

Long Life Pre-Mix Coolant

Nulon Long Life Pre-Mix Coolant (LLTU) is a pre-diluted, ready-to-use 33% mix of Nulon Long Life Concentrated Coolant (LL) and 67% demineralised water. LLTU is formulated to be used in either of two ways:

1. As a top-up to any cooling system that contains Nulon Long Life Concentrated Coolant (LL). (Note: If a vehicle manufacturer specifically recommends a 50/50 mix, it will be necessary to use a 50/50 mix of Nulon LL and water.)
2. As a top-up with all other coolant brands. The life of LLTU defaults to that of the original coolant in the cooling system. If you are unaware of the type, or expected life of coolant in the system, we recommend a complete change within 5,000km or the next 6 months to the appropriate Nulon Long Life Concentrated Coolant.

Use as a complete fill product. This is particularly advantageous in areas where water is of poor quality, or is very hard, such as Perth and Adelaide.

All performance characteristics of Nulon Long Life Top-Up (LLTU) are exactly the same as for Nulon Long Life Concentrated Coolant (LL) when LL is mixed 1 part to 2 parts water.

Nulon Long Life Top-Up (LLTU) offers long-term cooling system protection for all motor vehicles. Nulon LLTU is based on Hybrid Additive Technology (HAT), which is a blend of organic and inorganic additives. The advantage of this product over conventional ethylene glycol type coolants is that the corrosion-inhibiting package has minimal depletion over an extended period of time. This means that maximum corrosion and anti-freeze/anti-boil protection are maintained until the fluid is replaced at the recommended 250,000 kilometres or four years (whichever comes first).

Nulon LLTU is to be used direct from the container and not diluted. Nulon LLTU protects for 4 years or 250,000km and is safe to use in all Commodores and Ford Falcons (including V series and AU & BA).

Nulon LLTU is a low-silicate formulation containing no nitrite, phosphate or amine. These chemicals are often used in conventional coolants and have limitations in performance, protection afforded, and vehicles to which they are suited. Nulon LLTU is guaranteed suitable for use in all vehicles where the manufacturer specifies anti-boil/anti-freeze coolant.

Nulon LLTU's formulation is approved by Ford Australia (ESE-M97B44-A specification) for initial fill in all Australian-manufactured 6 & 8-cylinder vehicles. This specification is recommended by Ford for all in-warranty and post-warranty servicing of Ford vehicles where a glycol-based coolant is required.

Applications:

Nulon LLTU is recommended for the protection of cooling systems of all petrol engines and heavy and light-duty diesel engines operating in on-road, off-road, or stationary conditions. LLTU provides maximum protection against cavitation erosion of wet cylinder liners in diesel engines. Refer to Nulon Fact Sheet No. 108 for more information regarding diesel engine applications. (Note: for maximum protection, particularly in heavy-duty diesel applications, use Long Life Concentrated Coolant (LL) at 50% volume with clean, soft or demineralised water).

LLTU is guaranteed to be suitable for the protection of cooling systems of all passenger vehicles where an anti-boil/anti-freeze coolant is specified. Nulon LLTU is also suitable for older vehicles where a broader cooling system operating temperature range is desired, or as a replacement for conventional corrosion inhibitors.

Note: Where a manufacturer specifies full Organic Acid Technology (OAT) long life coolant, use either of Nulon's Red Long Life Coolants.

Benefits:

- 4 years or 250,000 km service life (whichever comes first)
- Guaranteed to suit every vehicle
- Provides optimum protection against corrosion of all metals in vehicle cooling systems
- Compatible with hoses and rubber fittings
- Expands operating temperature range of cooling systems (see details overleaf)
- Suitable for use in heavy duty diesel in conjunction with supplemental coolant additives (SCA).
- Reduces the incidence of nucleate or hot spot boiling
- Not aggressive to water pump seals as is often the case with silicate-based coolants
- Performance of organic acid-based inhibitors does not diminish with time
- Reduces inventory for fleet operators

Part No	Pack Size	Barcode	Carton QTY
LLTU1	1 Litre	9311090 001039	12
LLTU5	5 Litre	9311090 000803	3



Long Life Pre-Mix Coolant (Cont'd)

Specifications and Standards:

Nulon LLTU satisfies the performance requirements of the following standards and specifications.

- AS 2108.1:2004 Type A
- ASTM D 1384 Glassware Corrosion Test
- ASTM D 2570 Simulated Service Corrosion Test
- ASTM D 2809 Cavitation Erosion Test
- ASTM D 3306
- ASTM D 4340 Heat Rejection Corrosion Test
- ASTM D 4656
- ASTM D 4985 (heavy-duty engines)
- ASTM D 5345
- BMW (UK)
- BS 6580
- Detroit Diesel Allison 7SE298
- Ford ESE-FM97B18-C, ESE-M97B44-A
- GM 1825M / 1889M
- GMH HN2043, HN2217
- JIS K 2234
- Mazda MES MN 121D
- Mercedes Benz DBL 7700
- Nissan NES M 5509
- Saab FSD 8074
- SAE J 1034
- Toyota TSK 2601G
- Volvo (UK)

Physical Properties:

Property	Nulon LLTU
Density (g/ml at 20°C)	1.053
Freezing point (°C)	-18
Boiling point (°C)	105
pH	7.7
Reserve alkalinity (ml)	6
Chloride Ion (mg/L)	<10
Foaming: Height, (mls)	45
Break Time, (seconds)	2
Shelf life	3 years
Colour	Green
Odour	Characteristic
Glycol content (grams p/ litre)	353
Glycol content (ml/litre)	320
Coolant hose test (SAE J20)	Pass

Temperature range (Using 105 kPa radiator cap)

Boils at	127°C
Freezes at	-18°C

Glassware Corrosion Test (ASTM D 1384)

Metal	*AS 2108.1:2004	*ASTM D 3306	Result for Nulon LLTU
Copper	10	10	1
Solder	15	30	1
Brass	10	10	0
Steel	10	10	1
Cast iron	10	10	2
Aluminium	15	30	1

* Maximum allowed weight loss (mg)

Simulated Service Test (ASTM D 2570)

Metal	*AS 2108.1:2004	Result for Nulon LLTU
Copper	20	1
Solder	60	1
Brass	20	2
Steel	20	0
Cast iron	20	1
Aluminium	60	1

*Maximum allowed weight loss (mg)

**Actual weight loss (mg)

Water Pump Cavitation/Erosion Test (ASTM D 2809)

Metal	AS/NZS2108.1:2004 (rating out of 10)	Typical result for Nulon LLTU
Cast Aluminium	8 min	9

Aluminium Heat Rejection Corrosion Test (ASTM D 4340)

Nulon LLTU Corrosion rate (mg/cm ² /week)	AS/NZS 21008.1:2004 (max allowable rate, mg/ cm ² /week)
0.17	1.0

