Green Premium Long Life Coolant 100% Concentrate (LL)

Nulon Green Premium Long Life Coolant 100% Concentrate(LL) offers long-term cooling system protection for all motor vehicles. Nulon Long Life Coolant 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, anti-freeze/anti-boil protection are maintained until the fluid is replaced at the recommended 500,000 kilometres or 7 years (whichever comes first).

Nulon LL is to be used at 33% to 50% by volume in soft or de-mineralised water. Nulon Long Life Coolant protects for 7 years or 500,000km @ 50% V/V and is safe to use in all Commodores and Ford Falcons (including all V series Commodores and AU to FG/FG X Falcons).

Nulon Green Premium Long Life Coolant 100% Concentrate 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 LL is guaranteed suitable for use in all vehicles where the manufacturer specifies anti-freeze/anti-boil coolant.

Nulon Green Premium Long Life Coolant 100% Concentrate meets the specified requirement (HN2217) of General Motors Holden for use in all Australian manufactured four-cylinder vehicles. HN2217 is the specification recommended by GMH for all warranty servicing of Australian built and imported (Opel) four cylinder vehicles.

Nulon Green Premium Long Life Coolant 100% Concentrate formulation is approved by Ford Australia (ESE-M97B44-A specification) for initial fill in all Australian manufactured 6 and 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.

Benefits

- 7 years or 500,000 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
- Eliminates the need for supplemental coolant additives (SCA) in diesel engines
- Reduces the incidence of nucleate or hot spot boiling
- Not aggressive to water pump seals as is often the case with high silicate content coolants
- Performance of organic additive based inhibitors does not diminish with time
- Reduces inventory for fleet operators

Applications

Nulon Green Premium Long Life Coolant 100% Concentrate 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. LL Provides maximum protection against cavitation erosion of wet cylinder liners in diesel engines. For maximum protection, particularly in heavy-duty applications, use Long Life Coolant at 50% volume with clean soft or demineralised water.

Guaranteed to be suitable for the protection of cooling systems of all passenger vehicles where an anti-freeze/anti-boil coolant is specified. Nulon Green Premium Long Life Coolant 100% Concentrate is also suitable for older vehicles where a broader cooling system operating temperature range is required, or as a replacement for conventional corrosion inhibitors.

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

Recommended step-by-step guide for changing all concentrated coolants.

1. Before proceeding, read your owner's manual as some vehicles may have special requirements.
2. Check that all hose connections are tight. Also check the condition of all hoses, fittings and belts.
3. Use Nulon Radiator Flush and Clean (R40) to ensure that the radiator and engine are as clean as possible. This ensures maximum coolant life.
4. R40 should be added to the old coolant. With the heater on, run the engine, or drive for 20 minutes minimum, 1 hour maximum.
5. Stop the engine and allow it to cool. Remove the bottom radiator hose or drain plug to drain out all the old coolant. It is important to rinse out all traces of old coolant from the engine block and heater circuit. To best achieve this, refill the system with clean water, then run the engine up to operating temperature and when it is cool drain and flush again. This will ensure a clean environment for the new coolant.
6. Check the cooling system capacity of the vehicle and add the required dose of Nulon Concentrated Coolant (do not pre-mix), then fill with soft clean or demineralised water. Any leftover product can be pre-diluted and used as a top-up.
7. Some vehicles may require "air bleeding" to remove trapped air from the heater circuit and cylinder head. An air bleeding screw is located on the engine of some vehicles for this purpose. If you are unsure about this procedure please seek further advice before proceeding. Removing the return heater hose from the water pump to establish water flow, whilst topping up, will assist in reducing "air locks". Note: air locks can cause severe engine damage.
8. Start the engine and monitor coolant level and temperature until the thermostat opens and the vehicle reaches operating temperature.
9. When the vehicle cools down re-check the coolant level.

Note: This check sheet should be used as a guide only. Some vehicles may have special requirements that are not noted above. We strongly advise that you read your owner's manual or relevant workshop manual before proceeding with a coolant change.

Mix ratio	Makes	Boils at	Freezes at
33.3%	1 litre makes 3 litres	124°C*	-18°C
50%	1 litre makes 2 litres	128°C*	-37°C

* Using 105kPa Radiator Cap

Physical Properties

Property	Nulon LL
Density (g/ml at 20°C)	1.132
Freezing point 50% v/v: solution, °C	-37
Boiling point (undiluted) °C	176
Boiling point (50%v/v) °C	109
pH (50% v/v)	7.6
Reserve alkalinity (ml)	17
Flash point (open cup °C)	118
Chloride, ppm	<10

Foaming: Volume (mls) Break Time (seconds)	45 max 2 max
Shelf life	3 years
Colour	Green
Odour	Characteristic
Glycol content (grams p/litre)	1060

Glassware Corrosion Test (ASTM D 1384)

Metal	*AS/NZS 2108.1:2004	*ASTM D 3306	Result for Nulon LL
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
* wt. loss mg (max)			

Simulated Service Test (ASTM D 2570)

Metal	*AS/NZS 2108.1:2004	*ASTM D 3306	Result for Nulon LL
Aluminium	1.0 max	1.0 max	0.17
*limit (mg/cm2/week)			

Water Pump Cavitation Erosion Test (ASTM D 2809)

Metal	GM 1825M (rating)	ASTM D 3306 (rating)	Result for Nulon LL
Aluminium	8 min	8 min	9

Safety Directions

SAFETY: Harmful if swallowed. May cause respiratory irritation. Harmful to aquatic life. Use only outdoors or in a well-ventilated area. Store locked up.

FIRST AID: IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Rinse mouth. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor (at once).

ENVIRONMENT: Do not pollute drains, soil or water with used products. After use, dispose of container in a responsible manner. Disposal of container should comply with local council regulations.

Meets or exceeds the following oil industry specifications

AS Claims	AS 2108-2004 Type A
ASTM	ASTM D1384, ASTM D2570, ASTM D2809, ASTM D3306, ASTM D4340, ASTM D4656, ASTM D4985
Audi	Audi G11
BMW	BMW (UK)
Caterpillar	Caterpillar 1 EO 535
Cummins	Cummins 92 T8-9
Ford	ESE M97-B18C, ESE M97-B44A
GM	GM 1825M, GM 1899M
Holden	HN 2043, HN 2217
Madza	Mazda MES MN 1210
Mercedes Benz	Mercedez Benz DBL 7700
Nissan	Nissan NES 5059 LLC

Meets or exceeds the following oil industry specifications

Other Claims	BS 6580:1992, ETHYLENE-GLYCOL COOLANT 850, FL22, GME L 1301, JIS K2234 (Japan), Mopar Formula HOAT (MS-9769), MWN Diesel D234 2/15
Paraflu	Paraflu 11
Saab	SAAB FSD 8704
Society of Automotive Engineers	SAE J1034
Toyota	Toyota K2601G-1G
Volvo	Volvo (UK)
VW	VW G11

Pack Sizes

Part No: LL1
1 Litre - 6 Per Carton
Barcode: 9311090000292

Part No: LL2.5
2.5 Litres - 3 Per Carton
Barcode: 9311090000308

Part No: LL5
5 litres - 3 Per Carton
Barcode: 9311090000315

Part No: LL20
20 litres - Single Unit
Barcode: 9311090000322