

LEV III Workshop E10 Certification Fuel

November 16, 2010

California Environmental Protection Agency



Air Resources Board

E10 Certification Fuel

- Will be proposed with the LEVIII rulemaking in April 2011
- E10 cert fuel based on in-use data accumulated by enforcement division
 - Used Predictive Model submissions by producers
- Dataset made up of approximately 600 different formulations
- Goal was to make certification fuel representative of current in-use E10 fuel

E10 Certification Fuel

Fuel Property	MTBE	E10
Sensitivity (min)	7.5	7.5
Distillation Range °F		
10 pct. point	130-150	130-150
50 pct. point	200-210	205-215
90 pct. point	290-300	310-320
Sulfur, ppm by wt	30-40	8-11
RVP, psi	6.7-7.0	6.9-7.2
Olefins, vol %	4.0-6.0	4.0-6.0
Total Aromatic Hydrocarbons, vol%	22-25	19.5-22.5
Multi-Substituted Alkly Aromatic Hydrocarbons, vol% (max)	12-14	10
Benzene, vol %	0.08-1.0	0.6-0.8
Methyl tertiary-butyl ether, vol % (max)	10.8-11.2	0.05
Ethanol, vol %	--	9.8-10.2
Total Oxygen, wt%	--	3.3-3.7

E10 Certification Fuel

Fuel Property	MTBE	E10
Octane (R+M)/2 (min)	91	91
Residue, vol% (max)	2.0	2.0
Phosphorous, g/gal (max)	0.005	0.005
EP, maximum	390	390
Lead, g/gal (max) (No lead added)	0-0.01	0-0.01
Additives: Sufficient to meet requirements of Title 13, CCR §2257		
Copper Corrosion	No. 1	No. 1
Gum, Washed, mg/100 ml (max)	3.0	3.0
Oxidation Stability, minutes (min)	1000	1000
Specific Gravity	Report	Report
Heat of Combustion	Report	Report
Carbon, wt%	Report	Report
Hydrogen, wt%	Report	Report

E10 Certification Fuel Dataset

	RVP	ARO	BEN	OLE	SUL	T50	T90
Average	7.14	21.11	0.79	6.91	9.01	212.10	315.40
Std Dev	0.62	3.50	0.12	2.22	2.90	13.26	20.33
Range	6.5-7.2	11.2- 31.8	0.48-1.1	1-10	2-19	193-220	284-330
Total # of Samples	586						

Implementation of E10 Certification Fuel

- Staff is proposing that the E10 certification fuel to be phased-in beginning in 2014
- E10 Certification fuel would be optional for use upon the Office of Administrative Law's filing of the LEVIII rulemaking with the Secretary of State

Open Discussion and Questions