

# Regulation History of E15 Misfueling Mitigation Plans

## What is E15?

E15, a blend of 15% ethanol and 85% gasoline by volume, may be sold in the United States as a highway fuel, subject to certain conditions. The Environmental Protection Agency (EPA) granted two partial waivers that, when taken together, allow, but do not require, the introduction into commerce of gasoline that contains greater than 10 volume percent (vol%) ethanol and up to 15 vol% ethanol (E15). The waivers allow for use of E15 in model year (MY) 2001 and newer light-duty motor vehicles but require fuel pump labeling and other mitigation measures to prevent consumers from using E15 in all other vehicles and engines. The waiver decisions were based on test results provided by the U.S. Department of Energy (DOE) along with other test data and information that showed use of E15 will not adversely affect emissions from 2001 and newer MY vehicles.

E15 may be lawfully sold by a fuel or fuel additive manufacturer only after the manufacturer has registered E15 and met the conditions of the partial waivers, which include a misfueling mitigation plan for minimizing the potential for E15 to be used in vehicles and engines not covered by the partial waivers. There are a number of additional factors, including requirements under other federal, state, and local laws that may also affect the distribution of E15.

## Conditions of the E15 waivers

EPA placed two types of conditions on the waivers for E15: (1) those to help prevent misfueling of E15 into vehicles, engines and equipment that may not use E15; and (2) those addressing fuel and ethanol quality. All conditions must be met before E15 may be introduced into commerce.

### Fuel quality conditions:

- Ethanol used for E15 must meet ASTM International D4806-10.
- The Reid Vapor Pressure for E15 is limited to 9.0 psi during the summertime.

## Misfueling mitigation conditions:

- Fuel and fuel additive manufacturers subject to the waivers must submit to EPA a plan (a misfueling mitigation plan (MMP)), for EPA's approval, and must fully implement the EPA-approved MMP prior to introduction of the fuel or fuel additive into commerce as appropriate. The MMP must include provisions that will implement all reasonable precautions for ensuring that the fuel or fuel additive is only introduced into commerce for use in MY2007 and newer motor vehicles. Reasonable precautions in an MMP must include, but are not limited to, the following conditions:
  - Labels must be placed on E15 retail dispensers indicating that E15 use is only for MY2001 and newer motor vehicles;
  - Product Transfer Documents (PTDs) must accompany all transfers of fuels for E15 use;
  - Parties involved in the manufacture of E15 must participate in a survey of compliance at fuel retail dispensing facilities; and
  - Any other reasonable measures EPA determines are appropriate.

On June 23, 2011, EPA finalized regulations to help prevent misfueling of vehicles, engines and equipment not covered by the partial waiver decisions. These regulations require all E15 fuel dispensers to have a label that informs consumers about what vehicles can, and what vehicles and equipment cannot, use E15. The rule prohibits the use of gasoline containing more than 10 vol% ethanol in any vehicle, engine, or type of equipment that is not covered by the waivers. The rule also requires PTDs specifying ethanol content and Reid Vapor Pressure (RVP) to accompany the transfer of gasoline blended with ethanol and a survey of retail stations to help ensure compliance with labeling and ethanol content requirements.

## Approval of the model misfueling mitigation plan

On March 2, 2012, the Renewable Fuels Association (RFA) submitted the "Renewable Fuels Association Model E15 Misfueling Mitigation Plan" to EPA for review. RFA developed its Model Plan to help fuel and fuel additive manufacturers meet the misfueling mitigation conditions of the partial waivers. On March 15, 2012, EPA informed RFA by letter that the plan would generally be sufficient to satisfy the partial waivers' MMP requirements. The letter also stated that companies wishing to use the Model Plan to satisfy their MMP requirement must notify and seek approval from EPA in writing. EPA indicated that it may seek additional information and/or misfueling mitigation measures as needed from companies requesting to use the Model Plan.

On June 15, 2012, EPA approved the first MMPs for individual companies. The companies whose plans were approved had notified EPA in writing that they wished to use the March 2, 2012 Model Plan. Before approving their requests, EPA sought more information about how E15 would be dispensed, particularly from blender pumps. After working with RFA and individual plan submitters, EPA determined that an addendum to the RFA's Retailer Handbook (PDF), which is referenced in the Model Plan, provided the necessary information for EPA to approve the individual plan submitters' MMPs. EPA sent approval letters to companies and created a list of companies that have approved MMP submissions that is updated at least every two months.

## Approval of alternate blender pump configurations

On February 7, 2013, EPA approved an alternate blender pump configuration, submitted by RFA, for general use by retail stations that wish to dispense E15 and E10 from a blender pump with a common hose and nozzle. Blender pumps, or multiple-grade dispensers, are fuel dispensers that dispense multiple gasoline-ethanol blended fuels (e.g. E10, E15, and E85) typically through a common hose and nozzle. When two different gasoline-ethanol blended fuels are dispensed from the same hose and nozzle, residual fuel from a prior fueling of E15 may be commingled with a subsequent fueling of E10, resulting in the inadvertent misfueling of vehicles not covered by the E15 partial waivers with fuels containing greater than 10 vol% ethanol.

In an effort to address this potential misfueling issue, EPA approved an industry-submitted configuration that requires a minimum purchase of four gallons of fuel from blender pumps that dispense both E10 and E15 from the same hose and nozzle. Such an approach would prevent misfueling by diluting any residual E15 left in the hose from the previous sale of E15. However, groups representing motorcycle owners and lawn mower manufacturers objected to this configuration because their products have gas tanks that are normally two gallons or smaller. In response to these concerns, RFA developed and proposed a third configuration for EPA approval that retail stations may use as an alternative to the currently approved configurations.

Retail stations that wish to use this alternate configuration must provide a fuel pump with at least one dedicated hose and nozzle dispensing a gasoline-ethanol blended fuel containing no more than 10 vol% ethanol (i.e. E10 or lower). These retail stations must also prominently affix labels to their blender pumps which say “Passenger Vehicles Only. Use in Other Vehicles, Engines and Equipment May Violate Federal Law.” Passenger vehicles in this context do not include nonroad vehicles, engines, and equipment (e.g. marine engines, motorcycles, ATVs, lawnmowers, etc.). Retail stations must also post additional signage informing consumers of the availability and location of the dedicated E10 (or lower) fuel pump.

EPA believes that this alternate configuration is suitable for dispensing E15. Since retail stations using this configuration would re-direct customers with vehicles, engines, and equipment not covered by the E15 partial waivers to a dedicated fuel pump that exclusively dispenses E10 or fuel containing less than 10 vol% ethanol, those customers would not inadvertently misfuel their vehicles, engines, and equipment from a hose that dispensed both E10 and E15 from a blender pump. Therefore, EPA has approved the configuration for general use.

A retail station that wants to sell E15 from blender pumps can now choose from any of the three approved configurations, based on its own assessment of what would work best for that station and its customers, or it may submit a different approach for EPA approval. Companies that already have previously approved MMPs may use any EPA-approved configuration without notifying EPA. Companies that newly seek approval to use the March 2, 2012 Model Plan may choose from any of the three approved configurations. These configurations are discussed in the sample approval letter and RFA’s Retailer Handbook.

Because the March 2, 2012 Model Plan does not spell out the specific elements of a survey plan, companies that use the Model Plan must submit a survey plan for EPA approval and cannot introduce E15 into commerce until EPA has approved the survey plan and the plan has been implemented.