



**PETRON  
PLUS™**  
FORMULA 7



# **PETRON PLUS™**

## **FORMULA 7**

**SUPER CONCENTRATE FUEL SYSTEM CLEANER**

Part No. 20005, 20000, & 20001

**MULTI-PURPOSE GASOLINE DETERGENT/INHIBITOR**

### **PERFORMANCE FEATURES**

- **POWERFUL DETERGENT CLEANS DIRTY CARBURETORS**
- **KEEPS FUEL INJECTORS CLEAN**
- **CLEANS DIRTY FUEL INJECTORS**
- **MEETS BMW UNLIMITED APPROVAL REQUIREMENTS FOR IVD DETERGENCY**
- **CLEANS EXISTING INTAKE VALVE DEPOSITS**
- **REDUCES COMBUSTION CHAMBER DEPOSITS**
- **HELPS REDUCE CO AND HC EMISSIONS**
- **HELPS IMPROVE FUEL ECONOMY**
- **PROTECTS AGAINST FUEL SYSTEM CORROSION**
- **EPA REGISTERED - SAFE FOR CATALYSTS AND OXYGEN SENSORS**

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# SUPER CONCENTRATE FUEL SYSTEM CLEANER

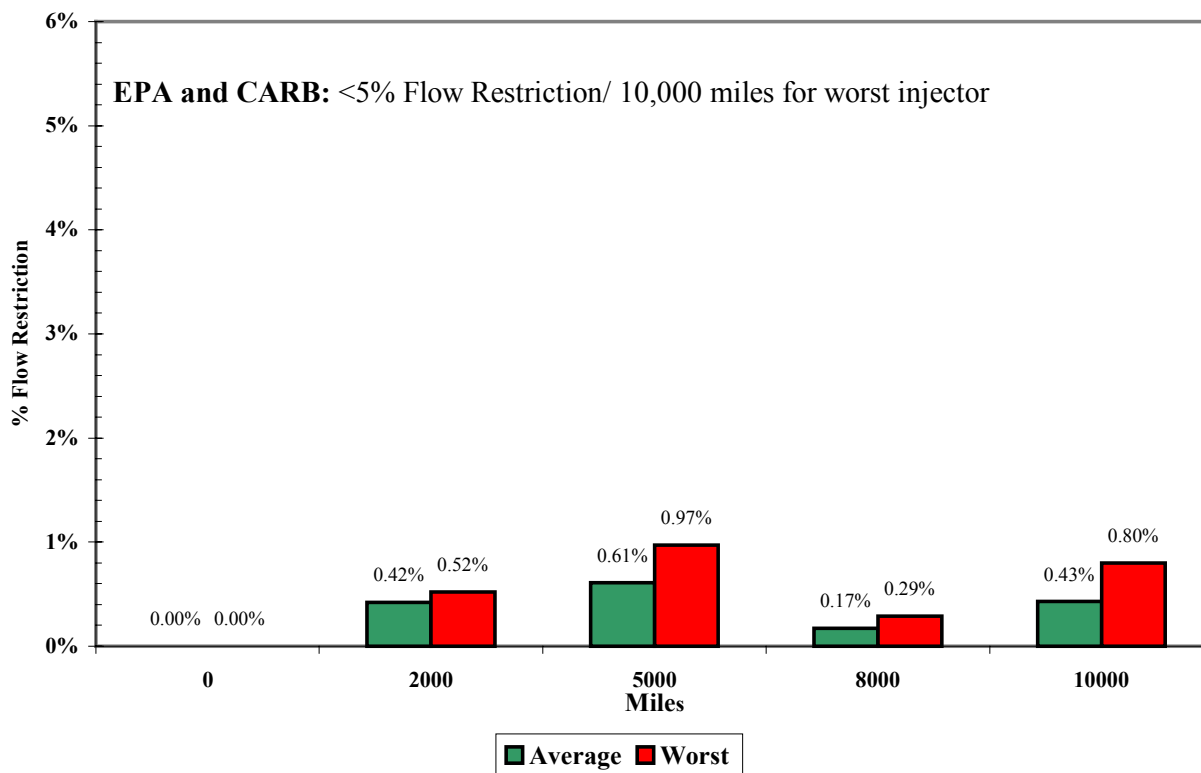
Part No. 20005, 20000, & 20001

## MULTI-PURPOSE GASOLINE DETERGENT/INHIBITOR

### PFI KEEP CLEAN

The fuel injectors, like the intake valves are a critical part of the fuel delivery system. Deposits