



VALVOLINE™ ZEREX™ G05® ANTIFREEZE COOLANT

Valvoline ZEREX G05 antifreeze coolant is a long life, fully formulated, ethylene glycol-based fluid suitable for passenger cars, light trucks and heavy duty vehicles. The formulation is designed for both gasoline and diesel engines. Its lower-silicate, reduced pH, phosphate free European technology protects all cooling system metals, including aluminum, from corrosion. ZEREX G05 is a nitrite containing coolant designed to protect diesel engine cylinder liners from cavitation. It contains deposit control additives for protection from hard water deposits and scale. The ASTM and other test data shown on this sheet reflect the high-performance corrosion inhibitor package.

When diluted 50% with water, ZEREX G05 protects modern engine components from winter freezing and summer boil over. The chart below provides mixing information. A 50% to 70% concentration range is suggested for optimum corrosion protection. ZEREX G05 is compatible with many brands of coolant commonly available. It contains a high quality defoamer system and will not harm hoses, plastics or original vehicle finishes.

ZEREX™ G-05 is an approved formula for the following specifications:

Chrysler MS 9769
Cummins CES 14603
Ford North America WSS-M 97B51-A1
GE Wind Turbines
JCB STD00088

John Deere JDM H24
Mercedes-Benz before 2017
MTU MTL 5048
MAN List 3.3.7
MTU/DDC

ZEREX™ G-05 is formulated to meet or exceeds the following antifreeze specifications:

ASTM D3306
ASTM D6210
Case New Holland
CAT EC-1
Detroit Diesel 7SE298
Federal Specification A-A-870A

GM 1825M
GM 1899M
Mack
Navistar MPAPS B1 III
Paccar
Perkins Diesel
TMC of ATA RP-329B

Valvoline recommends that spent coolant never be disposed of by dumping into a septic system, storm sewer or onto the ground. Instead, contact your state or local municipality for instructions on where to and how to properly dispose of this coolant and protect our environment.

If any coolant is spilled onto the ground, contain the spill and call the state authorities and ask for proper instruction on how to clean up the spill.

ZEREX G05 Antifreeze/Coolant Boil/Freeze Protection		
% Antifreeze	Freezing Point, °F/°C	Boiling Point**, °F/°C
40	-12/-24	260/126
50	-34/-36	265/128
60	-54/-48	271/133
70*	-90/-67	277/135

* Maximum freeze protection is at 70%.

** Boiling point shown using conventional 15 psig radiator cap.

Typical Physical Properties		
Antifreeze Glycols	mass %	94.0
Corrosion Inhibitors	mass %	5.4
Water	mass %	2.0
Flash Point	°F/°C	250/121
Weight per gallon @ 60°F/16°C	lbs / KG	9.4642 / 4.267
Silicates	PPM	252-308
Phosphates	PPM	30 max

Aluminum Water Pump Tests		
ASTM D2809 Pump Cavitation (Extended Test)		
Test Period	Results	Specification
100 hours	9	8

ASTM cavitation corrosion rating: 10 - perfect 1 - perforated

Characteristics	Specifications	Typicals	ASTM Method
Chloride	25 PPM, max.	<25	D3634
Silicon	250 PPM, max.	<240	-
Specific gravity, 60/60° F	1.110 – 1.145	1.1375	D1122
Freezing point, 50% V/V	-34°F/-36°C	-34°F/-36°C	D1177
Boiling point, undiluted	325°F/162°C	330°F/164°C	D1120
Boiling point, 50% V/V	226°F/107°C	226°F/107°C	D1120
Effect on engine or vehicle finish	No Effect	No Effect	-
Ash content, mass %	5 max	<2	D1119
pH, 50% V/V	7.5 – 11.0	8.0	D1287
Reserve alkalinity*	Report	17.9	D1121
Water mass %	5 max.	1.93	D1123
Color	Distinctive	Yellow	-
Effect on nonmetals	No Adverse Effect	No Adverse Effect	-
Storage stability	-	3 years	-
Foaming	150 ml Vol., max.	35 ml	D1881
Cavitation-erosion rating	5 sec. Break, max.	2.1 sec.	D1881
	8 min.	9	D2809

