

## HB500-C Coolant Concentrate

Power Cool HB500-C Coolant Concentrate is a green coloured nitrite, amine and phosphate free (NAP Free), low silicate, fully formulated hybrid organic acid technology (HOAT) engine coolant which offers an extended service life and is designed for both heavy and light duty diesel engines. **The product is a concentrated antifreeze/coolant and should be diluted to 50% with good quality water demineralised or deionised) before use.**

It has been proven across a range of industrial applications including mining, power generation, rail and marine as well as light and heavy duty on-highway trucks and is an excellent choice when an application demands a nitrite free solution.

Power Cool HB500-C Coolant Concentrate Protects all coolant system metals including aluminum and other light metals from erosion, corrosion and rust and provides excellent wet sleeve liner cavitation protection.

It is recommended for use where an extended service interval is required, it does not require a charge of SCA or coolant extender at initial fill however is compatible with both. Its compatibility extends to use with other similarly formulated extended life low silicate, NAP Free, hybrid engine antifreeze / coolants which allows for a straightforward changeover process.

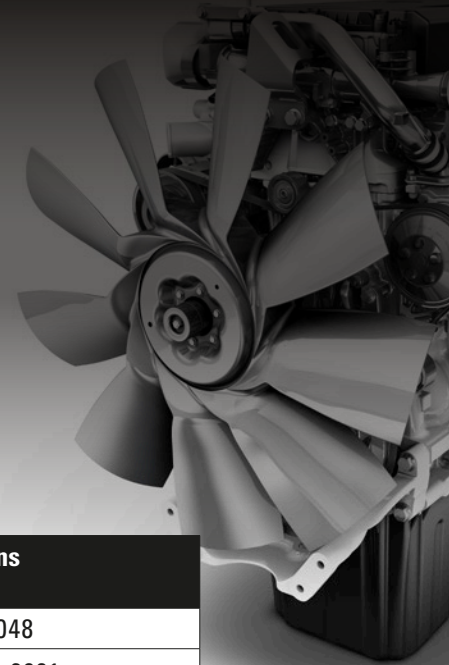
Power Cool HB500-C Coolant Concentrate provides protection against low temperature freeze-up or high temperature boil-over and suitable for all season use throughout winter and summer. It provides freeze protection down to  $-37^{\circ}\text{C}$  and boil-over protection up to  $+132^{\circ}\text{C}$  (with the use of a 100 kPa pressure cap), when diluted to the specified percentage.

When used as a 50% coolant with demineralised or deionised water Power Cool HB500-C Coolant Concentrate offers the following advantages:

- Low silicate
- Nitrite, amine and phosphate free
- OEM approved
- 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 Power Cool HB500-C Coolant Concentrate in a 50% diluted form)
- Product is compatible with standard SCAs and coolant extenders
- Extended life 6 years, 12,000 hours or 1,000,000 km (whichever comes first)\*

\*Always refer to the OEM maintenance procedures for recommendations regarding drain intervals.

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## Power Cool HB500-C Concentrate Approvals & Specifications

<b>Recommended and suitable for use where the following engine coolant specifications are required:</b>		
• ASTM D3306, D4985, D6210-10, D7583	• GM 1825M, 1899M	• MTU MTL 5048
• AS/NZS 2108:2004 Type A	• JIS K2234	• Saab/Scania 6901
• Cummins 3666132	• MAN 324	• Renault Type D
• DDC 7SE 298, 93K217	• MB DBL 7700.00	• VW TL 774C
<b>Power Cool HB500-C is approved by the following OEM (Refer to OEM specifications and maintenance procedures for correct use):</b>		
• <i>mtu</i>		

**Power Cool HB500-C Coolant Concentrate provides excellent value as a light metal compatible, universal, long life engine coolant suitable for mixed fleet applications. Along with this value, Penske Australia offers you the following advantages:**

- Reliable supply
- Consistent high-quality product
- Unsurpassed technology
- Valuable technical service backup
- Education on safe use and product management to reduce operating costs

For more information on Power Cool Engine Coolants for your application contact your local Penske branch or representative.

