

PRODUCT DATA

ANTIFREEZE NF

PRODUCT DESCRIPTION

Castrol Antifreeze NF is a fully formulated, corrosion inhibited, ethylene glycol based coolant concentrate. It is a superior, heavy duty diesel and passenger car engine coolant, formulated to provide excellent corrosion protection for modern engine alloys found in radiators, water pumps and cylinder blocks and heads. **Castrol Antifreeze NF** is a nitrite, phosphate and amine free, fully formulated glycol coolant and has been designed to meet the requirements of the major European engine manufacturers. **Castrol Antifreeze NF** provides an effective heat transfer medium, withstanding the high temperatures found in modern cooling systems, while also providing antifreeze protection to temperatures of -38°C at 50% v/v.

PRODUCT APPLICATION

Castrol Antifreeze NF has been designed to meet and generally exceed the specification requirements of most major European engine manufacturers and is particularly recommended for use in heavy duty European vehicles. **Castrol Antifreeze NF** is suitable for engines of both ferrous and aluminium alloy construction and can be used in the cooling systems of cars, light or heavy commercial vehicles, tractors and off-road applications where a high quality nitrite free coolant is called for. The concentration of the engine coolant used should be that recommended by the vehicle manufacturer. In the absence of such guidelines, Castrol Antifreeze NF should be diluted with good quality soft water in the concentration range of 30 – 50% v/v. Distilled, demineralised or deionised water are best and the recommended water to use. Rain water and "soft" water from areas like Melbourne, Sydney and Tasmania are preferred, "hard" high mineral content water should NOT be used.

Provided the glycol content is kept at 50% by volume in either demineralised, distilled or deionised water and the same mix is used for make up purposes, **Castrol Antifreeze NF** has an expected life of 5 years/9,000 hours/600,000km whichever occurs first, when used in European heavy duty diesel engine applications. In passenger car engines, replace as recommended by the engine manufacturer.



PRODUCT SPECIFICATIONS

Castrol Antifreeze NF is approved by Daimler Chrysler, Volvo, Scania, VW – Audi, MAN and MTU and may be used where the following specifications or standards are cited:

- Mercedes Benz 325.0, 325.2 DBL 7700.10, 7700.02 – BASF
- MBW N 600 69.0 – BASF Audi,VW/Skoda/Seat TL 774C
- MAN 324 MTU MTL 5048
- Opel, GM B 040 0240 Porsche TL 774 C
- Scania TB 1451 Volvo 128 6083
- KHD H-LV 0161 0188 AS 2108.1:97
- ASTM D2570 ASTM D4340
- ASTM D2809 Cat SEBU 6250-12 + relevant SCA
- Saab 6901599 German Army TL 6850-0038/1
- Jenbacher Ta-Nr. 1000-0201 Leibherr TLV 035, TLV 23009 A

PRODUCT FEATURES & BENEFITS

Features	Benefits
<ul style="list-style-type: none"> • Excellent corrosion protection, suitable for use with ferrous or aluminium alloy components. 	<ul style="list-style-type: none"> • Effective heat transfer medium, with an elevated boiling point of 129°C when used at 50% v/v in cooling systems pressurised to 15psi.
<ul style="list-style-type: none"> • Hybrid inhibitor technology to provide extended coolant life, longer than that offered by conventional coolant formulations. 	<ul style="list-style-type: none"> • Antifreeze protection down to –38°C at a concentration of 50% v/v.
<ul style="list-style-type: none"> • Meets the requirements of the majority of European vehicle manufacturer specifications. 	<ul style="list-style-type: none"> • Suitable for use in both gasoline and diesel passenger cars, light and heavy commercial vehicles, agricultural and off-road applications where a Nitrite free coolant is specified.
<ul style="list-style-type: none"> • Outstanding protection of aluminium and aluminium alloys. 	<ul style="list-style-type: none"> • Effective protection of alloy heads and aluminium water pumps.

Castrol Antifreeze NF combines the best aspects of both conventional and new organic inhibitor technologies in that it first offers longer life than conventional (inorganic) inhibited coolants. At the same time, it provides superior engine protection compared to that offered by some of the organic acid (OAT) based coolants resulting in less wear and tear on the cooling system and longer engine life.



The major benefits for the operator of engines offered by **Castrol Antifreeze NF** over conventional and pure OAT Based coolants include:

- Compatibility with typical silicate (conventional coolants) products without loss of service life. Most OAT's, when mixed with conventional fluids lose their long life ability resulting in reduced service life.
- Provides excellent protection on all types of the metals contained in coolant systems of modern passenger car and diesel engine and provides improved performance on aluminium and solder as compared to typical OAT coolants. Lead solder can combine with the acids in OAT products to produce soapy scum which can block radiator components and inhibitor heat transfer.
- Designed to be used as a general purpose heavy duty coolant to meet the requirements of a broad range of engine types, the benefit is the need to only stock one coolant.