can affect spray pattern and as a consequence, emissions, economics and drivability. The ASTM D5598 test procedure consists of a standard 15-minute drive cycle followed by a 45-minute hot soak. This cycle is carried out over a total distance of 10,000 miles.

EPA 65 <sup>th</sup> Percentile Fuel + EtOH		
Parameter	Actual	Requirements
Olefins, % v/v	12.8	≥11.4
Aromatics, % v/v	32.1	≥31.1
Sulfur, ppm, w/w	431	≥340
T90, °F	348.4	≥339
Oxygenate, (EtOH), % v/v	10	≥10



- TREAT RATE FOR SCFSC-20005 WAS 85 PPMV



# SUPER CONCENTRATE FUEL SYSTEM CLEANER

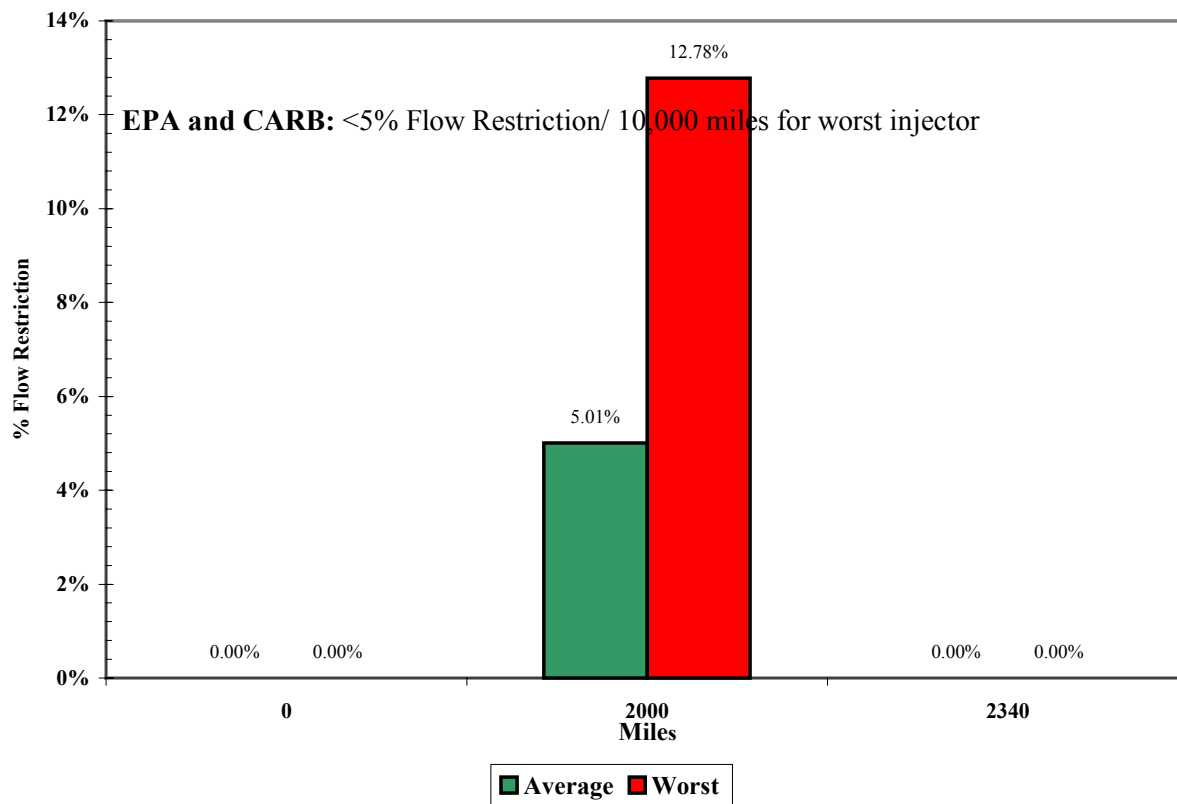
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## MULTI-PURPOSE GASOLINE DETERGENT/INHIBITOR

### **PFI DETERGENCY CLEAN UP**

The clean up performance of SCFSC-20005 at a concentration of 85 ppmv has been evaluated using a modified CARB D5598 test method. The testing comprises a deposit build up cycle of 2,000 miles followed by a 340 mile clean up. The fuel was treated with SCFSC-20005 for the second cycle.

