeds California's specified limit for RVP during the summer months. The California Phase 3 Reformulated Gasoline (CaRFG3) regulations prohibit the combining of ethanol and non-ethanol gasolines during the Reid vapor pressure (RVP) season, unless the person can affirmatively demonstrate that the resulting blend complies with the RVP limit (section 2266.5(i)(1)). A violation of the California RVP limit could subject retailers and/or distributors to substantial penalties.

Introduction

Starting December 31, 2003, the California Phase 3 Reformulated Gasoline (CaRFG3) regulations prohibit the production of California gasoline with MTBE. Since 1995, most of the state's gasoline has contained about 11 percent MTBE by volume. Such extensive use of MTBE is largely the result of the requirements of the 1990 Federal Clean Air Act Amendments for the federal reformulated gasoline programs, and for state-administered wintertime oxygenated gasoline programs.

To meet the oxygenate requirements, MTBE became the refiners' oxygenate of choice because of its blending attributes: 1) high octane rating, 2) dilutes undesirable gasoline components such as benzene, 3) mixes well with gasoline, and 4) is easily distributed in the state's pipeline system.

Because of concerns regarding the adverse environmental impacts of MTBE, on March 25, 1999, Governor Davis signed Executive Order D-5-99, in which he found, on balance, there is a significant risk to the environment from using MTBE in gasoline in California. In December 1999, the California Air Resources Board (ARB) approved the CaRFG3 regulations, which prohibit the use of MTBE gasoline by December 31, 2002.

On July 26, 2002, the ARB amended the CaRFG3 regulations to postpone the prohibition date on MTBE in California gasoline from December 31, 2002 until December 31, 2003. These actions were taken in response to the Governor's Executive Order D-52-02. The Governor's direction was based on a California Energy Commission (CEC) assessment regarding concerns about the supply and availability of CaRFG3 gasoline to California consumers by December 31, 2002.

Even though the Governor directed that the MTBE prohibition be postponed by one year, not all refiners have chosen to continue using MTBE to produce California gasoline. Many refiners, who represent over half of California's gasoline market, have publicly announced that they have voluntarily chosen to replace MTBE with ethanol prior to the December 31, 2003 compliance deadline. All of these refiners plan to have fully complying CaRFG3 gasoline with ethanol by April 2003. This early phase-in by some refiners will result in three types of gasoline (i.e., ethanol, MTBE, and non-oxygenated) in the California marketplace over the next year.

Both federal and state law prohibits the commingling of ethanol with non-ethanol gasoline anywhere throughout the distribution system during the summer RVP control season. Depending on the extent to which refiners phase-out MTBE gasoline early, there will be increased opportunities for the commingling of gasoline containing ethanol with non-ethanol gasolines where these types of gasolines are all marketed. This commingling of different types of gasolines could result in an increase in evaporative emissions due to the propensity of ethanol to increase a gasoline's vapor pressure when ethanol gasoline is commingled with non-ethanol gasolines. This increase in vapor pressure would likely put the resulting commingled gasoline in violation of the state's vapor pressure requirements.

Reid Vapor Pressure

Evaporative emissions of volatile organic compounds (VOCs) from gasoline have been reduced significantly in California by limiting the maximum Reid vapor pressure (RVP) of motor vehicle gasoline during the summer ozone season. RVP is a measure of the ability of a fuel to evaporate and is an important parameter in the evaporation of gasoline in the combustion chamber for starting motor vehicles. A minimum RVP is necessary to provide the vaporization of gasoline that is required for avoiding problems with cold starting, warm-up operations and acceleration. Reductions in RVP also reduce evaporative hydrocarbon (HC) emissions throughout the gasoline distribution system.

Control of RVP

The California Reformulated Gasoline regulations limit the RVP of summertime gasoline to 7.0 pounds per square (psi) in order to control evaporative emissions of hydrocarbons. The CaRFG3 regulations also prohibit persons from combining California gasoline produced using ethanol with gasoline produced without using ethanol during the RVP season, unless the person can affirmatively demonstrate that the resulting blend complies with the RVP limit. This is because of the RVP increase that occurs when ethanol is added to a non-ethanol gasoline.

Table 1 below lists the RVP control periods by air basins and counties in California, and Figure 1 shows a map of counties and air basins in California.

