

# SOLSTICE<sup>®</sup> N71 (R-471A)

## Technical Data Sheet

Solstice<sup>®</sup> N71 is the only < 150 GWP, non-flammable hydrofluoro-olefin (HFO) based refrigerant blend for new equipment in medium temperature refrigeration applications. It provides energy efficiency improvement of 30%\* compared to CO<sub>2</sub> and 13% versus R-404A, helping you reduce your overall CO<sub>2</sub> footprint (Scope 1 and Scope 2 emissions).

Solstice<sup>®</sup> N71 is applicable for new systems, offering an optimal balance of properties including better energy performance and strong eco-efficiency for a wide variety of applications.

### BENEFITS

- Less than 150 GWP medium pressure refrigerant Non-toxic and nonflammable (ASHRAE A1)
- Excellent energy efficiency
- Low operating pressures
- Reduced leak potential
- AIM and CARB compliant for new equipment

### APPLICATIONS

- Supermarkets
- Cold Storage Warehouses
- Industrial Process Refrigeration
- Convenience & Drug Stores
- Ice Rinks



SOLSTICE <sup>®</sup> N71 PROPERTIES	
ASHRAE Number	R-471A
Composition	R-1234ze(E) R-227ea R-1336mzz(E)
Weight %	78.7/4.3/17
Molecular Weight	122.1 lb/lb mole
Boiling Point at 0 psig	1.6 F (-16.9C)
Critical Pressure	511.4 psia (3526 kPa)
Critical Temperature	234°F (112.2°C)
Liquid Density at 70 °F	75.1 lb/ft <sup>3</sup>
Ozone Depletion Potential (CFC-11 = 1.0)	0
AR5 Global Warming Potential	148
ASHRAE Safety Classification	A1
Temperature Glide @ 15psig	5.3F

## SOLSTICE N71 VS R-404A

	COMPOSITION (%)	ASHRAE CLASS	GWP (AR5)	EVAPORATOR GLIDE (°F)	EER	DISCHARGE TEMPERATURE (°F)	SUCTION PRESSURE (PSIG)	DISCHARGE PRESSURE (PSIG)
R-404A	R32 / R134a / R143a (44/4/52)	A1	3943	0.7	100%	181.7	55.8	253.1
R-471A	R1234ze/R227ea/R1336mzz(E) (78.7/4.3/17)	A1	148	4.4	113%	174.4	6.1	86.2