Clean up Fuel	
Parameter	Actual
Olefins, % v/v	7.3
Aromatics, % v/v	33.8
Sulfur, ppm, w/w	212
T90, °F	353.5
Oxygenate, (EtOH), % v/v	10



- At A TREAT RATE OF 85 PPMV SCFSC-20005 EXHIBITS EXCELLENT CLEANUP PERFORMANCE WITH RESPECT TO PFI DETERGENCY

# SUPER CONCENTRATE FUEL SYSTEM CLEANER

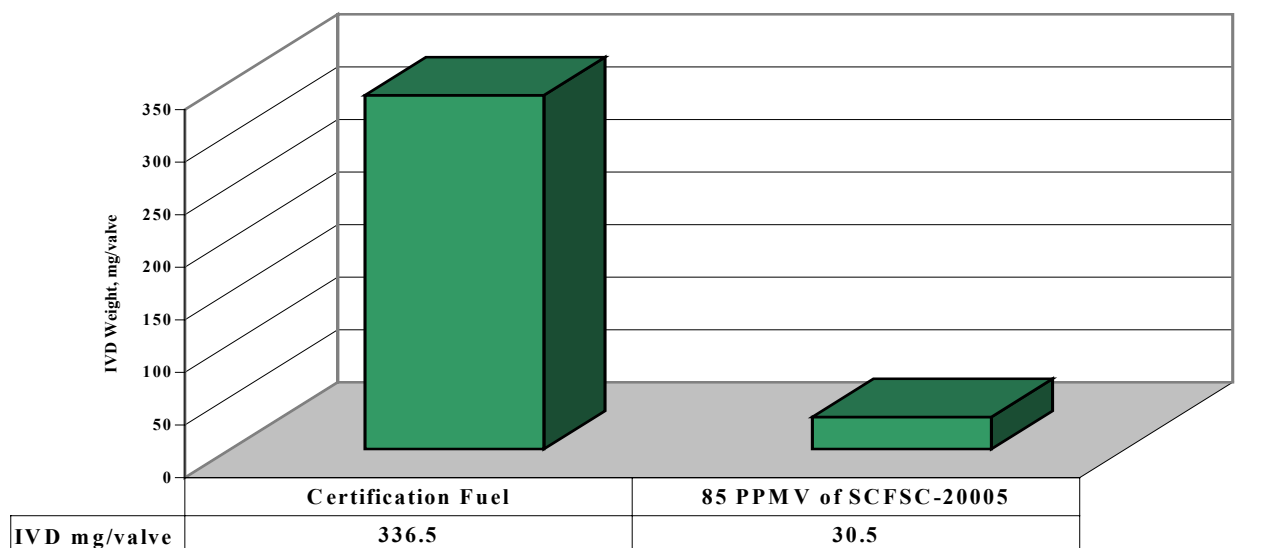
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## MULTI-PURPOSE GASOLINE DETERGENT/INHIBITOR

### **IVD CONTROL – BMW 318i KEEP CLEAN**

Testing has been performed using the industry standard ASTM D5500 test procedure, which is commonly used for the evaluation of intake valve deposit formation. This method uses a 1985 BMW 318i, driven in a driving pattern comprising 10% city, 20% urban and 70% highway driving for 10,000 miles.

