

# 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 St Blvd. Wilmington, DE 19804	<b>Refrigerant Type:</b>	R-134a
<b>Contact:</b>	Kevin Fraze	<b>Job Location:</b>	DuPont Experimental Station
<b>Telephone:</b>	302-353-0315	<b>System S/N:</b>	GACM 127 698
<b>Fax:</b>	kevin.m.fraze@jci.com	<b>Sample ID#:</b>	Chiller 9
		<b>Lab. Reference:</b>	181228-09
		<b>Date Rec.:</b>	12/28/18

### Analysis

### Sample Results

### In-Service Limits

Identification	By Gas Chromatography	R-134a	
Moisture	parts per million by weight	5	120 <u>Max.</u>
High Boiling Residue	per cent by volume	<0.01	2 <u>Max.</u>
Acidity	parts per million (as HCl)	<0.20	1 <u>Max.</u>
Non-Condensable Gas	per cent by volume	-	1.5 <u>Max.</u>
Chloride	pass/fail	Pass	<u>pass</u>
Purity	% by weight (Gas Chromatography)	99.98	99.5 <u>Min.</u>
Particulates	pass/fail	Pass	<u>pass</u>
Other	Total Hrs Run: 48,950, Starts: 2,127		

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

**Comments:** All of the 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: Dan Wright, Manager

Date: 1/2/2019

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