ABIC ***TESTING LABORATORIES, INC.***

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Antifreeze Compliance Testing

Client: OOO "Tosol-Sintez-Invest"
Vatutina Str., 31A
Dzerzhinsk, Nizhny Novgorod reg
Russia

Attention: Ms. Elvira Tsirenkova/Mr. Igor Kapitov

Product Identification: Felix Carbox G12 (SQ) Antifreeze

Test Method: ASTM D-6210

Report No.: 5290-07

Date: April 27, 2017

Methodology

Felix Carbox G12 (SQ) Antifreeze was tested for compliance to ASTM D-6210. The following tests were required:

- Meet requirements of ASTM D3306
- Shall contain less than 50 ppm sulfate ion
- Shall contain greater than 300 ppm Nitrite (NO_2^-) in a 50 Volume % Dilution
- Shall contain greater than 300 ppm Molybdate (MoO_4^{-2}) in a 50 Volume % Dilution
- Compatibility: ASTM D5828

Test Results:

- Results of ASTM D-3306 shown in Exhibit I attached
- Results for Sulfate ion, NO_2^- and MoO_4^{-2} and Compatibility shown in Exhibit II

Discussion

The sample of Felix Carbox G12 (SQ) Antifreeze meets all the listed requirements of ASTM D-6210

Respectfully Submitted

Vice President

ABIC Testing Laboratories, Inc

Exhibit I
OOO "Tosol-Sintez-Invest"

Test Results, "Standard Specification for Ethylene Glycol Based Engine Coolant for Automotive and Light Duty Service". ASTM D-3306

Product Identification: Felix Carbox G12 (SQ) Antifreeze

Test	Requirement	Results	Comments	Test Method
Specific Gravity @ 15.5ºC	1.110 to 1.145	1.130	Passes	ASTM D-1122
Freezing Point 50 % Volume	min. -37 ºC (-34 ºF)	-38 ºC (-36 ºF)	Passes	ASTM D-1177
Boiling Point				
Undiluted	min. 163 ºC (325 ºF)	177 ºC (350 ºF)	Passes	ASTM D-1120
Diluted 50% Volume	min. 107.6 ºC (226 ºF)	107.6 ºC (226 ºF)	Passes	ASTM D-1120
Effect on Automotive Finish	No Effect	No Effect	Passes	ASTM D-1882
Ash Content	max. 5 %	1.9 %	Passes	ASTM D-1119
pH 50 % Volume	7.5 to 11.0	9.0	Passes	ASTM D-1287
Chloride Content	max 25 ppm	6 ppm	Passes	ASTM D-3634
Water Content %	max. 5 %	2.4 %	Passes	ASTM D-1123
Reserve Alkalinity ml	Information only	9.0 ml	Information	ASTM D-1121
Corrosion in Glassware				ASTM D-1384
Weight Loss,				
• Copper	max.10 mg/specimen	7.6 mg.*	Passes	
• Solder	max 30 mg/specimen	1.3 mg*	Passes	
• Brass	max 10 mg/specimen	3.2 mg*.	Passes	
• Steel	max 10 mg/specimen	3.5 mg*.	Passes	
• Cast Iron	max 10 mg/specimen	7.3 mg*.	Passes	
• Aluminum	max 30 mg/specimen	6.0 mg*.	Passes	

*Average of triplicate samples

Source: ABIC Testing Laboratories, Inc.

Exhibit I, continued
OOO "Tosol-Sintez-Invest"

Test Results, Standard Specification for Ethylene Glycol Based Engine Coolant for Automotive and Light Duty Service". ASTM D-3306

Product Identification: Felix Carbox G12 (SQ) Antifreeze

Test	Requirement	Results	Comments	Test Method
Foaming				
Volume	max. 150 ml	95 ml	Passes	ASTM D-2809
Break Time	max 5 sec.	3 sec.	Passes	
Corrosion of Cast Aluminum Alloys at Heat Rejection				ASTM D-4340
Weight Change, mg/cm^2 / week	1.0 mg/cm^2 / week	0.2 mg/cm^2 / week*	Passes	
* Average of duplicate samples				
Specimen Color	Information Only	Light Gray	Information Only	
pH Used Solution	Information Only	7.6	Information Only	
Used Solution Clarity	Information Only	Transparent	Information Only	
Simulated Service Performance				ASTM D-2570
Weight Loss,				
• Copper	max.20 mg/specimen	8.6 mg*	Passes	
• Solder	max 60 mg/specimen	12.0 mg*	Passes	
• Brass	max 20 mg/specimen	8.8 mg.*	Passes	
• Steel	max 20 mg/specimen	3.6 mg.*	Passes	
• Cast Iron	max 20 mg/specimen	7.2 mg.*	Passes	
• Aluminum	max 60 mg/specimen	26.3 mg.*	Passes	
*Average of triplicate samples				
Cavitation-Erosion				ASTM D-2809
	Rating for pitting, cavitation, or erosion of water pump 8 mininum	9	Passes(1)	

(1) Pictures attached

Source: ABIC Testing Laboratories, Inc.

Exhibit II
OOO "Tosol-Sintez-Invest"
Test Results

Product: Felix Carbox G12 (SQ) Antifreeze

Test	Requirement	Results	Comment
Sulfate ion content:	Less than 50 ppm	Less than 1 ppm*	Passes
Nitrite content (NO_2^-) plus Molybdate content (MoO_4^{-2})	Greater than 780 ppm in a 50% solution	874 ppm	Passes
Nitrite content (NO_2^-) , 50 Volume % Solution	300 ppm minimum	540 ppm	Passes
Molybdate content (MoO_4^{-2}), 50 Volume % solution	300 ppm minimum	320 ppm	Passes
Compatibility: ASTM D5828	Insolubles less than standard	None	Passes
	Ratio of insolubles to reference antifreeze insolubles	Clear, no insolubles	Information Only

*** Detection limit**

Source: ABIC Testing Laboratories, Inc.