

### E Grade Denatured Fuel Ethanol Specifications

Specification Points	Method	Minimum	Maximum
Apparent Proof or Density @ 60°F	Hydrometer, D4052	Report	
Water, vol%, Maximum	E203, E1064, D7923		1.0
Ethanol, vol%	D5501	93.5	
Methanol, vol%	D5501		0.5
Sulfur, ppm (wt/wt)	D5453		10.
Solvent Washed Gum,	D381		
	mg/100mL (Air Jet Method)		5
Potential Sulfate, mass ppm	D7319		4
Chloride, mg/L	D7319		5
Copper, mg/L	D1688		
	Method A, Modified per D-4806		0.08
Acidity (as acetic acid), Mass %	D7795		0.007
pHe	D6423	6.5	9.0
Workmanship <sup>3/</sup>	MMP		
Denaturant Content vol% <sup>2/</sup>	D4806		2

#### Footnotes:

- 1/ Delivered products meet all applicable requirements at time and place of delivery.
- 2/ Only approved denaturants as listed in part 1090.275 with a max denaturant concentration of 3.0 volume percent are approved as described in part 1090.275 and D4806. The denaturant range must be within the guidelines provided for in the latest IRS Notice 2009.06, which is 1.96% to no more than 2.5.
- 3/ Workmanship at the time of acceptance, and the finished fuel shall be visually free from undissolved water, sediment, or suspended matter and shall be clear and bright.
- 4/ All fuel shall comply with 40 CFR Subpart M - Renewable Fuel Standard.

#### Notes:

Corrosion Inhibitor Additive, one of the following is required:					
Minimum treat rate	Vendor	Additive	Minimum treat rate	Vendor	Additive
6 lbs/1000 bbls	Ashland	Amergy ECI-6	5 lbs/1000 bbls.	Nalco Water	EC5624A Plus
20 lbs/1000 bbls.	Betz	ACN 13	20 lbs/1000 bbls.	Petrolite	Tolad 3222
20 lbs/1000 bbls.	G. E. Betz	Endcor GCC9711	13 lbs/1000 bbls.	Petrolite	Tolad 3224
3 lbs/1000 bbls.	G.E. Power & Water	8Q123ULS	10 lbs/1000 bbls.	US Water Services	CorrPro 656X
5 lbs/1000 bbls.	Innospec	DCI-11 Plus/ ClearTrak	13 lbs/1000 bbls.	US Water Services	CorrPro 656 or 656T
3 lbs/1000 bbls.	Midcontinental	MCC5011PHE	5 lbs/1000 bbls.	US Water Services	CorrPro N or NT