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Bulletin No.	TS-FL-20-08	
Distribution:	Service Managers Parts Managers	X

Freightliner Technical Service

BULLETIN NUMBER: TS-FL-20-08

ADR80/03 Freightliner Coolant Compatibility

*****This bulletin replaces the version dated September 2011*****

Introduction:

There has been some confusion in the field about the compatibility of the factory fill standard coolant used in all Freightliner vehicles when checking and topping up the cooling system.

The factory fill coolant used in all Freightliner vehicles is approved and meets the recommended specifications of Cummins and Detroit Engines.

Description:

Recent bulletins from DTNA (FSB 20-84) and Detroit (15 TS-3) have mentioned a change from Nitrite Organic Acid Technology (NOAT) Extended Life Coolant (ELC) to Nitrite-Free Organic Acid Technology (OAT) ELC. This change **only affects** vehicles filled with an ELC as a first fill coolant. Freightliner Australia vehicles **are not** filled with an ELC as a first fill coolant from factory.

Factory Fill Coolant:

All ADR80/03 Freightliner vehicles are ordered with data code 103-036 (Antifreeze to -34F, Ethylene Glycol Pre-Charged SCA Heavy Duty Coolant), Freightliner use Shell – HD/N Antifreeze Coolant for this data code. This particular coolant is not available in Australia. This is a conventional engine coolant which is standard life.

The coolant formulation includes nitrites, nitrates, borates, and silicates. Fully formulated with SCA.

Testing Procedures:

Conventional standard life coolant additive concentration testing should be performed every oil drain interval using a Detroit genuine fluid analysis 3-way coolant test kit or similar, and following the instructions included in the test kit and the engine manufacture concentration



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level guidelines. The glycol level should be tested using a refractometer.

OAT ELC glycol concentration testing should be performed at every oil drain interval with a refractometer as well as a check of Ph with Ph strips or a Ph meter. A lab test must be performed on this coolant every 6 months.

CONVENTIONAL STANDARD LIFE COOLANT SHOULD BE DRAINED AND THE SYSTEM FLUSHED EVERY 2 YEARS / 450,000KM (Whichever occurs first) AND REFILLED WITH NEW COOLANT WHICH MEETS THE ENGINE MANUFACTURES RECOMMENDATIONS.

If used as a first fill coolant and properly maintained, OAT ELC can remain in the cooling system for up to 6 years / 1,000,000km. Normal flushing and refill procedures must be followed when replacing OAT ELC.

Topping Up and Maintaining the Cooling System when filled with Initial Factory Fill Coolant:

The coolant level should be checked at each maintenance interval. If topping up is required, investigate the cause of the coolant loss then add coolant which meets Detroit Fluids Specification 93K217 Approved Coolants List or is specified to Cummins® CES 14603. For assistance in determining the correct coolant, please refer to **Fig. 1 and Table 1**.



Fig. 1

For **Detroit** vehicles fitted with the label from **Fig. 1** or similar please use the coolants from the list in **Table 1**. For **Cummins** vehicles fitted with the label from **Fig. 1** or similar please use the coolants from the list in **Table 2**.



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Table 1. - Detroit

Company Name	Product Name	Inhibitor Technology	Coolant Base
Detroit	PowerCool	Conventional	Ethylene Glycol
BP Lubricants	Castrol Heavy Duty Coolant	Conventional	Ethylene Glycol

Table 2. - Cummins

Company Name	Product Name	Inhibitor Technology	Coolant Base
Detroit	PowerCool	Conventional	Ethylene Glycol
BP Lubricants	Castrol Heavy Duty Coolant	Conventional	Ethylene Glycol
Cummins Filtration	Fleetcool	Conventional	Ethylene Glycol
Alliance	Heavy Duty Engine Coolant	Conventional	Propylene Glycol
Cummins Filtration	PG Platinum	Conventional	Propylene Glycol

Propylene glycol based products should not be mixed with the factory initial fill coolant. If the customer wants to use these products then the initial factory fill coolant must be drained and flushed (Instructions Group 20, Section 01, Subject 220) and a new sticker outlining the coolant product must be adhered to the surge tank. The old sticker must be removed.

Australian Alliance Branded Coolant:

The Australian **Alliance Heavy Duty Engine Coolant** is a propylene glycol based coolant. This coolant does not appear on the Detroit approved list above and therefore should not be mixed with the Freightliner factory initial-fill coolant in Detroit engines. This product should also never be used in HDEP DD Platform engines.

Freightliner Trucks Australia and the manufacture are currently working on the required approvals for the Alliance Primecool GP P-40.



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Topping Up and Maintaining the Cooling System when filled with Organic Acid Technology Extended Life Coolant:

In some cases, customer's vehicles may have the coolant replaced by an outside repairer or another workshop after a repair. If the coolant has been replaced with an OAT ELC then a label similar to the label in **Fig. 2** should be fitted to the vehicle.



Fig. 2

If the vehicle has been filled with an OAT ELC, please use coolants from the below lists; **Detroit** in **Table 3** & **Cummins** in **Table 4**.

Table 3. - Detroit

Company Name	Product Name	Inhibitor Technology	Coolant Base
Detroit	Power Cool Plus	OAT	Ethylene Glycol

Table 4. - Cummins

Company Name	Product Name	Inhibitor Technology	Coolant Base
Detroit	Power Cool Plus	OAT	Ethylene Glycol
Cummins Filtration	ES Compleat OAT	OAT	Ethylene Glycol
Alliance	GP P-40	OAT	Ethylene Glycol



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Conventional and OAT coolants should not be mixed, but in the event that they are the OAT coolant will lose its extended life. Mixing coolants may return incorrect ethylene glycol and or SCA level readings; this may result in incorrect cooling system maintenance and subsequent engine damage. To enable correct testing the coolant should be drained, flushed (Instructions Group 20, Section 01, Subject 220) and replaced as soon as it's practical.

Warranty

This is an information bulletin only; warranty does not apply.

A handwritten signature in black ink, appearing to read "Rod West", with a stylized, sweeping flourish at the end.

Rod West
Senior Manager
Freightliner Trucks

A handwritten signature in black ink, appearing to read "Sam Taylor", with a stylized, sweeping flourish at the end.

Sam Taylor
Manager – Technical
Freightliner Trucks