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FORANE® 407C

FORANE®
REFRIGERANTS
BY ARKEMA

- Non-ozone depleting refrigerant.
- Designed for use in residential and commercial air conditioning systems.

MAIN PROPERTIES

Composition	R-134a (52%) 	R-125 (25%) 	R-32 (23%) 
Type	HFC Zeotropic blend		
ASHRAE safety classification	A1 - non-toxic and non-flammable		
GWP*	1774		
Recommended lubricant	POE		

* GWP value for 100-year time horizons according to IPCC 2007 Fourth Assessment Report

MAIN APPLICATIONS

- Residential and commercial air conditioning systems
- Heat pumps
- Non-flooded evaporator chillers
- Other unitary air conditioning systems

LUBRICATION

POE lubricants must be used with Forane® 407C since its components are not miscible with the mineral oil or alkylbenzene lubricants.

CHARGING

Due to the zeotropic nature of Forane® 407C, it should be charged as a liquid to prevent fractionation (changes in refrigerant composition). In situations where vapor is normally charged into a system, a valve should be installed in the charging line to flash the liquid to vapor while charging.

DELIVERIES

Forane® 407C can be delivered in various packaging:

- **bulk:** ISO container (18 tons) or ton-tank (880 kg).
- **pallet of 40 or 100 disposable cylinders** (11.3 kg each cylinder). This disposable packaging is commercialized according to local regulations.
- **other packaging available under requests.**

FORANE®407C



THERMODYNAMIC PROPERTIES

This information is based on values calculated using the NIST REFPROP Database (NIST Standard Reference Database 23, Version 9.0, Lemmon, E. W., Huber, M. L., and McLinden, M. O., Thermophysical Properties Division, 2010).

Critical temperature: **86°C**

Saturation points (bubble and dew points at same composition).

Temperature (°C)	Liquid Phase Pressure (bar)	Vapor Phase Pressure (bar)	Liquid Phase Density (kg/m³)	Vapor Phase Density (kg/m³)	Liquid Phase Enthalpy (kJ/kg)	Vapor Phase Enthalpy (kJ/kg)	Liquid Phase Entropy (kJ/(kg.K))	Vapor Phase Entropy (kJ/(kg.K))
-40	1,2	0,9	1370	4	145	388	0,79	1,84
-35	1,5	1,1	1354	5	152	391	0,81	1,83
-30	1,9	1,4	1338	6	159	393	0,84	1,82
-25	2,3	1,7	1322	8	165	396	0,87	1,81
-20	2,8	2,1	1306	9	172	399	0,90	1,80
-15	3,4	2,6	1289	11	179	402	0,92	1,80
-10	4,0	3,2	1272	14	186	404	0,95	1,79
-5	4,8	3,9	1254	17	193	407	0,97	1,78
0	5,7	4,6	1236	20	200	409	1,00	1,78
5	6,7	5,5	1218	23	207	412	1,03	1,77
10	7,8	6,4	1199	27	214	414	1,05	1,76
15	9,0	7,6	1179	32	222	416	1,08	1,76
20	10,4	8,8	1159	38	229	418	1,10	1,75
25	11,9	10,2	1138	44	237	420	1,13	1,75
30	13,6	11,8	1115	51	244	422	1,15	1,74
35	15,4	13,5	1092	59	252	423	1,18	1,74
40	17,5	15,4	1068	68	260	424	1,20	1,73
45	19,7	17,5	1042	79	269	425	1,23	1,73
50	22,2	19,9	1014	91	277	426	1,25	1,72
55	24,8	22,5	984	106	286	426	1,28	1,71
60	27,7	25,3	951	123	295	426	1,31	1,70
65	30,8	28,4	914	143	305	425	1,33	1,69

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See MSDS for Health & Safety Considerations