



PRODUCT DATA SHEET

ADNOC Auto Cool LL NM Red 50%, 100%

DESCRIPTION

ADNOC Auto Cool LL NM Red is a series of long life, single phase, ethylene glycol antifreeze/coolant based on advanced technology of organic inhibitor additives. It is hybrid type, based on OAT (Organic Additive Technology), **Nitrite** and **Molybdate** chemistry for Heavy Duty applications. It is free from Amines, Borates, Phosphates and Silicates.

It provides outstanding cavitation protection of cylinder liners of heavy duty engines and effective long term corrosion protection, even at elevated temperatures, of commonly found cooling system metals, including aluminum.

It is compatible with all standard rubber hoses, gaskets and seals used in the cooling systems of heavy duty engines. It is available in concentrate and 50% ready-to-use diluted versions.

APPLICATIONS

ADNOC Auto Cool LL NM Red is recommended for heavy duty and light duty diesel engines used in on-road, off-road, stationary and marine applications regardless of fuel type where the OEM recommends a silicate/phosphate free, extended life coolant that contains nitrite or nitrite/molybdate. It provides ideal cooling, effective protection against corrosion and scale deposit formation in the cooling systems year-round, resulting in longer cooling system life for at least 960,000km/6 years for trucks and buses in on-road use and 10,000h for off-road/stationary engines usage.

BENEFITS

- **Contain nitrite and molybdate for additional cylinder liner protection**
- **Free of silicates, phosphates and amines**
- **High boiling point provides efficient protection at high temperatures**
- **Excellent anti-foam properties**
- **Protects the radiator against rust & corrosion**
- **Compatible with ordinary summer coolant**
- **Does not contains abrasive inhibitors**
- **Improved heat transfer**

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PERFORMANCE LEVEL

ADNOC Auto Cool LL NM Red is suitable for use where the following specifications are required:

ASTM D6210
Caterpillar ELC (EC-1)
Cummins 90T8-4
Detroit Diesel 7SE298
Freightliner 48-22880
SAE J1034, J1038
TMC RP329

PRODUCT TYPICAL CHARACTERISTICS

Properties	Unit	50%	100%	Test Methods
Color	-	Red		Visual
Density@20°C	kg/L	1.069	1.115	ASTM D1122
Reserve Alkalinity	mL	5.7	10.5	ASTM D1121
pH@20°C	-	8.9	-	ASTM D1287
pH@20°C, 50% Dilution	-	-	8.9	ASTM D1287
Boiling Protection	°C	129.5*	162.8	ASTM D1120
Freezing Protection	°C	-37	-	ASTM D1177
Freezing Protection (50%)	°C	-	-37	ASTM D1177
Foam				
- Volume	mL	50	105	ASTM D1881
- Break Time	s	4	4	
Ash content	%mass	0.8	1.6	ASTM D1119
Effect on Automotive Finish	-	no effect	no effect	ASTM D1882
Molybdate as MoO ₄ ⁻²	mg/L	150	300	In-house
Nitrite as NO ₂ ⁻	mg/L	1200	2400	In-house
Chloride	mg/L	null	null	ASTM D3634
Amine, Borate, Phosphate, Silicate	mg/L	null	null	In-house

*Using a 1.1bar pressure cap

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PRODUCT TYPICAL CHARACTERISTICS

Corrosion of Cast Aluminum Alloys at Heat-Rejecting Surfaces		Result	ASTM D4340
			ASTM D3306 Limit
Cast Aluminum	mg/cm ² /week	0.6	1.0 Max.

Glassware Corrosion Test		Result	ASTM D1384
			ASTM D3306 Limit
Copper	mg/specimen (weight loss)	3	10 Max.
Solder		2	30 Max.
Brass		3	10 Max.
Steel		3	10 Max.
Cast Iron		3	10 Max.
Aluminum		7	30 Max.

Simulated Service Corrosion Test		Result	ASTM D2570
			ASTM D3306 Limit
Copper	mg/coupon	1	20 Max.
Solder		2	60 Max.
Brass		1	20 Max.
Steel		1	20 Max.
Cast Iron		2	20 Max.
Aluminum		3	60 Max.

Minor variations in product typical test data are to be expected in normal manufacturing.

Always follow the Original Equipment Manufacturer's recommendation (OEM) for the equipment operating conditions, product specification, drain interval and customer's maintenance practices.
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