



Valvoline™ Heavy Duty Nitrite Free Extended Life Antifreeze Coolant Concentrate

Valvoline™ Heavy Duty Nitrite Free Extended Life Antifreeze Coolant Concentrate is registered to Cummins CES-14603, conforms to ASTM D6210 and is suitable for common heavy duty diesel engine requirements. Fully formulated Valvoline™ Heavy Duty Nitrite Free Extended Life Antifreeze Coolant Concentrate incorporates organic acid technology to protect diesel engines from liner pitting and hard water scale deposits. The silicate and nitrite free extended life chemistry protects all cooling system metals from corrosion including aluminum. Valvoline™ Heavy Duty Nitrite Free Extended Life Antifreeze Coolant Concentrate can also be used in gasoline engines, stationary power, marine, natural gas, and light duty applications.

Valvoline™ Heavy Duty Nitrite Free Extended Life Antifreeze Coolant Concentrate provides up to 6 years / 1,000,000 kilometers / 12,000 hours (whichever comes first) of service without the need for extenders due to non-depleting organic acid technology. It is backward compatible for all cooling systems using OAT coolants. Valvoline™ Heavy Duty Nitrite Free Extended Life Antifreeze Coolant Concentrate offers enhanced protection for aluminum cooling system components.

A 50% dilution with demineralized water is recommended for optimum performance. Valvoline™ Heavy Duty Nitrite Free Extended Life Antifreeze Coolant Concentrate is compatible with major long life brands of ethylene glycol based coolant. However, long life characteristics may be diminished by mixing with light duty or conventional fully formulated coolants. Applications requiring a water filter should use blank filters (without SCA/DCA) and follow engine manufacturers filter change guidelines. Valvoline recommends filling and always topping off with Valvoline™ Heavy Duty Nitrite Free Extended Life Antifreeze Coolant Concentrate.

Valvoline™ Heavy Duty Nitrite Free Extended Life Antifreeze Coolant Concentrate is an *approved* formula for the following specifications:

ASTM D6210	Cummins CES 14603 Registered
Jenbacher Technical Instruction 1000-0200	Cummins CES 14439 Registered
(all engines types and all variations)	Deutz DQC-CB14

Valvoline™ Heavy Duty Nitrite Free Extended Life Antifreeze Coolant Concentrate is formulated to meet or exceed the following specifications:

ASTM D3306	JIS K 2234	Paccar
ASTM D6210	John Deere	Peterbilt
Case New Holland	Komatsu	Scania
CAT EC-1	Link Belt	Siemens Wind Turbines
Detroit Diesel DFS93K217ELC	MACK	Terex
Federal Spec A-A-970a	MAN 324 SNF	Thermo King
Fiat Chrysler MS 12106	MB DBL 7700	TMC OF ATA RP-329B
Ford Europe WSS-M97B44-D	MTU	TMC OF ATA RP-338
Ford WSS-M97b57-A1 & A2	Navistar MPAPS B-1 Type IIIA	Volvo Construction Equipment
Freightliner 48-22880	Nitrite Free Europe OEMS	VW
Isuzu		

PRODUCT INFORMATION



Applications:

Valvoline™ Heavy Duty Nitrite Free Extended Life Antifreeze Coolant Concentrate coolant is designed for use in light duty and commercial petrol and diesel engines. Nitrite Free extended life chemistry capable of extended drain intervals up to 6 years, 1,000,000 kilometres or 12,000 hours (whichever comes first)

Please consult the owners' manual before use.

Mixture Ratio Guide

Refer to vehicle cooling system requirements for correct mixture ratio.

Antifreeze Boil/Freeze Protection**		
Antifreeze %	Freezing Point, °C	Boiling Point, °C
50	-36	128

**Typical 15psi radiator pressure cap

Note: Complete drain and flush of cooling system is always recommended. Mixing with light duty or conventional fully formulated coolants may diminish optimum performance and cooling system protection.

*US Patent 9328278 and foreign Patent Pending

Keeping the world moving since 1866™

Serving more than 100 countries around the globe, Valvoline is a leading marketer, distributor and producer of quality branded automotive and industrial products and services. Products include automotive lubricants including MaxLife™, the first motor oil specifically formulated for higher-mileage vehicles; transmission fluids; gear oils; hydraulic lubricants; automotive chemicals; specialty products; greases, and cooling system products.

