

# Green Coolant Concentrate

## Heavy Duty

**3 years or 100,000km Protection**

### Product Information

Green Coolant Concentrate is a low silicate proprietary blend designed to meet the performance requirements of both automotive and **heavy-duty** diesel engines (with no initial addition of Supplemental Coolant Additives). It is fully aluminium compatible and is suitable for use in lean burn engines where higher than normal temperatures are achieved in the head and block.

When used as a 33% by volume coolant in softened or de-mineralised water, this product is warranted for **3 years or 100 000km** in an automotive application.

Green Coolant Concentrate is to be used at 50% by volume in softened or de-mineralised water for **heavy-duty** diesel applications.

Green Coolant Concentrate meets or exceeds the performance requirements of the following engine coolant specifications.

OEM / Agency	Specification
ASTM	D-3306/ D-4985
AS/NZS	2108.1:1997 Type A
SAE	J1034 / J1941
GM	1825M / 1899M
FORD ESE	M97B44-A / M97B18-C
CUMMINS	Bulletin # 3666132
CATERPILLAR	1 EO 535
DETROIT DIESEL	Bulletin # 7SE298
TMC	RP329

## PRODUCT INFORMATION

### Performance Testing

Coupon Type	ASTM D 1384-94 Glassware Corrosion		ASTM D 2570-94 Simulated Service	
	Test Results <sup>1</sup>	Max. Spec. <sup>1</sup>	Test Results <sup>1 2</sup>	Max. Spec. <sup>1</sup>
Copper	1.3	10	0.4	20
Solder	15	30	24.1	60
Brass	1.6	10	0.8	20
Steel	0.1	10	+0.4	20
Cast Iron	+0.5	10	+1.8	20
Aluminium	+2.1	30	0.4	60

<sup>1</sup> Weight Loss/Coupon (mg)

<sup>2</sup> Copper/brass radiator

ASTM Test Procedure	Test Results <sup>1</sup>	Specification
D4340-89 Heat Rejecting Aluminium Corrosion	0.2 mg/cm <sup>2</sup> /week	1.0 maximum
D2809-94 Aluminium Water Pump Cavitation-Erosion Corrosion (rating from 1 to 10)	10	8 minimum

### Physical and Chemical Properties

Test	Performance	Test Method
pH (50% v/v)	10.0 - 11.0	ASTM D 1287
Reserve Alkalinity, ml 0.1N HCl	10.0 min	ASTM D 1121
Specific Gravity (15°C)	1.110 - 1.145	ASTM D 1122
Freeze Point (50% v/v)	-37°C	ASTM D 1177
Foaming Properties - Volume (ml)	50 max.	ASTM D 1881
Foaming Properties - Break time (sec.)	5 max.	ASTM D 1881
Flash Point	116°C min.	ASTM D 92
Ash Content (% w/w)	2.0 max.	ASTM D 1119
Odour	Characteristic	
Colour	Green	
Shelf Life	2 years	
Total Glycol (% w/w)	95.0 min.	
Chloride (ppm)	25 max.	ASTM D 3634
Total Apparent Water (% w/w)	4.0 max.	

## PRODUCT INFORMATION

The performance and physical property data described for this product are presented in good faith and believed to be reliable; however, they should be considered as typical results and not as sales specifications.

Notice: Because use conditions and applicable laws may differ from one location to another and may change with time, customer is responsible for determining whether products and the information in this document is appropriate for customer's use and for ensuring that customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Liberato's warranty is limited to the claims of product meeting stated specifications. It is the responsibility of the end user to determine product suitability as recommended in the Owner's Manual and to follow engine manufacturer's instructions.

