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April 2, 2012

Mr. Yu Sen Chen
Dober Group
11230 Katherine's Crossing
Woodbridge, IL 60517

Dear Mr. Chen,

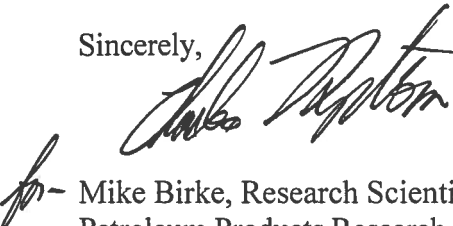
Subject: Test Report

The analyses that you requested on one sample ACA-4 EG Concentrate received at our laboratory on 9/19/2011 in two, five gallon containers has been completed. The results are summarized on the enclosed data sheets.

Test aliquots were taken in accordance with the test procedure. The analyses pertain only to the samples received by Southwest Research Institute and represent only a sampling of the batch. Analyses were performed in accordance with the test procedures used with no deviations or modifications. Precision for these test results should be consistent with that stated in the test procedures referenced. This report shall not be reproduced except in full without the express written permission of Southwest Research Institute.

If you have any questions concerning these test results, please contact me.

Sincerely,



for - Mike Birke, Research Scientist
Petroleum Products Research Dept.
Automotive Products & Emissions Res.

MB:jmj
Enclosures

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ACA-4 EG Concentrate

ASTM D-1384 Corrosion in Glassware Weight Change, mg/Specimen

Copper	1
Copper	1
Copper	0
Average	1
Solder	7
Solder	8
Solder	10
Average	8
Brass	1
Brass	1
Brass	1
Average	1
Steel	-1
Steel	-1
Steel	0
Average	-1
Cast Iron	-2
Cast Iron	-1
Cast Iron	-2
Average	-2
Aluminum	-1
Aluminum	-3
Aluminum	-2
Average	-2


for Mike Birke, Research Scientist
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ACA-4 EG Concentrate

ASTM D-4340 Corrosion of Aluminum Alloys at Heat Rejecting Surfaces

Weight Change, mg/cm ² /week	0.1
Specimen Color	Grey
pH Used Solution	9.2
Used Solution Color	Lt Brown
Used Solution Precipitate Color	None
Used Solution Clarity	Translucent
Duplicate:	
Weight Change, mg/cm ² /week	0.1
Specimen Color	Grey
pH Used Solution	9.3
Used Solution Color	Lt Brown
Used Solution Precipitate Color	None
Used Solution Clarity	Transparent


Mike Birke, Research Scientist
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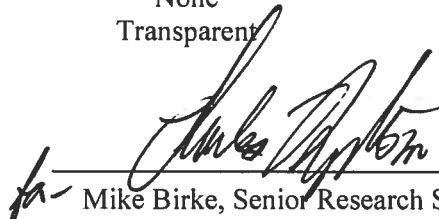
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ACA-4 EG Concentrate

ASTM D-2570 Simulated Service Test

Copper Weight loss, mg/specimen	0
Copper Weight loss, mg/specimen	0
Copper Weight loss, mg/specimen	1
Average Copper Weight Change, mg/specimen	0
Solder Weight loss, mg/specimen	31
Solder Weight loss, mg/specimen	30
Solder Weight loss, mg/specimen	31
Average Solder Weight Change, mg/specimen	31
Brass Weight loss, mg/specimen	1
Brass Weight loss, mg/specimen	2
Brass Weight loss, mg/specimen	2
Average Brass Weight Change, mg/specimen	2
Steel Weight loss, mg/specimen	0
Steel Weight loss, mg/specimen	0
Steel Weight loss, mg/specimen	-1
Average Steel Weight Change, mg/specimen	0
Cast Iron Weight loss, mg/specimen	-2
Cast Iron Weight loss, mg/specimen	-2
Cast Iron Weight loss, mg/specimen	-2
Average Cast Iron Weight Change, mg/specimen	-2
Aluminum Weight loss, mg/specimen	-2
Aluminum Weight loss, mg/specimen	-2
Aluminum Weight loss, mg/specimen	-1
Average Aluminum Weight Change, mg/specimen	-2
New Solution Freeze Point, °F	-15
New Solution pH	10.2
New Solution Reserve Alkalinity	0.52
New Solution Color	Clear
New Solution Precipitate	None
New Solution Clarity	Transparent
Used Solution Freeze Point, °F	-14
Used Solution pH	8.2
Used Solution Reserve Alkalinity	0.39
Used Solution Color	Brown
Used Solution Precipitate	None
Used Solution Clarity	Transparent


Mike Birke, Senior Research Scientist
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ACA-4 EG Concentrate

ASTM D-1119 Ash, mass %	0.672
ASTM D-1120 Boiling Point, C°	
Boiling Point	172.0
Dilution	Undiluted
Boiling Point	109.3
Dilution	50%
ASTM D-1121 Reserve Alkalinity, mL	1.29
ASTM D-1122 Specific Gravity, 15.5°C	1.124
ASTM D-1123 Water Content, ppm	30,473
ASTM D-1177 Freeze Point	
Freeze Point, F°	-35.3
Freeze Point, C°	-37.4
Dilution	50%
ASTM D-1287 pH Coolant	10.6
ASTM D2809 Cavitation Characteristics, rating	9
ASTM D-1881 Foaming Characteristics	
Volume, mL	25
Break Time, seconds	2.0
Volume, mL	20
Break Time, seconds	2.0
Volume, mL	20
Break Time, seconds	2.0
ASTM D-1882 Effect on Automotive Finishes	
Coat System	Ford
Effect	None
ASTM D-5827 Ion Content Testing, ppm	
Chloride	15
Nitrite	2413


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