

Field Screening For Ethanol in Gasoline Products

Effective Date: January 17, 2018

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Background

Product must be labeled with the correct ethanol percentage. Ethanol content can vary in different grades of gasoline. Depending on whether or not it is dispensed from blender pumps, midgrade product is subject to incorrect blends. An inspector may be able to tell if a blend ratio is incorrect if the two base products are a straight premium (no ethanol) and a 10% ethanol blend of regular, by using a water extraction test. A field test of the ethanol percentage may immediately show if there is a problem or not. At times, product is sold to retailers or even wholesalers as straight, non-ethanol product, but may actually contain ethanol.

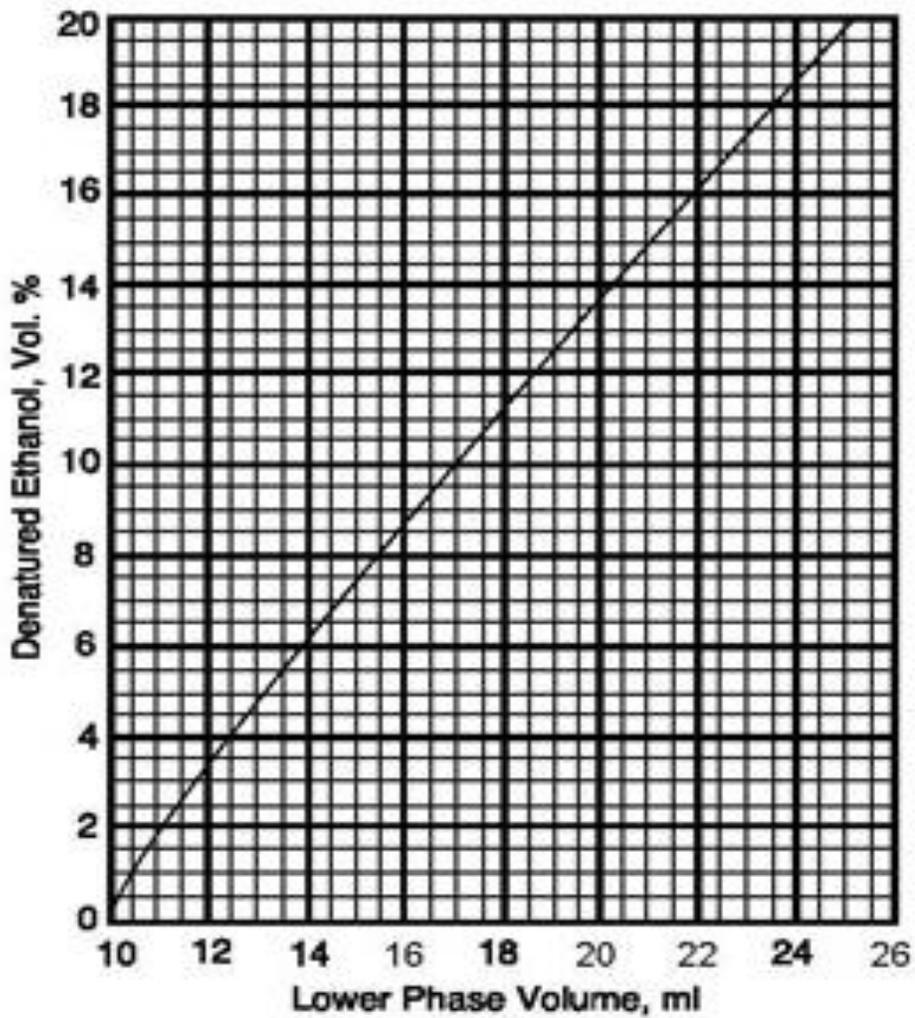
Procedure

Instructions for Ethanol Content in Blends — 2% - 15% using “Water Extraction Method”

1. Remove 100 ml & 10 ml graduated cylinders from case. Find a calm smooth level area for cylinders.
2. Pour 100 ml of gas in to graduated cylinder using funnel.
3. Using a pipette, add or remove gas until bottom of meniscus is at 100 ml line.
4. Add 10 ml of water to graduated cylinder until meniscus is at 10 ml line.
5. Using a pipette, add or remove water until bottom of meniscus is at 10 ml line.
6. Pour water into 100 ml cylinder, install stopper, and shake for at least 30 seconds.
7. Set aside for 2 minutes.
8. Read the volume of the ethanol / water layer using the bottom of meniscus.
9. Refer to table provided for ethanol content.
10. Pour all gas and water mix into a sample can labeled gas and water or slop. Once can is $\frac{3}{4}$ full - seal and ship to main lab for proper disposal.
11. Clean 100 ml graduated cylinder by using wooden dowel and cheese cloth.
12. Due to the use of water in the screening test, this test should not be done at temperatures below 32° F as water may freeze.
13. Product posted as 10% Ethanol should be considered a fail if precipitate reaches 18 ml and product posted as 15% Ethanol should be considered a fail if the precipitate reaches 22 ml.
14. If a product fails the screening test, collect a sample of the failed product and send to the lab as a ‘priority’ sample.

| %ETHANOL | EQUALS ML | %ETHANOL | EQUALS ML |
|----------|-----------|----------|-----------|
| 5 | 14 | 13.5 | 20 |
| 10 | 17 | 14 | 20.25 |
| 11 | 18 | 14.5 | 21.75 |
| 12 | 18.5 | 15 | 21 |
| 12.5 | 19 | 15.5 | 21.5 |
| 13 | 19.5 | 16 | 22 |

**Volume Percent of Denatured Ethanol in
Gasoline-Water Extraction Method**



Effective Date: January 28, 2015