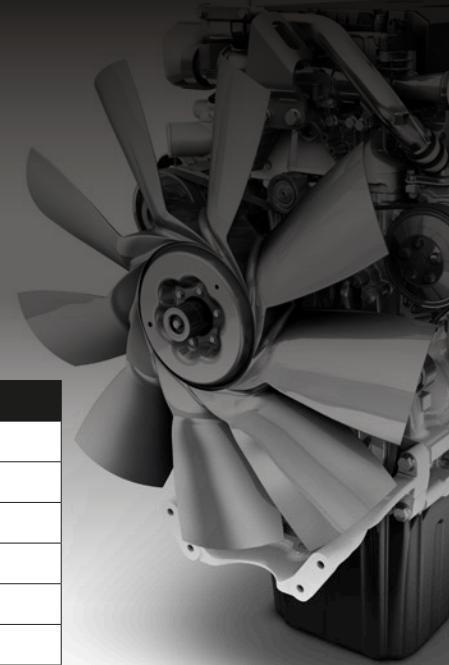
## Power Cool HB500-C Coolant Concentrate Performance Testing

Metal Type	ASTM D 1384 Glassware Corrosion		ASTM D 2570 Simulated Service	
	Test Results <sup>1</sup>	Max. Spec.	Test Results <sup>1</sup>	Max. Spec.
Copper	1.5	10	1.4	20
Solder	2.5	15	3.2	60
Brass	1.5	10	1.8	20
Steel	1.0	10	0.4	20
Cast Iron	1.0	10	0.8	20
Aluminium	1.0	15	1.1	60

Test	Test Results <sup>1</sup>	Specification
ASTM D4340 Heat Rejecting Aluminum Corrosion (mg/cm <sup>2</sup> /week)	0.27	1.0 Max.
ASTM D2809 Aluminum Water Pump Cavitation – Erosion Corrosion Rating	9-10	8 Min.

<sup>1</sup> Weight loss per coupon in milligrams. Values are for coolant made from virgin ethylene glycol and diluted to 50% with demineralised or deionised water.

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## Power Cool HB500-C Coolant Concentrate Physical & Chemical Properties

Characteristic <sup>2</sup>	Performance	Test Method
Colour	Green	
pH 50%	7.5 – 9.0	ASTM D1287
Reserve Alkalinity, ml	10.0 min.	ASTM D1121
Specific gravity	1.125 – 1.135	ASTM D1122
Freeze point, °C/°F	-37	ASTM D1177
Foam volume, ml	50 max.	ASTM D1881
Foam break time, second	5 max.	ASTM D1881
Flash Point	116°C	ASTM D-92
Fire Point	120°C	
Total Glycols (Weight %)	94.0 min.	
Inhibitors and dye (Weight %)	5.0 max.	
Total Apparent Water (Weight %)	3.5 max.	
Chloride, ppm	< 25	ASTM D3634
Silicon, ppm	< 185 (Due to Silicon from Silicate)	ICP
Shelf Life, (Unopened, original container)	5 years	ASTM D1287

<sup>2</sup> These characteristics are typical of current production in an undiluted state. While future production will conform to Power Cool specification, variations in these characteristics may occur.

### Warranty

When added as an initial fill and properly maintained in accordance with engine manufacturer's maintenance recommendation, this product will provide an in-service life of up to 1,000,000 km, 12,000 hours or 6 years, whichever comes first. While deleterious effects are not expected to be significant, mixing with conventional coolants will result in a lower than expected lifetime.

### Handling, Storage & Shelf Life

Product should be stored in original container or appropriate dedicated tank or vessel. Although temperature fluctuations will not adversely affect coolant, unused coolant should be stored at ambient conditions. Under typical conditions and

when the container integrity is maintained, product can be stored for up to 5 years without any adverse effect on quality. Product should be agitated before use.

### Health, Safety & Environment

For detailed information and recommended practices related to Health and Safety, please refer to the appropriate Safety Data Sheet (SDS). New or spent coolant is never to be disposed of into a septic system, storm sewer or onto the ground. Always dispose coolant in accordance with local, provincial/ state and federal guidelines. Contain any spilled coolant and contact appropriate authorities on appropriate clean-up instructions.

## For more information on Power Cool for your application please contact Penske Australia on 1300 688 338

**NOTICE:** This product is shipped in compliance with applicable laws and regulations regarding classification, packaging, shipping and handling. The performance and physical property data described for this product are typical results not sale specifications, except where maximum or minimum is indicated. Refer to Safety Data Sheets for further information.

Because use conditions and applicable laws may differ from one location to another and may change with time, the customer is responsible for determining whether product and the information in this document are appropriate for their use and for ensuring that their workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Manufacturer's warranty is limited to the claims of product meeting stated performance 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.

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