



# GULF WESTERN OIL

## THE TOUGH AUSTRALIAN

### INDUSTRIAL/OFF HIGHWAY

## TECHNICAL DATA SHEET

# ALL FLEET HDD & CONCENTRATE COOLANT

### SUMMARY OF BENEFITS

When used as a 50% coolant with softened or deionized water, this engine coolant offers the following advantages:

- Low silicate
- Phosphate and amine free
- OEM approved
- Hard water compatible
- No initial SCA requirement at initial fill
- Universal use, fully meets or exceeds standard industry requirements for automotive, light duty, and heavy duty diesel applications
- Product is compatible with both conventional and OAT coolants although to get best performance (regarding issues such as extended life and time between SCA additions) it is best to flush the old coolant and replace with All Fleet HDD
- Product is compatible with standard SCAs and coolant extenders
- Extended life 6 years, 12,000 hours or 1,000,000km whichever comes first

### SPECIFICATIONS

- ASTM D3306, D4985, D6210 • Caterpillar • Cummins 14603 • Detroit Diesel 7SE 298 • Daimler Chrysler MS 7170, MS 9769
- Ford ESEM97B44A, ESEM97B18C, Ford WSSM97B51A1 • Freightliner 482288D • GM 1825M, 1899M, GM Heavy Truck
- Hyundai • JIS K2234 • Kenworth RO2617097 • Landrover • MACK Trucks • MAN 324 • Mercedes-Benz DBL 325
- MTU MTL 5048 • White Star • US Federal AA870A • New Holland WSNM97B18-D • PACCAR • Peterbilt 8502.002
- Perkins • Saab-Scania 6901 • SAE J1034, J1941 • TMC RP 329 • Volvo Heavy Truck

All Fleet HDD Coolant provides exceptional summer cooling and excellent freezing protection during winter. It should not be used in concentrated form. A 50% dilution (i.e. when mixed with an equal volume of high quality soft, deionized or distilled water) is generally recommended for the best balance of protection against freezing, corrosion and summer boilover.

For increased freezing protection in extremely cold areas a 60% volume concentration can be used. Concentrations of greater than 70% by volume are not recommended. All Fleet HDD Coolant provides excellent value as an aluminum compatible, universal, long life engine coolant. Along with this value, Gulf Western offers you and your customers continuing commitment to:

- Reliable supply
- Unsurpassed technology
- Education on safe use and handling
- Consistent high quality product
- Valuable technical service backup

### TYPICAL PROPERTIES

CHARACTERISTICS	TEST METHOD	UNITS	RESULTS
pH 50%	ASTM D1287	(ml)	7.6 - 8.5
Reserve Alkalinity	ASTM D1121	(ml)	6 min.
Specific Gravity	ASTM D1122	(15.6°C/60°F)	1.125 - 1.135
Freeze Point	ASTM D1177	(50% vol.)	-37°C/-34°F
Foam Volume	ASTM D1881	(ml)	50 max.
Break Time	ASTM D1881	(sec)	5 max.
Flash Point	ASTM D92	-	116°C/240°F
Fire Point	-	-	120°C/248°F
Ash Content	ASTM D1119	(wt. %)	5 max.



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#### CONTINUED

Odour	-	-	Characteristic
Colour	-	-	Luminescent Green
Total Glycols	-	(Weight %)	94.0 min.
Inhibitors and Dye	-	(Weight %)	5.0 max.
Total Apparent Water	-	(Weight %)	3.5 max.
Chloride	ASTM D3634	Ppm	25 max.
Silicon	ICP	Ppm	185 max.

Typical characteristics are only a guide to industry and are not necessarily manufacturing or marketing specifications and do not constitute any legal liability.

#### PERFORMANCE TESTING

COUPON  TYPE 1	ASTM D1384 - GLASSWARE CORROSION		ASTM D2570 - SIMULATED SERVICE	
	TEST RESULTS 1	MAX SPEC 1	TEST RESULTS 1,2	MAX SPEC 1
Copper	1.7	10	1.1	20
Solder <sup>3</sup>	4.3	30	21.6	60
Brass	0.6	10	1.6	20
Steel	0.1	10	+0.8	20
Cast Iron	+0.8	10	+1.2	20
Aluminum	+0.3	30	+2.5	60

1. Wt. /loss coupon in mg. 2. Copper/brass radiator results. 3. Regular 70/30 lead on copper/brass coupons.

ASTM TEST PROCEDURE	TEST RESULTS	SPECIFICATION
D4340 Heat Rejecting Aluminum Corrosion	0.16 mg/cm <sup>2</sup> /week	1.0 maximum
D2809 Aluminum Water Pump Cavitation Erosion Corrosion (rating from 1 to 10)	10	8 minimum

Shelf life stability: minimum 2 years from date of manufacture

#### STORAGE

All packages should be stored under cover to avoid the possible ingress of water and the obliteration of drum markings. Products should not be stored above 60°C.

#### AVAILABLE PACK SIZES

Pre Mixed: IBC - 40055B, 205lt - 40055, 20lt - 42055, 5lt - 40555

Concentrate: IBC - 40054B, 205lt - 40054, 20lt - 42054, 5lt - 40554

#### HEALTH, SAFETY AND ENVIRONMENT

Health, safety and environmental information is provided for this product in the relevant Materials Safety Data Sheet, which can be obtained by contacting Gulf Western Oil on: 02 9673 9600.