EPA 65 <sup>th</sup> Percentile Fuel + EtOH		
Parameter	Actual	Requirement
Base Fuel Olefins, % v/v	18.3	≥11.4
Base Fuel Aromatics, % v/v	44.4	≥31.1
Base Fuel Sulfur, ppm, w/w	407	≥340
Base Fuel T90, °F	356.5	≥339
Base Fuel IVD, mg/valve	336.5	≥290
Oxygenate, (EtOH), % v/v	10	≥10



EPA Final Rule  
<100 mg/valve

- SCFSC-20005 EXHIBITS GOOD INTAKE VALVE DETERGENCY AND MEETS EPA COMPLIANCE PERFORMANCE CRITERIA.

# SUPER CONCENTRATE FUEL SYSTEM CLEANER

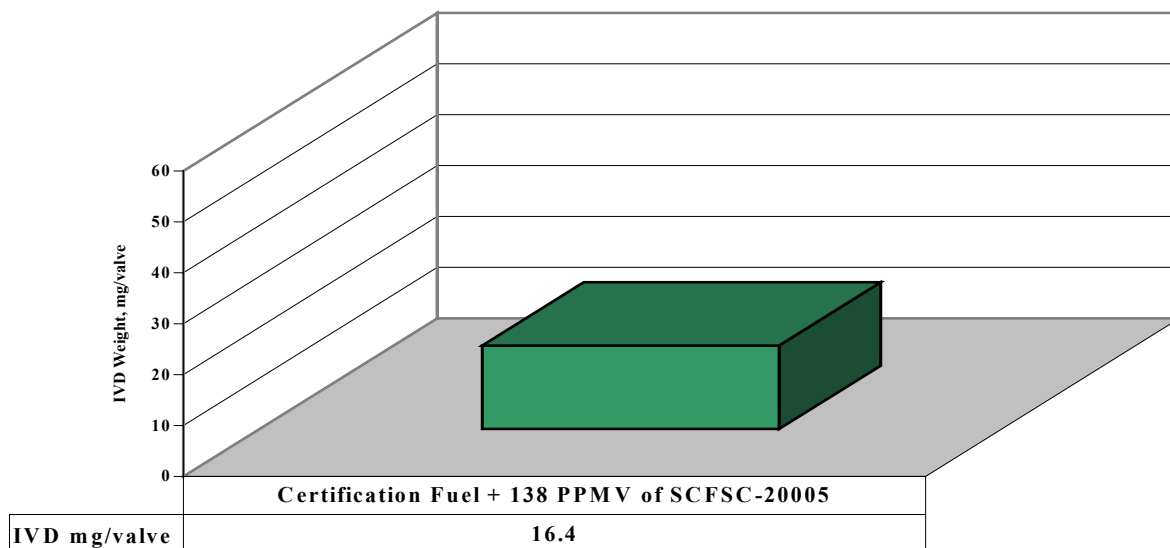
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## MULTI-PURPOSE GASOLINE DETERGENT/INHIBITOR

### ***IVD CONTROL – BMW 318i KEEP CLEAN: CARB DCA CERTIFICATION FUEL***

Testing has been performed in the industry standard ASTM D5500 test procedure, which is commonly used for the evaluation of intake valve deposit formation. This method uses a 1985 BMW 318i, driven in a driving pattern comprising 10% city, 20% urban and 70% highway driving for 10,000 miles. Test fuel used met the CARB DCA Certification Fuel requirement and is described below.

CaRFG3 Certification Fuel		
Parameter	Actual	Requirement
Base Fuel Olefins, % v/v	9.3	≥8.0
Base Fuel Aromatics, % v/v	29.5	≥24.0
Base Fuel Sulfur, ppm, w/w	98	≥64
Base Fuel T90, °F	326.6	≥290
Oxygenate, (EtOH), % v/v	10	≥8



- SCFSC-20005 EXHIBITS GOOD IVD DETERGENCY AND MEETS CARB PHASE 3 GASOLINE DEPOSIT CONTROL ADDITIVE IVD REGULATIONS AT 138 PPMV.