*Reserve alkalinity (RA) is a term used to indicate the amount of alkaline inhibitors present in an 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	0	D1384
Solder	30	0	
Brass	10	1	
Steel	10	-3	
Cast iron	10	1	
Aluminum	30	2	
Simulated Service Test			
Copper	20	2	D2570
Solder	60	2	
Brass	20	1	
Steel	20	-1	
Cast iron	20	-1	
Aluminum	60	-2	
Hot Surface Corrosion	mg/cm ² /wk		
Specimen weight loss	1.0	0.15	D4340

This information only applies to products manufactured in the following location(s): USA, Canada, and Mexico

<i>Part #</i>	<i>Product</i>
ZXG051	ZEREX G05 AFC 6/1 GAL
ZXG052	ZEREX G05 AFC 55 GAL Drum
688337	ZEREX G05 AFC 275 GAL Tote
ZXG050	ZEREX G05 Bulk
ZXG05RU1	ZEREX G05 Ready-To-Use AFC 6/1 GAL
ZXG05RU2	ZEREX G05 Ready-To-Use 55 GAL Drum
808136	ZEREX G05 Ready-To-Use 275 GAL Tote

Effective Date:
07/27/2017

Expiration Date:
07/27/2022

Replaces:
04/24/2015

Author's Initials:
DET

Pages:
3



Product Information



Valvoline™ ZEREX™ G-05® antifreeze coolant is a long life, fully formulated, ethylene glycol-based fluid suitable for passenger cars, light trucks and heavy duty vehicles. The formulation is designed for both gasoline and diesel engines. Its lower-silicate, reduced pH, phosphate free European technology protects all cooling system metals, including aluminum, from corrosion. ZEREX™ G-05 is a nitrite containing coolant designed to protect diesel engine cylinder liners from cavitation. It contains deposit control additives for protection from hard water deposits and scale. The ASTM and other test data shown on this sheet reflect the high performance corrosion inhibitor package.

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ZEREX™ G-05 is approved by DaimlerChrysler for worldwide applications. It is also suitable for use in Cummins Deere, Detroit Diesel, Mercedes, MTU, CAT, Navistar, Isuzu and Yanmar diesel engines. ZEREX™ G-05 is approved by Ford North America for newer models.

ZEREX™ G-05 antifreeze coolant is approved, meets or exceeds the performance requirements of the following antifreeze specifications and/or is recommended:

- | | |
|------------------------|--------------------------------|
| ASTM D3306 | Cummins 14603 Approved |
| ASTM D6210 | TMC of ATA RP-329B |
| GM 1899M | Federal Specification A-A-870A |
| GM 1825M | Chrysler MS 9769 Approved |
| MTU / DDC Approved | Ford WSS-M97B51-A1 Approved |
| Mercedes Benz Approved | Detroit Diesel 7SE298 Approved |
| Perkins Diesel | John Deere & Co. Approved |
| CAT EC-1 | GE Wind Turbines Approved |
| Mack | Navistar |
| Paccar | |

ZEREX™ G-05® Antifreeze / Coolant

5 Years / 150,000 miles Light Duty Application
3 Years / 300,000 Miles Heavy Duty Application
Phosphate Free, Long Life Hybrid

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Material/Product :

<u>Part #</u>	<u>Product</u>	<u>Unit UPC</u>	<u>Carton UPC</u>
ZXG051	ZEREX G-05 AFC 6/1 GAL	0 28882-50143 9	0 28882-60143 9
ZXG052	ZEREX G-05 AFC 55 GAL Drum		
688337	ZEREX G-05 AFC 275 GAL Tote		
ZXG050	ZEREX G-05 Bulk		
ZXG05RU1	ZEREX G-05 Ready-To-Use AFC 6/1 GAL	0 28882-50127 9	0 28882-60127 6
ZXG05RU2	ZEREX G-05 Ready-To-Use 55 GAL Drum		
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