HiTEC®6572H — Claim Substantiation Template

Compiled by, Date: Tim Brennan, 8/21/19

#	Claim	Data Type: Direct, R/A, Literature	Results	Fuel	Additive	Treat Rate	Test Methodology	Literature/Industry Supporting Docs
1	Contains a unique, triple detergent technology		1. Mannich 1 2. Mannich 2 3. PEA					
2a	Cleans up and prevents deposits left behind by lower quality gasoline	Low quality gasoline - Industry Known	Lowerst Additive Concednt ration (LAC) not suffiecient detergency. Usually referred to as lower quality				LAC doses of detergent additives are known in many cases not to provide sufficient detergency. Only at higher treat rates do they minimized deposits	toptiergas.com
2b		R/A from H6571	Test No. 01LG1-01. Dirty up = 193.1 mg. 1 tankful = 85.1 mg (55.9% clean up) and 5 tankfuls = 49.2 mg (74.5% clean up)	DU =CITGO PUL + LAC Additive CU = Citgo PUL + H6571	DU = LAC Additive CU = H6571	DU = 30.3 PTB CU = 179.6 PTB	2001 Lexus dirtied up on LAC gasoline for 10K miles, then fueled on H-6571L @ 806 PTB for 300 miles (1 tank) and 1.5K miles (5 tankfuls).	
2c		R/A from H6571	Test No. 04CM2-01. Dirty up = 26.0 mg. 1 tankful = 10.3 mg (60.4% clean up) and 5 tankfuls = 3.9 mg (85% clean up)	DU =CITGO PUL + LAC Additive CU = Citgo PUL + H6571	DU = LAC Additive CU = H6571	DU = 30.3 PTB CU = 179.6 PTB	2004 Chrysler 300M dirtied up and cleaned up as noted above.	
2d		R/A from H6571	Test No. 04FM1-01. Dirty up = 28.1 mg. 1 tankful = 7.4 mg (73.7% clean up) and 5 tankfuls = 1.8 mg (93.6% clean up)	DU =CITGO PUL + LAC Additive CU = Citgo PUL + H6571	DU = LAC Additive CU = H6571	DU = 30.3 PTB CU = 179.6 PTB	2004 Ford Mustang dirtied up and cleaned up as noted above.	
2e		R/A from H6571	Test No. 04VP1-01. Dirty up = 296.8 mg. 1 tankful = 249.5 mg (15.9% clean up) and 5 tankfuls = 231.9 mg (21.9% clean up)	DU =CITGO PUL + LAC Additive CU = Citgo PUL + H6571	DU = LAC Additive CU = H6571	DU = 30.3 PTB CU = 179.6 PTB	2004 Volkswagen Passat dirtied up and cleaned up as noted above.	
2f		R/A H6571	Good Dose: 1 tank = 34.2% CU 10 Tank = 41.2% CU Best Dose: 1 tank = 44.7% CU 10 Tank = 76.5% CU	DU = Motiva RFG E10 & Citgo RUL E10 + LAC CU = Motiva RFG E10 +LAC & Citgo RUL E10 + LAC + H6571 @ 484 PTB & 968 PTB	DU = LAC Additive CU = H6571	DU = LAC in Motiva fuel = Citgo: LAC 30.3 PTB CU = 484 PTB = 968 PTB	Ford 2.3L, ASTM D6201	
2g		Direct	DU IVD: 564.4 mg; 50 hr CU: 203.0 mg; 100 hr CU: 152.8 mg - 73% CU CCD - 1302 mg EOT	E10	H6572H	484 PTB	Ford 2.3L, ASTM D6201	
3a	Prevents intake valve deposits IVD Keep Clean	R/A from H6571	H-6571L @ 337 PTB, the IVD was 54.6 mg. This is below the EPA limit of 100 mg.	EPA 65th percentile gasoline	H6571	75 PTB	10,000 mile BMW IVD, ASTM D5500	
3b		Direct	12.0 mg average IVD	E10 gasoline	H6572H	484 PTB	Ford 2.3L, ASTM D6201	
4	GDI Injector Clean Up		Better Dose: 60% Improvement		H6572H	484 PTB	RIFT Method	SAE Papers: 2009-01-2641; 2013-01-2616
5	PFI Keep Clean	R/A from H6571	H-6571L @ 337 PTB, the individual fuel injectors were plugged as follows: -1.51%, 1.13%, 4.81% and -0.54% for an average of 1.49%.	EPA 65th percentile gasoline	H6571L	337 PTB	10,000 mile Chrysler PFI, ASATM D5598	
6a	Improves emissions by cleaning up deposits in the intake system	Literature					1 vehicle: Use of a deposit control additive reduced HC and CO emissions	* SAE Paper 952447, 1995: Zahalka, Thomas L., Kulinowski, Alex M., Malfer, Dennis J., "A Flett Evaluation of IVD and CCD: Emission Effects and Correlation to the BMW 318i and Ford 2.3L IVD Tests."
6b		Literature					20 Vehicles: Heavier IVD cause higher emissions. The relationship between CRC ratings and tailpipe emissions is linear.	* SAE Paper 922259, 1992: Houser, K. R., Crosby, T. A., "The Impact of Intake Valve Deposits on Exhaust Emissions."
