

### 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
Existent Sulfate, mg/kg	D7319, D7328		4
Chloride, mg/L	D7319		5
Copper, mg/L	D1688		
	Method A, Modified per D4806		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.
- 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
7 lbs/1000 bbls.	Apollo Water Services	FCA-1008			