Table 1

	Control Period	Air Basins¹	Counties included¹
A	April 1 through October 31	South Coast Air Basin and Ventura County	Ventura, Los Angeles, Orange, West of San Bernardino, and West of Riverside Counties
		San Diego Air Basin	San Diego County
		Mojave Desert Air Basin	East of Kern, North East of Los Angeles, San Bernardino, East of Riverside Counties
		Salton Sea Air Basin	Imperial, Central of Riverside Counties
B	May 1 through September 30	Great Basin Valley Air Basin	Alpine, Inyo, Mono Counties
C	May 1 through October 30	San Francisco Bay Area Air Basin	Santa Clara, San Mateo, Alameda, San Francisco, Contra Costa, Marine, Napa, South of Sonoma, and West of Solano Counties
		San Joaquin Valley Air Basin	West of Kern, Tulare, Kings, Fresno, Madera, Merced, Stanislaus, San Joaquin Counties
		Sacramento Valley Air Basin	Sacramento, East of Solano, Yolo, West of Placer, Sutter, Yuba, Colusa, Glenn, Butte, Tehama, and Shasta Counties
		Mountain Counties Air Basin	Amador, Calaveras, Greater of Eldorado, Mariposa, Nevada, Central Placer, Plumas, Sierra, and Tuolumne Counties
		Lake Tahoe Air Basin	Alpine, East of Placer, and East of El Dorado Counties
D	June 1 through September 30	North Coast Air Basin	Mendocino, Trinity, Humboldt, Del Norte Counties
		Lake County Air Basin	Lake County
		Northeast Plateau Air Basin	Siskiyou, Modoc, Lassen Counties
E	June 1 through October 31	North Central Coast Air Basin	Monterey, San Benito, Santa Cruz Counties
		South Central Coast Air Basin (except Ventura County)	San Luis Obispo, Santa Barbara Counties

¹ Refer to Figure 1 for Air Basin and County Maps Boundaries

Figure 1



What Retailers Need to Do

To prevent commingling and the associated problems, retailers of gasoline will need to make a decision as to what type of gasoline that they will sell at their retail outlets during the summer RVP control season, ethanol or non-ethanol gasolines. They can not mix ethanol blended and non-ethanol blended gasolines during the RVP control period. Retailers should ensure that their distributor consistently provides the same type of gasoline that they are selling. Retailers should contact other distributors or suppliers in the event that they are unable to obtain a supply of type of gasoline that they are currently selling.

What Distributors Need to Do to Avoid the Problem

1. Distributors can only change to a supplier that can provide the same type of gasoline (ethanol or non-ethanol) as that in the retailer's storage tank.
2. Make sure that your customers know that mixing of ethanol and non-ethanol gasolines is a violation of the CaRFG regulations, and will result in substantial penalties.
3. Keep track of what your customers are selling. Ensure that the correct blend type of gasoline is delivered to their customers.
4. Ask new customers what type of fuel they received on their previous load.

What To Do If You Cannot Find Gasoline With The Proper Oxygenate

Contact the California Energy Commission (CEC) if there is a "real" supply disruption of your normal ethanol or non-ethanol gasolines. The CEC has established a toll-free telephone line to provide fuel suppliers experiencing difficulties a contact person with the CEC on a 24-hour-day, seven-days-a-week basis.

The telephone number will allow suppliers to leave a brief message and return phone number where they can be reached. The system will automatically dial the CEC contacts. CEC staff will return each call, as soon as possible. The CEC's toll-free number is 1 (800) 555-7794. Instructions on how to leave a message on the toll-free number can be found in CEC's Advisory. The CEC's Advisory can be found at <http://www.energy.ca.gov/gasoline/index.html>. For additional information about the CEC's advisory please contact Tom Glaviano, Energy Commission Fuel Security Officer at (916) 651-8892.

Potential Penalties

Maximum penalties for different levels of offenses of motor vehicle fuels regulations are as follows: up to \$25,000 per day for falsification of records; up to \$35,000 per day for violations of fuel standards such as RVP; up to \$50,000 per day when negligence is involved; and up to \$250,000 per day for willful and intentional violations of the law.

Be advised that Air Resources Board Enforcement Division inspectors routinely sample gasoline and test for RVP and other required specifications. Additionally, it is imperative that all producers, importers, blenders, distributors, and haulers ascertain the fuel they market and/or transport, and take steps to ensure that all such gasoline is sold or supplied according to the requirements of the CaRFG3 regulations. If you have any questions about this advisory, please contact Mark Stover, Manager of the Fuel Enforcement Section, ARB, at (916) 322-2056.