

SHELL HD PREMIUM ANTIFREEZE-N CONCENTRATE

PREMIUM LONG-LIFE, FULLY FORMULATED, OAT-HYBRID, NITRITED HEAVY-DUTY ETHYLENE GLYCOL ENGINE ANTIFREEZE CONCENTRATE

DESIGNED TO MEET CHALLENGES

Shell HD Premium Antifreeze-N Concentrate is a fully formulated long-life heavy-duty ethylene glycol antifreeze. The product is a hybrid antifreeze, containing the combination of organic additive technology inhibitors boosted with borate, nitrite, nitrate, molybdate and silicate inorganic corrosion inhibitors. It is a low silicate, phosphate and amine free antifreeze. It is suitable for heavy-duty applications without supplemental coolant additives (SCAs) during the initial fill. Shell HD Premium Antifreeze-N Concentrate should be diluted with water. For best results, consideration should be given to use demineralised or de-ionized water if possible.

PERFORMANCE FEATURES

ALL-CLIMATE YEAR ROUND PERFORMANCE

- Shell HD Premium Antifreeze-N Concentrate provides freeze protection to -37°C and boilover protection to 129°C (with the use of a 103.4 kPa pressure cap).

EXTENDED LIFE CAPABILITY

- Shell HD Premium Antifreeze-N Concentrate typically provides five years, or 240,000 kilometers service (whichever comes first) in automotive service and can provide up to 12,000 hours or 1 million kilometers in heavy-duty applications under normal operating conditions, provided the coolant is kept in good condition with the SCAs levels in line with the engine's OEM requirements (typically SCA extenders are required at 6,000 hrs/500,000 km).

FIELD COMPATIBILITY

- Shell HD Premium Antifreeze-N Concentrate is miscible and compatible with other engine antifreeze; although to get the best performance from the extended life capabilities and the time between SCA additions, it is always recommended to not dilute Shell HD Premium Antifreeze-N Concentrate with other coolants. It is also compatible with standard heavy-duty SCAs, coolant filters and hard water.
- Shell HD Premium Antifreeze-N Concentrate is part of the Shell family of heavy-duty lubricants and coolants for the heavy-duty market.

APPLICATIONS

HEAVY-DUTY PETROL OR DIESEL ENGINE ANTIFREEZE

- Shell HD Premium Antifreeze-N Concentrate is an amine and phosphate free, fully formulated long-life engine antifreeze suitable for automotive and heavy-duty petrol and diesel engines found in on-road, off-road, marine, farm, mining and construction equipment.
- Shell HD Premium Antifreeze-N Concentrate contains organic additive technology corrosion inhibitors as well as inorganic corrosion inhibitors, borate, molybdenum, nitrite, nitrate and silicate. This product does not require a charge of supplemental coolant additives (SCAs) during the initial fill or if the system is drained and fully charged with new diluted Shell HD Premium Antifreeze-N Concentrate. It is recommended in diesel applications that the coolant be checked frequently and SCAs replenished to comply with the engine's OEM recommendations.

It is specifically formulated to protect cylinder liners from pitting in heavy-duty applications. The low silicate level also provides aluminium compatibility for use in both light and heavy-duty applications making it highly suitable for mixed fleets (light duty as well as heavy-duty petrol and diesel engines).

SPECIFICATIONS, APPROVALS AND RECOMMENDATIONS

Shell HD Premium Antifreeze-N Concentrate has been formulated to meet the following coolant specifications:

- ASTM: D3306, D4985, D6210
- AS/NZ: 2108.1:1997 'Type A'
- Caterpillar: EC-1 (sections 2.3–4.5 included)
- Cummins: Bulletin 3666132
- Daimler Chrysler: MS 9769
- Detroit Diesel: 7SE298; 93K217
- Freightliner: 48-22880
- General Motors: 1825M, 1899M, Heavy Truck
- JLS: K 2234
- John Deere: JDM H24
- Kenworth: RO26-170-97
- MACK Truck: 014GS17004
- MAN: 324
- Mercedes-Benz: DBL 7700
- MTU: MTL 5048
- PACCAR: CSO185
- Scania: TB1451
- TMC: RP 329
- Daimler Chrysler: MS 7170
- Ford: ESE-M97B44-A, ESE-M97B18-C
- John Deere: HD 24
- International (IT&E): CEMS B-1
- New Holland: WSN-M97B18-D
- Peterbilt: 8502.002
- SAE: J1034
- Scania: 6901
- Volvo
- US Fed: A-A-870-A.

TYPICAL PHYSICAL CHARACTERISTICS

CHARACTERISTICS	
Specific Gravity 15.6°C (ASTM D 1122)	1.120–1.140
pH (ASTM D 1287)	7.6–8.6
Reserve Alkalinity ml (ASTM D 112)	6.0 min.
Flash Point (°C) (ASTM D 92)	116 min.
Freeze Point 50% volume (ASTM D 1177)	-37°C
Ash Content (wt %) (ASTM D 1119)	5.0 max.
Colour	Yellow
Shelf Life (unused)	2 years
Silicon as silicate (ppm-max.) ICP	185

TYPICAL FREEZE/BOILOVER PROTECTION MIXING CHART

SHELL HD PREMIUM ANTI-FREEZE-N CONCENTRATE	COOLANT PRE-DILUTED ON SOLD
Freeze Point Protection (°C)	1.060–1.080
Freeze Point Protection (°C) using a 103.4 kPa pressure cap	+129