7	Contains Friction Modifier							
7a	Friction Modifier: Helps to restore lost fuel economy from ethanol fuel (which has lower BTU content). In addition, it provides a layer of protection on fuel pumps helping to prevent premature wear that sometimes occurs in ethanol containing gasoline.C24	Literature					9 different engine types ~ 25 tests: - With cleaned fuel injectors, a vehicle experienced a 10.5% improvement in 40 to 100 kph acceleration times and a 15.8% improvement in 80 to 100 kph times - In a similar test with cleaned fuel injectors, a vehicle saw a 8.4% improvement in 25 to 60 mph acceleration time and a 4.1% improvement in 50 to 60 mph acceleration time - In both cases the author also noted reduced hesitation and improved idle quality after the injector clean up	* SAE Paper 861535, 1986: Abramo, G.P.: Horowitz, A.M. and Trewella, J.C., "Port Fuel Injector Cleanliness Studies".
7b		Literature					3 different engine type 13 tests: - Large amounts of intake valve and port deposits can reduce engine power up to 22% - In separate tests, the author used actual deposits to demonstrate a penalty of 1.3 to 2.8 seconds on a variety of accelerations	* SAE Paper 872116, 1987: Gething, J.A., "Performance-Robbing Aspects of Intake Valve and Port Deposits".
7c		Literature					1 engine, 7 tests: Even moderately different levels of intake valve deposits can be discriminated in terms of the impact on engine cold start performance as in power loss and mis-fire	* SAE Paper 2001-01-1639: Arters, David C., Schiferl, Elizabeth A., Szappanos, George. Effects of Gasoline Drivability Index, Ethanol and Intake Valve Deposits on Engine Performance in a Dynamometer – Base Cold Start and Warmup Procedure".
7d		Literature					1 vehicle: Use of a deposit control additive reduced HC and CO emissions	* SAE Paper 952447, 1995: Zahalka, Thomas L., Kulinowski, Alex M., Malfer, Dennis J., "A Fleet Evaluation of IVD and CCD: Emission Effects and Correlation to the BMW 318i and Ford 2.3L IVD Tests."
8	Replenish the frictional characteristics of the engine oil							
9a	Improves fuel economy	Literature					2 different engine types: Vehicle type 1, 4 test average Vehicle type 2, 2 test average - 2% reduction in fuel economy over the cold transient portion of the FTP with a set of injectors with an average of 8% plugging - 11% reduction in fuel economy over the complete FTP with an average 23% plugging across a set of injectors	*SAE Paper 861534, 1986: Taniguchi, B.Y.: Peyla, R.J.: Parsons, G.M.: Hoekman, S.K. and Voss, D.A., "Injector Deposits – The Tip of Intake System Deposit Problems".
9b		Literature					15 different engine types: 3 of each, 45 vehicles total 1/3 on base fuel 1/3 on D-additized fuel 1/3 on S-additized fuel Compared to the unadditized group, fuel economy improved for the two groups using additized fuel by 0.6% and 1.6% on the ECE R-15 cycle and 1.0% and 1.9% on the extended ECE cycle	*SAE Paper 912393, 1991: Spink, C.D.: Barraud, P.G. and Morris, G.E.L., "A Critical Road Test Evaluation of Two High-Performance Gasoline Additive Packages in a Fleet of Modern European and Japanese Vehicles".
9c		Literature					1 Engine, 9 tests: - Using a Japanese commercial premium gasoline an instantaneous benefit of up to 1% on BSFC in a 2.0L bench engine - Using a modified Japanese 10-15 mode test with both the instantaneous and the accumulated effects up to 2.4% improvement	*SAE Paper 2001-01-3589, 2001: Okamoto, K., Sone, T., Saitoh, K., and Oyama, K., "Hybrid Fuel Technique for CO2 Reduction in SI Engines".
9d		Literature					21 different engine types, 31 tests: Average instantaneous fuel economy improvements of 2% and predicted long term average fuel economy benefits of 3%	*SAE Paper 2001-01-1961, 2001: Hayden, Thomas E., Robes, Charles A., Rawdon, Michael G., "The Performance of a Friction Modifier Fuel Additive".
10	Protect critical fuel system components such as fuel pumps and injectors, which is of growing importance with the use of ethanol blended fuels		* 35% Wear Scar improvement in the HFRR * Ferrous Corrosion = <5% corrosion improved to 0% corrsosion in ASTM D665A test			3oz/16 gal		
11	• H-6572H can be utilized to exceed the performance level of all "premium" TOP-TIER gasoline in the marketplace (see table 1)	Calculation			H6572H	493 PTB 739 PTB 1353 PTB	o 9 Once Treat Rate for Cars o 6 Ounce Treat Rate for Trucks	2003-2012 commercial fleet average fuel tank size: Cars = 16.2 gal; Trucks = 23.9 gal
12	In addition to either of these claims, versus bottled products, Additech:	Calculation						
13a	o Delivers more precisely to your fuel by Additech's patented injection system							
13b	o Eliminates the chance of misapplication							
13c	o Eliminates the chance of spilling							
14	o Uses a higher quality solvent that will not hurt the BTU content of your fuel leading to reduced fuel economy		Use of Aromatic 150 (heavier aromatic, more dense, more BTU) verses Aromatic 100 or xylene					