

POWER COOL®



GF9477-C Glycol Free Coolant Concentrate

Power Cool GF9477-C Concentrate is a green coloured, proprietary organic acid technology (OAT) water based engine coolant which is free of Ethylene Glycol, 2EH (2-Ethylhexanoic Acid), silicates, phosphate, borate, nitrate, nitrite and amines. When diluted to 7% with softened or demineralised water this product provides excellent cooling system protection for diesel and gas engines, in passenger cars, buses, tractors, trucks, industrial equipment and mining equipment. It offers an extended service life and is designed for both heavy and light duty diesel engines.

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 glycol free solution, such as underground mining where glycol is not permitted.

Power Cool GF9477-C Concentrate contains inhibitors to protect engine components against corrosion, including copper, solder, brass, steel, cast iron and aluminium. It also provides excellent wet sleeve liner cavitation protection without the use of nitrites.

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. Power Cool GF9477-C Concentrate is miscible and compatible with other similarly formulated water based coolants, which allows for a straightforward changeover process.

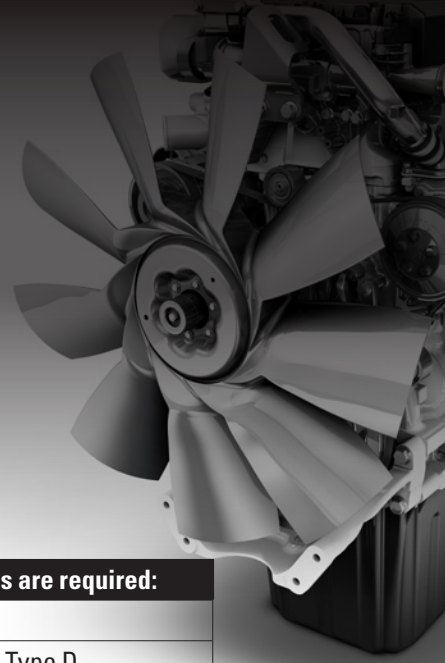
Power Cool GF9477-C Concentrate provides environmental benefits given it does not contain any glycol and the organic components are readily biodegradable.

This engine coolant, once diluted, offers the following advantages:

- Glycol free
- Nitrite, amine, phosphate and silicate (NAPS) free
- Manufactured and tested in Australia
- 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
- Compatible with other long life organic acid technology (OAT) based engine coolants; for best performance it is recommended to flush the old coolant and replace entirely with premixed GF-9477-C. 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 GF9477-C Concentrate meets or exceeds the performance requirements of the following specifications when premixed with demineralised water (Diluted to 7%)

Power Cool GF9477-C Coolant Specifications

Recommended and suitable for use where the following engine coolant specifications are required:		
• ASTM D3306/D6210	• GM 1825M /1899M /6277M	• Scania
• BS 6580	• Komatsu AFNAC	• Renault Type D
• JIS 2234	• MAN 324 NF	• VW/Audi TL-774 F
• Cummins CES 14603	• Mercedes MB 325.3/326.3	• Nissan NES 5059 LLC
• Chrysler MS12106	• MTU MTL 5049	• Peugeot B71 5110
• Ford WSS-M97B44-D1/ WSS-M97B51-A	• Volvo	

Power Cool GF9477-C Concentrate provides excellent value as a glycol free, 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. GF9477-C is also available in a ready to use Premix formula (Power Cool GF9443).

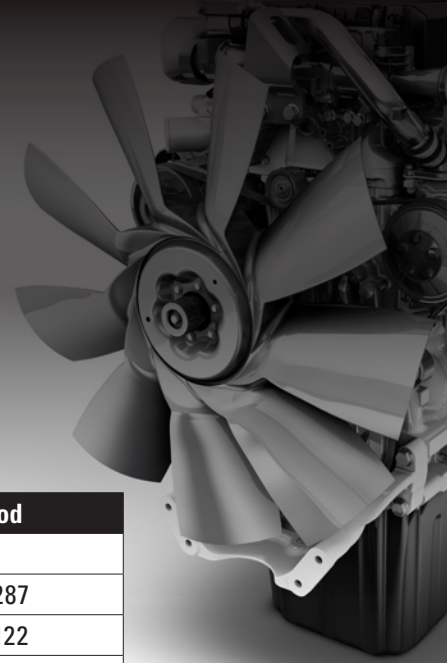
Power Cool GF9477-C Coolant Performance Testing (Diluted to 7%)

Metal Type ¹	ASTM D 1384 Glassware Corrosion		ASTM D 2570 Simulated Service	
	Tests Results ¹	Max. Spec.	Tests Results ^{1,2}	Max. Spec.
Copper	0.1	10	+1.5	20
Solder	0.2	15	+13.7	60
Brass	0.0	10	+2.2	20
Steel	0.0	10	+4.9	20
Cast Iron	+1.9	10	+7.6	20
Aluminium	5.1	15	+13.1	60

Test	Test Results ¹	Specification
ASTM D4340 Heat Rejecting Aluminum Corrosion (mg/cm ² /week)	0.1	1.0 maximum
ASTM D2809 Aluminum Water Pump Cavitation – Erosion Corrosion Rating	9	8 minimum

1. Weight loss per coupon in milligrams
2. Aluminium radiator results

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Power Cool GF9477-C Coolant Concentrate Physical & Chemical Properties (Diluted to 7%)

Characteristic ³	Performance	Test Method
Colour	Green	
pH	7.5 – 9.0	ASTM D-1287
Specific gravity (15.6°C/60°F)	1.01 – 1.02	ASTM D-1122
Foam Volume (mL)	50 max.	ASTM D-1881
Foam Break time (sec)	5 max.	ASTM D-1881
Ash content (wt. %)	5 max.	ASTM D-1119
Odour	Characteristic	
Shelf Life	5 years minimum	
Total Glycols (wt. %)	0%	
Chloride (ppm)	25 max.	ASTM D-3634
Silicon (ppm)	< 10	
Boron (ppm)	< 10	
Phosphorous (ppm)	< 10	ASTM D-1287

³ These characteristics are typical of current production. 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.

Distributed and recommended by



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