



## Shell HD Phosphate Free Antifreeze/Coolant 50/50

Shell HD Phosphate Free Antifreeze/Coolant 50/50 is a phosphate free, fully formulated antifreeze/coolant (AFC) pre-charged with supplemental coolant additives (SCAs) and pre-diluted to a 50/50 premix level with high quality water. DO NOT DILUTE - No further water dilution is needed under normal circumstances. This product meets key requirements of engine manufacturers such as Detroit Diesel who specify phosphate free AFC as well as meeting the needs where ASTM D6210, conventional, fully formulated AFCs are needed. Shell HD Phosphate Free AFC 50/50 is amine free. When used with recommended monitoring and maintenance with SCAs, Shell HD Phosphate Free AFC 50/50 will provide the vehicle manufacturer's recommended service life for conventional fully formulated AFC. This product is not recommended for passenger cars unless specifically recommended by the manufacturer.

### DESIGNED TO MEET CHALLENGES

#### Performance, Features & Benefits

- Protection for diesel engines using a nitrated, conventional coolant
- Fully formulated to provide initial SCA dosage
- Pre-dilute 50/50 to allow immediate use
- Amine and phosphate free
- Excellent wet sleeve liner cavitation protection
- Provides wet sleeve liner cavitation protection without an initial charge of SCA or coolant extender
- Provides appropriate corrosion protection to all coolant system metals including copper, solder, brass, steel, cast iron and aluminum
- Excellent shelf stability, 3 years
- Extended life with proper monitoring

#### Main Applications

- Shell HD Phosphate Free Coolant/Antifreeze Pre-dilute 50/50 is a conventional, single-phase, ethylene glycol based heavy-duty diesel engine coolant containing silicate, nitrite and molybdate. This coolant does not contain phosphate or amines.

- Shell HD Phosphate Free Coolant/Antifreeze Pre-dilute 50/50 is compatible with commercially available supplemental coolant additives and meets TMC RP 329 and ASTM D6210. This product contains an initial dose of supplemental coolant additives (SCA's) and thus is ready to use with water dilution as an initial fill and top-up fluid. Use of a fully formulated coolant for top-up may help reduce the number of SCA treatments required over the coolant's life.
- Shell HD Phosphate Free Coolant/Antifreeze Pre-dilute 50/50 is suitable for transport, industrial and stationary engine applications requiring the use of ethylene glycol coolants.

#### Specifications, Approvals & Recommendations

- ASTM D3306, D4985, D6210 (Meets)
- TMC RP 302B, RP 329, RP 351 (Meets)
- Case/New Holland (Meets)
- CAT EC-1 (Meets performance)
- Cummins CES 14603 (Meets)
- Detroit Diesel 93K217 (Approval)
- John Deere H24A1 and A2 (Meets)
- Navistar MPAPS B-1 (formerly Int CEMS B-1) (Meets)
- Paccar (Meets)
- Volvo/Mack (Meets)
- Waukesha 4-1947D (Meets)

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk

## Typical Physical Characteristics

Properties	Method	Shell HD Phosphate Free Antifreeze/Coolant 50/50
Odor		Characteristic
Colour		Purple
Nitrite wt %		0.12
Silicon	ICP	100 due to Silicon from Silicate
pH	ASTM D1287	10.5
Reserve Alkalinity ml min	ASTM D1121	5
Specific Gravity @15.6°C/60°F	ASTM D1122	1.06
Freeze Point	ASTM D1177	-37°C
Foam Volume ml max	ASTM D1881	50
Break Time sec max	ASTM D1881	5

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

## Health, Safety & Environment

### • Health and Safety

Shell HD Phosphate Free Coolant/Antifreeze Pre-dilute 50/50 is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

Guidance on Health and Safety is available on the appropriate Safety Data Sheet, which can be obtained from your Shell representative.

### • Protect the Environment

Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

### • Product Usage Recommendations

This product is Pre-dilute 50/50 and should not be diluted further.

Adding too much water to the coolant system without sufficient corrosion inhibitor will create corrosion performance issues in any engine coolant system.

## Additional Information

### • Advice

Advice on applications not covered here may be obtained from your Shell representative.