

# National Refrigerants, Inc.

## Analytical Laboratory

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- Problems Found Action Required
- Normal Results No Action Needed

SL: 03

### Refrigerant Analysis Report

<b>Customer:</b>	Johnson Controls	<b>P.O. No.:</b>	NRIHP
<b>Address:</b>	812 First State Blvd. Wilmington DE 19804	<b>Refrigerant Type:</b>	R-134a
<b>Contact:</b>	Kevin Fraze	<b>Job Location:</b>	DuPont Experimental E315
<b>Telephone:</b>	302-353-0315	<b>System S/N:</b>	GACM 127 699
<b>Fax:</b>	kevin.m.fraze@jci.com	<b>Sample ID#:</b>	Chiller 10
		<b>Lab. Reference:</b>	171121-40
		<b>Date Rec.:</b>	11/21/17

### Analysis

### Sample Results

### In-Service Limits

Identification	By Gas Chromatography	R-134a	
Moisture	parts per million by weight	6	120 Max.
High Boiling Residue	per cent by volume	0.20	2 Max.
Acidity	parts per million (as HCl)	<0.2	1 Max.
Non-Condensable Gas	per cent by volume	-	1.5 Max.
Chloride	pass/fail	Pass	pass
Purity	% by weight (Gas Chromatography)	99.97	99.5 Min.
Particulates	pass/fail	Pass	pass
Other			

(1) 20 ppm for R-11, 113, 123.

Comments: (40,002 hrs; 1,351 starts) The high boiling residue (0.20%) is a clear pale yellow oil. All other above test results show good quality in-service R-134a and indicate normal system performance. The only significant organic impurity present individually is R-143a: 0.01%. Resample at next scheduled maintenance interval.

Laboratory Supervisor: Daniel K. Wright Date: 11/27/2017

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