



TEST REPORT

INTERTEK TESTING SERVICES NA, INC.

1717 Arlingate Lane Columbus, OH, 43228

PROJECT NO.: G101896866

ISSUE DATE: April 21st, 2015

REPORT NO. 101896866COL-002A

RENDERED TO

Client: Trans Bio Energy
Company, LLC
Contact: Mr Robert Davis.

GENERAL: This report replaces report number 101896866COL-002 originally dated February 24th, 2015. All data from this original report has been transferred to this report with the exception of data pertaining to non-metallic elastomer NBR. This data has been excluded from this report as requested due to the fact that Half Blend 9667 is not intended to be used in systems containing NBR. The data in this report reflects the evaluation of Trans Bio Energy Company Half Blend 9667 Sample #12 with R-134a, per SAE J2670 Issue: 2011/02/01 Stability and Compatibility Criteria for Additive and Flushing Materials Intended for Aftermarket Use in R-134a (HFC-134A) and R-1234yf (HFO-1234yf) Vehicle Air-Conditioning Systems. This investigation was authorized by Mr. Robert Davis using signed PCOR to quote Q500564375. The testing began on 01/25/2015 and was completed on 2/25/2015. A sample in good condition was provided by Trans Bio Energy Company and was received on November 11th, 2014. The sample was assigned the unique identification number COL1411111354-002 and tested at Intertek's facility at 1717 Arlingate Lane, Columbus, OH 43228, USA.

CONCLUSION: This report concludes the evaluation of Trans Bio Energy Company Half Blend 9667 Sample #12 when evaluated with R-134a only per SAE J2670 Issue: 2011/02/01 Stability and Compatibility Criteria for Additive and Flushing Materials Intended for Aftermarket Use in R-134a (HFC-134A) and R-1234yf (HFO-1234yf) Vehicle Air-Conditioning Systems. Non-metallic elastomer NBR was excluded from this evaluation per MaxR100's request as it is not intended for use with systems containing NBR. Because of this modification, a statement of compliance cannot be made. However, based on this evaluation, MaxR100 Half Blend 9667 Sample 12 submitted by Trans Bio Energy Company, all other elastomers met the acceptance criteria of section 8 Non-Metallic Compatibility. Data in this report applies only to R-134a systems. An evaluation of this product with R-1234yf was outside of the scope of this report.

See Table 1 for Calibrated Equipment

See following pages for all test results.

Test Performed by:

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Report Approved by:

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Table 1

Item	Equipment Type	Equipment #	Cal. Due Date
1	Analytical Balance	CE1017	8/20/15
2	2L Pressure Vessel	CE2224	For Reference Only
3	R-134a	MC021595521	N/A
4	Shore "A" Durometer	CE2201	Initial Calibration Only
5	Shore "D" Durometer	CE2202	Initial Calibration Only
6	Density Determination Accessory	CE1017.1	For Reference Only
7	Temperature Controller	CE2212	For Reference Only
8	Digital Thermometer/Data Logger	CE2312	9/26/15
9	Digital Thermometer	CE2015	11/18/15
10	Pressure Gauge	E193	5/20/15

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Section 8- Non-Metallic Materials Compatibility Testing:

Material	Post Exposure "Neat" R-134a PAG 46 / Mineral Oil Lubricant Mixture Control Samples			Post Exposure 2X Recommended Additive (10%) in R134a PAG 46 / Mineral Oil Lubricant Mixture		
	Range:	Volume Change (%)	Hardness Change	Range:	Volume Change (%)	Hardness Change
PTFE	Range:	2	-8 to -5	Range:	2	-3 to 0
Nylon	Range:	-1 to 0	-3 to 0	Range:	0 to 1	0 to 5
Polyester	Range:	0	>20	Range:	0 to 1	>20
HNBR	Range:	14 to 15	-7 to -4	Range:	19 to 21	0 to 5
Neoprene	Range:	22 to 23	-1 to 6	Range:	25 to 26	-1 to 1
EPDM	Range:	53 to 54	-9 to -2	Range:	53 to 54	-5 to 0
Butyl	Range:	41 to 42	0 to 2	Range:	51 to 52	-8 to 0

Clause 8.7.1

Following the aging process for 30 days at 150°C, none non-metallic elastomers evaluated in the 2X recommended concentration increased in hardness when compared those contained in the "Neat" control samples using "Rank Order Analysis", NBR was not evaluated with this product.

Clause 8.7.2

Following the aging process for 30 days at 150°C, the liquid aged along with the non-metallic elastomers in the 2X recommended concentration did not increase in particles, precipitates or insolubles when compared those contained in the "Neat" control samples using "Rank Order Analysis". NBR was not evaluated with this product.

Clause 8.7.3

Following the aging process for 30 days at 150°C, the non-metallic elastomers in the 2X recommended concentration tubes did not increase or decrease in volume when compared those contained in the "Neat" control samples using "Rank Order Analysis" in a way that negatively affecting the desirable properties of the lubricant. NBR was not evaluated with this product.

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