For more information on Valvoline products, programs and services please visit www.valvoline.com.au or contact the Technical Hotline on 1800 804 658 for product recommendations.

Typical Properties and Characteristics

Typical property characteristics are based on current production. Whilst future production will conform to Valvoline™ specifications, variations in these characteristics may occur.

Valvoline™ Heavy Duty Nitrite Free Extended Life Antifreeze Coolant Concentrate		
Physical Properties	Unit	Typical
Antifreeze Glycol	Mass %	92.0
Corrosion Inhibitor	Mass %	5
Water	Mass %	3
Flash Point	°C	211
Weight per gallon @ 16°C	Lbs./KG	9.407/4.267
Borate Free	PPM	10 max.
Silicate Free	PPM	10 max.
Nitrite Free	PPM	10 max.

Valvoline™ Heavy Duty Nitrite Free Extended Life Antifreeze Coolant Concentrate Aluminium Water Pump Tests		
ASTM D2809 Pump Cavitation (Extended Test)		
Test Period	Results	Specification
100 hours	10	8

PRODUCT INFORMATION



Valvoline™ Heavy Duty Nitrite Free Extended Life Antifreeze Coolant Concentrate*			
Characteristics	Specifications	Typical	ASTM Method
Chloride	25 PPM, max.	3 typical	D3634
Specific Gravity @ 15.6 °C	1.110 - 1.145	1.1286	-
Freezing point, 50% V/V	-36°C	-37.8°C	D1122
Boiling point, undiluted	162°C	168.1°C	D1177
Boiling Point, 50% V/V	107°C	108.3°C	D1120
Effect on engine or vehicle finish	No Effect	No Effect	D1120
Ash content, mass %	5 max	2.0 Typical	-
pH, 50% V/V	7.5 - 11.0	9.0	D1119
Reserve alkalinity*	Report	12.0	D1287
Water mass %	5 max.	3	D1121
Color	Distinctive	Yellow	D1123
Effect on nonmetals	No adverse effect	No adverse effect	-
Storage stability	-	>3 years	-
Foaming	150 ml vol., max.	80 ml	D1881
	5 sec. break, max.	2 sec.	D1811
Cavitation-erosion rating	8 min.	10	D2809

*Reserve Alkalinity (RA) is a term used to indicate the amount of alkaline inhibitors present in antifreeze formulation. It is incorrect to relate a high RA with a high quality antifreeze. Present state-of-the-art antifreeze formulations contain many new inhibitors which give added protection to certain metals but do not raise the RA number

Typical ASTM Corrosion Test Results			
	Weight Loss Mg/Specimen		
Glassware Corrosion Test	Spec.	Actual	ASTM Method
Copper	10	1	D1384
Solder	30	3	
Brass	10	1	
Steel	10	1	
Cast Iron	10	0	
Aluminium	30	1	
Simulated Service Test			
Copper	20	-1	D2570
Solder	60	-1	
Brass	20	0	
Steel	20	0	
Cast Iron	20	0	
Aluminium	60	-1	
Hot Surface Corrosion	mg/cm ² /wk		
Specimen weight loss	1.0	0.1	D4340
John Deere Coolant Cavitation Test	SRI Test 66-39-0302-5	Passed	D7583

PRODUCT INFORMATION



This information only applies to products manufactured in the following location(s): Australia

Part Number	Pack Size
0948.20	20L
0948.28	208L

Health and Safety

This product is not likely to present any significant health or safety hazards when used correctly in the right application. Safety Data Sheet (SDS) is available on request via your local sales office or 1800 804 658 or through our website www.valvoline.com.au

Protect the Environment

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

Storage

Storage We recommend to store all packages under cover. In case outside storage is unavoidable, drums should be laid horizontally to avoid the possible ingress of water and damage to drum markings. Products should never be stored above 60°C, exposed to hot sun or freezing conditions.

Author:

VP - Effective 07-09-2021
Replaces - 0948/03