## MATERIAL COMPATIBILITY RESULTS

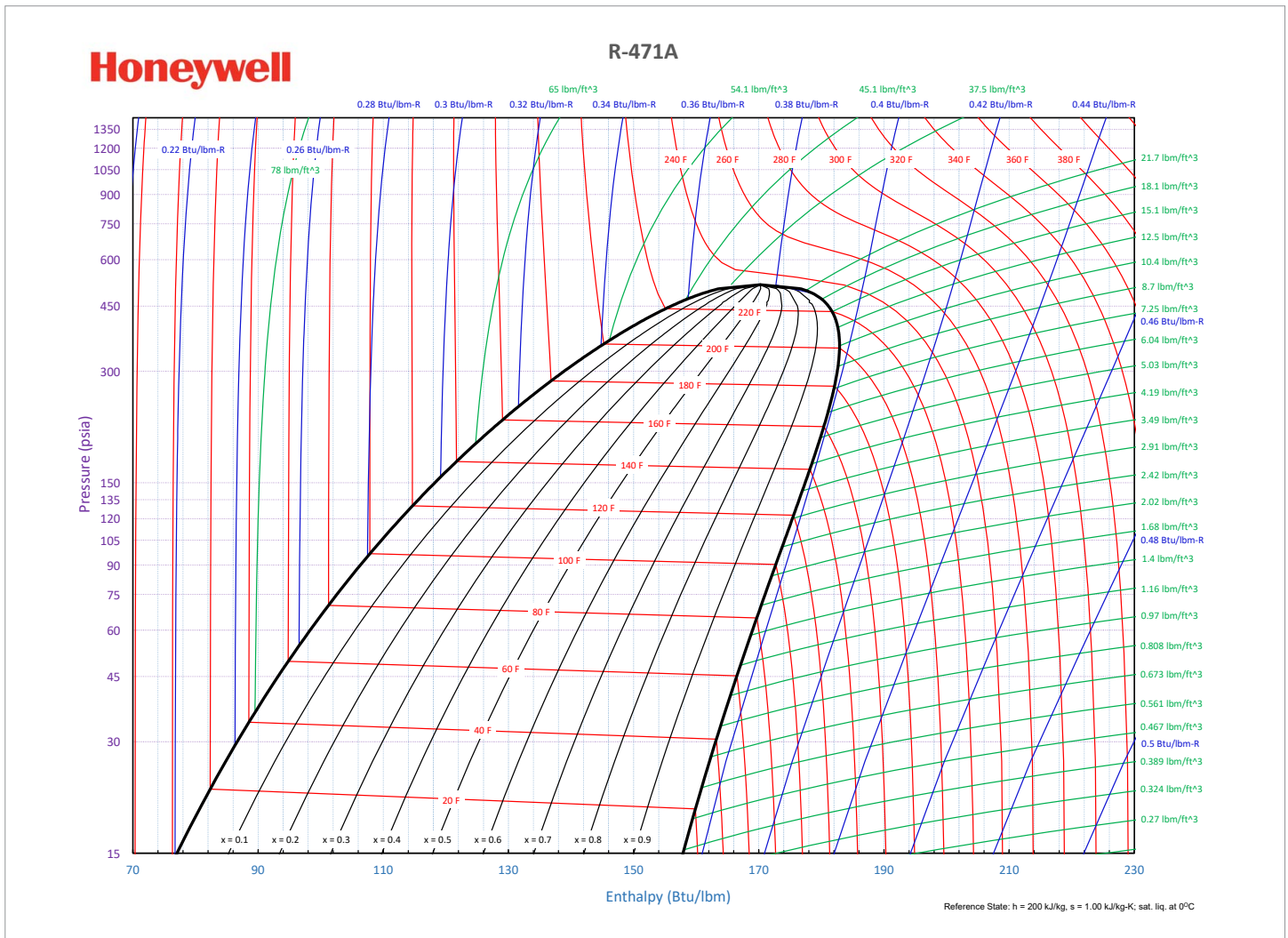
	PLASTICS	HARDNESS % CHANGE	VOLUME % CHANGE	WEIGHT % CHANGE
<b>Compatible</b>	Nylon	2	<1	<1
	Polyamide-imide (PAI)	<1	<1	<1
	Polyethylene Terephthalate (PET)	2	<1	<1
	Polyimide	<1	<1	<1
	Polyacetal	1	<1	<1
	ABS	5	2	2
	Polyetherimide	3	<1	<1
	Polypropylene	2	3	3
	PTFE	2	<1	<1
	Polyphenylene Sulfide (PPS)	1	<1	<1
	Phenolic	3	<1	<1
	PEEK	<1	<1	<1
	Polyurethane	-15	2	<1
	Polyvinylidene Fluoride (PVDF)	<1	<1	<1
	<b>Elastomers</b>			
<b>Borderline Compatible</b>	Viton	-7	15	15
	HNBR	<1	5	5
	Silicone	<1	<1	<1
	Neoprene (Chloroprene)	-8	25	25
	Nbr (Buna-N)*	-15	12	12
<b>Non Compatible</b>	EPDM	22	-12	-12
	Butyl Rubber	3	-12	-12

**PT CHART | SOLSTICE® N71 (R-471A)**

Pressure (Psig)	Liquid (Bubble) (F)	Vapor (Dew) (F)
-10	-41.0	-34.6
-5	-15.1	-9.1
0	1.6	7.4
5	14.3	19.9
10	24.7	30.1
15	33.5	38.8
20	41.3	46.4
22	44.1	49.2
24	46.9	51.9
26	49.5	54.5
28	52.0	57.0
30	54.5	59.4
32	56.9	61.8
34	59.1	64.0
36	61.4	66.2
38	63.5	68.3
40	65.6	70.4
42	67.7	72.4
44	69.6	74.4
46	71.6	76.3
48	73.4	78.1
50	75.3	79.9
55	79.7	84.3
60	83.9	88.4
70	91.7	96.0
80	98.8	103.0
90	105.3	109.5
100	111.4	115.5
105	114.3	118.4

Pressure (Psig)	Liquid (Bubble) (F)	Vapor (Dew) (F)
110	117.2	121.1
115	119.9	123.8
120	122.5	126.4
125	125.1	129.0
130	127.6	131.5
135	130.1	133.9
140	132.5	136.2
145	134.8	138.5
150	137.1	140.7
155	139.3	142.9
160	141.5	145.1
165	143.6	147.2
170	145.7	149.2
175	147.8	151.2
180	149.8	153.2
185	151.7	155.1
190	153.7	157.0
195	155.6	158.9
200	157.4	160.7
205	159.3	162.5
210	161.1	164.3
215	162.8	166.0
220	164.6	167.7
230	168.0	171.0
240	171.3	174.3
250	174.5	177.4
260	177.6	180.4
270	180.6	183.4
280	183.6	186.3

# ENTHALPY CHART



\*Based on Thermodynamic analysis. For Assumptions and Conditions, please visit <https://hwl.co/n71-a>



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 WHAT  
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 MAKE IT**