# SUPER CONCENTRATE FUEL SYSTEM CLEANER

Part No. 20005, 20000, & 20001

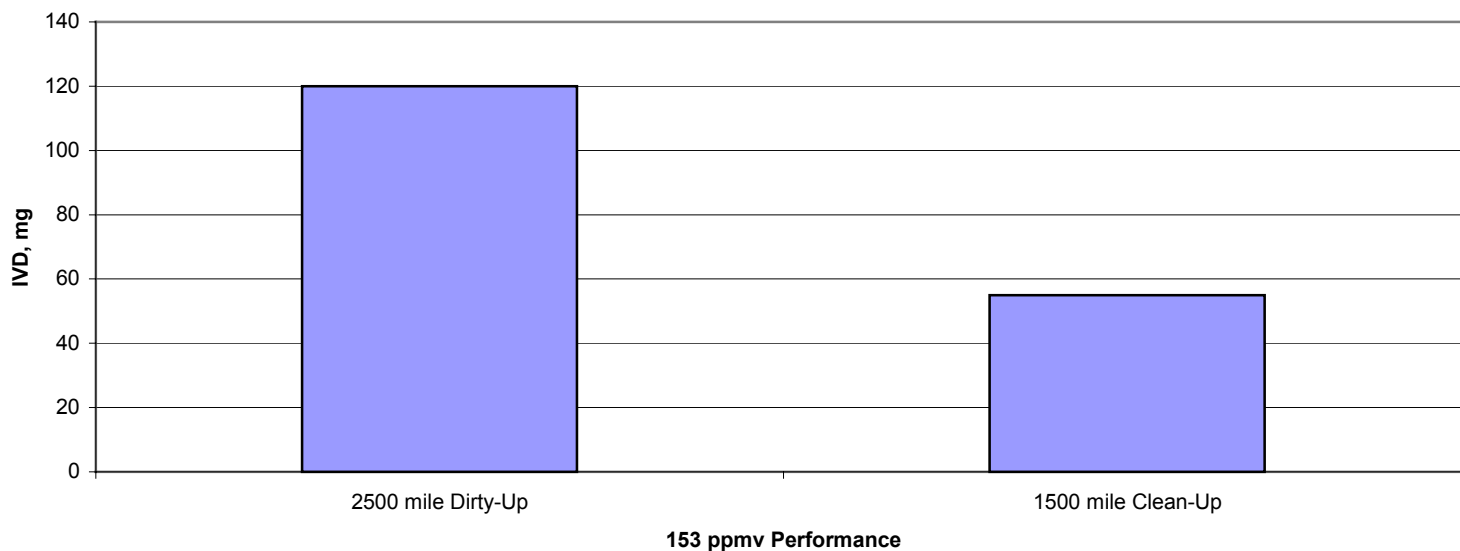
## MULTI-PURPOSE GASOLINE DETERGENT/INHIBITOR

### IVD DETERGENCY CLEAN UP

The clean up performance of SCFSC-20005 at a concentration of 153 ppmv has been evaluated using a modified ASTM D5500 test method. The testing comprises a deposit build up cycle of 2,500 miles followed by a 1,500 mile clean up. The fuel was treated with SCFSC-20005 for the second cycle.

Test Fuel Parameters Clean Up	
Aromatics, vol%	33.8
Olefins, vol%	7.3
Saturates, vol%	59.0
Oxygenate, wt%	0.0
Sulfur, ppm wt.	212
T90, °F	353.5

#### BMW 318i IVD Clean Up



#### AT 153 PPMV SCFSC-20005 OFFERS THE FOLLOWING BENEFITS:

- Intake Valve Deposit clean up
- Improved fuel economy
- Reduced exhaust emissions
- Reduced fuel system maintenance and emissions control equipment
- Prevents drivability deterioration (rough idling, stalling and surging)

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# SUPER CONCENTRATE FUEL SYSTEM CLEANER

