



ISO9001 REGISTERED FIRM

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## Technical Data Sheet

# Silverhook Extended Life Antifreeze

**Synonym: OAT Antifreeze**

**Part No. SHAR\_**

### Silverhook Extended Life Antifreeze

is an ethylene glycol based engine coolant concentrate, which uses Organic Acid Inhibitor Technology and is free from nitrites, amines, phosphates, borates and silicates. BTC Classification Type 4E. Fleet trials have shown that when used at the correct concentration coolants based on Organic Acid Inhibitor Technology continue to provide effective corrosion protection for up to 250,000 km for passenger cars and 500,000km in commercial vehicles. It is recommended that the coolant is replaced when the above mileages have been reached or after 5 years whichever is the sooner. Unlike traditional coolants which employ inorganic inhibitors, it has excellent hard water stability and very low inhibitor depletion rates.

## Physical Properties

Parameter	Method	Silverhook Extended Life	ASTM D3306	
Appearance	Visual	Clear red – orange	Not Specified	
Specific Gravity 15/15°C	ASTM D 4052	1.119	1.110 – 1.145	
Equilibrium Reflux Boiling Point °C	ASTM D 1120	169	163 min	
Freezing Point °C (50% Dilution by vol.)	ASTM D 1177	-40	-37 max	
Freezing Point °C (33% Dilution by vol.)	ASTM D 1177	-20		
pH (50% vol.)	ASTM D 1287	8.2	7.5 – 11.0	
Reserve Alkalinity 0.1N HCl	ASTM D 1121	5.6	Report	
Water Content	ASTM D 1123	4	5 max	
Foaming Properties	Vol. (ml)	ASTM D1881	50	150 max
	Break (s)		1	5 max

## Freeze Protection

	Concentration by Volume %					
	25	33	40	50	60	70*
Specific Gravity 20/4°C	1.030	1.045	1.060	1.074	1.087	1.098
Freeze Protection * °C	-12	-22	-27	-40	-54	-56

\*Average of freezing point and pour point

\*\* Minimum safe operational temperature -56 °C

## Performance Standards

**Silverhook Extended Life Antifreeze** exceeds the requirements of most European and International Standards including:

ASTM D3306

ASTM D 4985

SAE J 1034

BS 6580 (1992)

AFNOR NF R15-601 \*

FFV Heft R443

CUNA NC 956-16

UNE 26361 - 88

JIS K 2234 \*

NATO S 759

(\* with the exception of reserve alkalinity)

It also meets the requirements of the following OEM specifications:

Chrysler MS 9176

Cummins 85T8-2 & 90T8-4 & CES14603

Ford ESE M97B49-A, WSS-M97B44-D & ESD M97 B49-A

GM 1899 M, US 6277 M & OPEL GM QL130100

John Deere H 24 B1 & C1

Leyland DAF Trucks LTS 22 AF 10

Mack 014GS 17004

MAN 248, 324 (SNF) & B&W D 36 5600

Mercedes MB 325.3

Renault 41-01-001

Scania

VAG TL 774F; G12; G12+; G13

VOLVO VCS

## Corrosion Protection

### ASTM D1384 Glassware Corrosion Test Results.

	Weight Loss mg/ Coupon					
	Copper	Solder	Brass	Steel	Cast Iron	Aluminium
ASTM D3306 (max)	10	30	10	10	10	30
Silverhook Extended Life	1.0	1.5	1.6	1.1	2.0	1.5

### ASTM D 4340 Corrosion of Aluminium under heat rejecting conditions

	Weight Loss mg/ cm <sup>2</sup> /week
ASTM D 3306 (max)	1.0
Silverhook Extended Life	0.5

### ASTM D2570 Simulated Service Corrosion Test

	Weight Loss mg/ Coupon					
	Copper	Solder	Brass	Steel	Cast Iron	Aluminium
ASTM D2570 (max)	20	60	20	20	20	60
Silverhook Extended Life	2	3	2	2	1	5

### ASTM D2809 Cavitation Corrosion Characteristics of Aluminium Pumps

	Visual Rating
ASTM D 2809 (min)	8
Silverhook Extended Life	9

## **Compatibility with other coolants**

Silverhook Extended Life Antifreeze/Coolant is compatible with other ethylene glycol based coolants and can be safely mixed with them. As Silverhook Extended Life Antifreeze/Coolant employs an inhibitor technology that is significantly different from that used in traditional coolants, we recommend that prior to using Silverhook Extended Life Antifreeze/Coolant in systems previously filled with traditional coolant, that the cooling system is drained and flushed with clean water before filling with Silverhook Extended Life Antifreeze/Coolant diluted in accordance with the vehicle manufacturers instructions to ensure optimum performance and durability. Failure to do so can significantly reduce the working life of the Silverhook Extended Life Antifreeze/Coolant. In the absence of a vehicle manufacturers advice we would recommend a 50% dilution in Silverhook De-ionised water or other high quality de-ionised water.

Date: Jan 2015