**Authorized Materials for Fuel Alcohol**

Under 27 CFR 19.746(b), the following materials are approved to render spirits unfit for beverage use and thus acceptable for withdrawal from alcohol fuel plants as fuel alcohol:

1. The materials listed in 27 CFR 19.746(b), in the quantities specified there.
2. The following additional materials, in the following quantities, corresponding to the following specifications:

<table>
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<tr>
<th>Material</th>
<th>Quantity added to 100 gallons of distilled spirits</th>
<th>Specifications</th>
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</table>
| Natural Gasoline                | 2 gallons or more                                 | 1. Natural gasoline (drip gas) is a mixture of butane, pentane, and hexane hydrocarbons extracted from natural gas.  
2. Distillation range: No more than 10% of the sample may distill below 97° F.; at least 50% shall distill at or below 156° F.; and at least 90% shall distill at or below 209° F. |
| Ethyl Tertiary Butyl Ether (ETBE) | 2 gallons or more                                 | 1. Octane (R+M/2): 66-70  
2. Distillation, in Degrees F:  
   10%: 120-150  
   50%: 144-180  
   90%: 168-200  
   End Point: 216-285  
3. API Gravity: 76-82  
4. Reid Vapor Pressure: 5-11 |
| Raffinate                       | 2 gallons or more                                 | 1. Octane (R+M/2): 66-70  
2. Distillation, in Degrees F:  
   10%: 120-150  
   50%: 144-180  
   90%: 168-200  
   End Point: 216-285  
3. API Gravity: 76-82  
4. Reid Vapor Pressure: 5-11 |
| Naphtha                         | 2 gallons or more                                 | 1. API Gravity @ 60/60 Degrees F: 64-70  
2. Lb/Gal: 5.845-6.025  
3. Density: .7022-.7238  
4. Reid Vapor Pressure: 8 P.S.I.A. Max.  
5. Distillation, in Degrees F:  
   I.B.P.: 85 Max.  
   10%: 130 Max.  
   50%: 250 Max.  
   90%: 340 Max.  
   End Point: 380  
6. Copper Corrosion: 1 |
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| Straight Run Gasoline (TTB Rul. 2008-2)                                     | 2 gallons       | 1. Straight run gasoline is a mixture consisting predominantly (greater than 60% by volume) of C4, C5, C6, C7 and/or C8 hydrocarbons, and is either (1) a petroleum distillate coming straight from an atmospheric distillation unit without being cracked or reformed or (2) a condensate coming directly from an oil/gas recovery operation.  
2. API gravity: 72° Min., 85° Max.  
3. Reid vapor pressure: 15 psi Max.  
4. Sulfur: 120 ppm Max.  
5. Benzene: 1.1% by volume Max.  
6. Distillation:  
   10%: 97° F Min., 158° F Max.  
   50%: 250° F Max.  
   Final Boiling Point: 437° F Max. |
| Toluene                                                                     | 5 gallons       | See 27 CFR 21.132.                                                             |