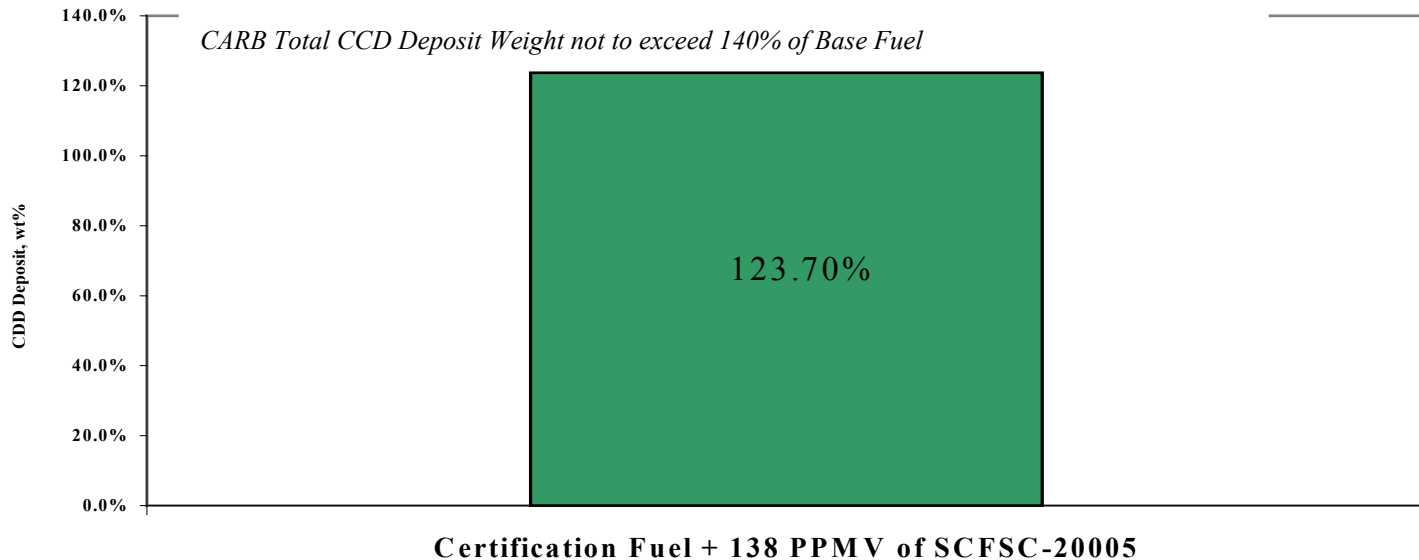
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## MULTI-PURPOSE GASOLINE DETERGENT/INHIBITOR

### No Harm Testing – CCD Control BMW 318i

Combustion chamber deposits were measured in the BMW 318i engine dynamometer according to the CARB protocols. SCFSC-20005 controls CCD levels in the BMW 318i below those proposed by the California Air Resources Board. CARB requires that the use of a gasoline additive should not result in more than an average 1300 mg total CCD deposit weight. Alternatively, the total deposit weight should not result in more than 140% of the total deposit weight of the base fuel. SCFSC-20005 meets the CCD criteria.

CaRFG3 Certification		
Parameter	Actual	Requirement
Olefins, % v/v	9.3	≥8.0
Aromatics, % v/v	29.5	≥24.0
Sulfur, ppm, w/w	98	≥64
T90, °F	326.6	≥290
Oxygenate, (EtOH), % v/v	10	≥8



- SCFSC-20005 EXHIBITS GOOD COMBUSTION CHAMBER DETERGENCY AND MEETS CARB GASOLINE DEPOSIT CONTROL ADDITIVE CCD REGULATIONS AT 138 PPMV

# SUPER CONCENTRATE FUEL SYSTEM CLEANER

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## MULTI-PURPOSE GASOLINE DETERGENT/INHIBITOR

### **NO HARM TESTING**

#### GM 5.7L Valve Stick Engine Test

Testing performed using a GM 5.7L V8 demonstrates that SCFSC-20005, at a treat rate of 722 ppmv, will not cause intake valve sticking. The test cycle involves 3-4 days of a daily accumulation of 85 miles at 60 mph followed by a 16hr cold soak at -4°F (-20°C). The compression of each cylinder is measured daily and compared to a base fuel reading.

- SCFSC-20005 causes no valve sticking at a soak temperature of -4°F (-20°C).

#### Corrosion Protection

SCFSC-20005 will protect against corrosion at a treat rate of 85 ppmv.

FUEL	NACE TM-01-72 BILLET RATING
Base fuel	E
SCFSC-20005	C