TYPICAL CHARACTERISTICS

Colour	PH (50% V/V in water)	Density @ 20°C (g/mL)	Reserve alkalinity (mL)	Boiling Point (°C)	Freezing Point 50% v/v in water (°C)	Freezing Point 33% v/v in water (°C)	Flash Point (°C)
Green/blue	7.2	1.12	14	>185	-38	-18	>120

The above data is typical and does not constitute a specification.

If **Castrol Antifreeze NF** is to be used in US HDD engine cooling systems, it must be used at 50% v/v with Castrol SCA (or equivalent). The initial fill will need to be pre-charged to give 0.8 SCA units per litre of coolant and this will need to be maintained with the **Castrol HD Coolant Test Kit** (or equivalent). Castrol's prime recommendation for US HDDE cooling systems is **Castrol Premium Cool Plus or Castrol Premium Cool Plus 50**.

Topping Up

The use of **Castrol Antifreeze NF** mixed 50% v/v with good a quality water (distilled or deionised) is recommended in instances where coolant loss has occurred to ensure the inhibitor concentration is maintained. When servicing and/or topping-up the coolant system, start and run the engine for 5 minutes to circulate the fluid. Check for leaks and top up the system with 50% v/v mix.

DO NOT ADD WATER TO THE COOLING SYSTEM when topping up or refilling the system only add the correct mix of **Castrol Antifreeze NF** and good quality water.

Product Compatibility

While **Castrol Antifreeze NF** has been shown to be physically compatible with a number of other industry products, it is Castrol's strong recommendation that for optimum product life and performance **Castrol Antifreeze NF** should not be mixed with any other coolant. While simple laboratory tests taking a few days may indicate no chemical fallout when mixing some coolants, it is not possible to predict what will happen to coolant mixtures after many thousands of kilometers of use in a dynamic system. As a consequence, the long life and protection performance of **Castrol Antifreeze NF** is not guaranteed if the product is mixed with other coolants. For further advice when changing coolant brands please contact the Technical Service Manager in your local Castrol office.



HEALTH, SAFETY & ENVIRONMENT

Castrol Antifreeze NF is considered hazardous according to Worksafe. In line with safe handling practices, it is recommended that the handling instructions outlined in the Castrol Material Safety Data sheet be followed.

First Aid:

If poisoning occurs, contact a doctor or Poisons Information Centre. In Australia phone 131126; in New Zealand phone 03 474 7000.

Risk: Harmful if swallowed.

Avoid eye and repeated or prolonged skin contact. Avoid breathing vapour. Avoid contact with foodstuffs. Keep containers closed when not in use. Store away from oxidising agents. Store in a cool place and out of direct sunlight. Do not re-use the container unless thoroughly decontaminated. Used coolant may be harmful to the environment. Refer to local authority for disposal method.

Swallowed: If swallowed rinse mouth with water. Give plenty of water to drink, if vomiting occurs give further water. Seek medical assistance immediately.

Eyes: If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

Skin: Wash contaminated skin. If irritation occurs seek medical advice.

For fire: Use water jets, water fog, foam, dry agent. Avoid breathing products of combustion.

For spills: Slippery when wet. Wear protective equipment. Absorb with sand or soil. Collect and seal in properly labeled drums. Refer to State Land Waste Management Authority for disposal.

For further information, please refer to separate Material Safety Data sheet, available on request.



Spillage

- Small:** Soak up using an inert mineral adsorbent such as Castrol MOP and dispose of in the appropriate manner.
- Large:** Corrective action usually dictated by individual company safety procedures. Immediate containment and subsequent removal is essential.
- Disposal:** Refer to local Waste Disposal Authority for legal requirements.

Product Removal

- Bare Metal Surfaces:** Wash off with water.
- Hand Cleaning:** Wash off with water.
- Other Surfaces:** Wash off with water. Do not attempt to wipe off painted surfaces as damage to paint work may result as glycol can soften paint work.

Although all reasonable care has been taken to ensure that the information contained in this publication is accurate as at the time of printing, such information is nevertheless liable to variation in the event of changes occurring subsequent to the date of printing it: the blend formulation, methods of storage, or due to the improper handling or application of any of the products referred to, or in the requirements of any specification or approval relating to any of the products.

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