



ADDITIVE – GASOLINE DETERGENT

WSS-M99C126-A1

1. SCOPE

The material defined by this specification is an automotive gasoline detergent additive.

2. APPLICATION

This specification was released originally for materials used as an initial fill gasoline additive to provide increased protection against the occurrence of engine intake valve deposits. This material is also suitable for service use.

3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.2 PHYSICAL/CHEMICAL PROPERTIES

3.2.1	Total Sulphur, max (ISO 14596, ISO 8754, ISO 24260)	2000 mg/kg
3.2.2	Flash Point, min	55°C
3.2.3	Pour Point, max India Other markets	- 8°C - 15°C
3.2.4	Ash, max (ISO 6245/ASTM D 482)	0.01 % mass
3.2.5	Composition	
3.2.5.1	Phosphorus, max	5 mg/kg
3.2.5.2	Potassium, max	25 mg/kg

Date	Action	Revisions
2010 06 11	Re-Activated	Still in Use for APA J. Pilbeam, EU
2009 11 18	N-STATUS	No known use. No replacement named D. DiGregorio, NA
2002 08 30	Activated	J. Bennett

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3.2.5.3	Manganese, max	5 mg/kg
3.2.5.4	Iron, max	5 mg/kg
3.2.5.5	Sodium, max	5 mg/kg
3.2.5.6	Silicon, max	5 mg/kg
3.2.6	Water Reaction, max (ASTM D 1094 Mod.)	1, slight haze
3.2.7	Rust Prevention, max (ASTM D 665-B, 30 mins)	light rusting

3.3 PERFORMANCE

Note - Testing must be performed at the recommended dosage rate.

3.3.1	Carburetor cleanliness	
	CEC F-03-T-81 (Renault Type 810-26)	Merit 8.0 min
3.3.2	Fuel injector cleanliness	
	GFC-CM3 (PSA XU5JA)	Ave flow loss 2% max
	ASTM D 5598-01 (Chrysler 2.2L)	Flow loss 5% max.
3.3.3	Intake valve sticking	
	CEC F-16-T-96 (VW Waterboxer)	None
3.3.4	Intake valve cleanliness	
	CEC F-04-A-87 (Opel Kadett)	Merit 9.0 min
	CEC F-05-A-93 (M B M102E)	Avg. mg/valve 30 max
	ASTM D 5500-98 (BMW 318i)	Avg. mg/valve 50 max



3.3.5	Intake valve cleanliness and combustion chamber deposits	
	ASTM D 6201-00 (Ford Ranger 2.3 L)	
	Intake valve cleanliness	Avg. mg/valve 50 max
	Combustion chamber deposits	140% max
	CEC F-20-A-98 (MB M111E)	
	Combustion chamber deposits	mg/engine 2500 max
3.3.6	Black sludge	
	CEC L-53-T-95 (MB M111E)	
	Ave. sludge merit	Additive $\geq$ base
3.3.7	Bearing Wear	
	CEC L-02-A-78 (Petter W-1)	
	Bearing weight loss	25 mg max

3.4 COLOR

The material may be dyed in accordance with supplier standard practice to a color agreed with Ford Motor Company.

4. GENERAL INFORMATION

The information given below is provided for clarification and assistance in meeting the requirements of this specification.

4.1 VERIFICATION

The affected Materials Engineering activity reserves the right to conduct verification testing. If the test results do not support the originally submitted data, the supplier must re-test the product in coordination with the affected Materials Engineering activity. This re-test must be conducted and certified by a mutually agreed upon test facility.

4.2 CHEMICAL AND PHYSICAL PROPERTIES

Supplier shall furnish appropriate chemical and physical properties as required on Supplement A along with the manufacturing limits that apply to the material upon which approval is requested.