



## TECHNICAL DATA SHEET

# R-455A

### Components

Chemical Name	Chemical Formula	%By weight	CAS No
2,3,3,3-Tetrafluoropropene (R-1234yf)	CH <sub>2</sub> CF <sub>3</sub>	%75,5	754-12-1
Difluoromethane (R-32)	CH <sub>2</sub> F <sub>2</sub>	%21,5	75-10-5
Carbon dioxide (R-744)	CO <sub>2</sub>	%3	124-38-9

### Physical and chemical properties

At normal temperature and pressure, R-455A is a colourless gas.

Physical state.....	Gas
Form.....	Compressed liquefied gas
Molecular Weight (g/mol).....	87.5
Boiling Point at 1 atm, (°C) .....	-52.1
Vapor pressure 25°C, (bar).....	10.42
Liquid Density at 25°C, (kg/m <sup>3</sup> ) .....	1033.4
Heat Capacity of Liquid at 25°C,kJ/kgK.....	1.57
Heat Capacity of Vapor at 1 atm at 25°C, kJ/kgK.....	1.14
Flammability (solid, gas).....	A2L
Critical Temperature, °C.....	85.6
Critical Pressure, bar.....	46.6
Critical Density, (kg/m <sup>3</sup> ) .....	454.74
ODP.....	0
GWP.....	148*

### Commercial Specifications (ISO9002)

Purity, %, min.....	99.5
Moisture content, ppm by weight. ....	10
Acid Value, ppm by weight.....	0.1
Residue, mg.kg.....	100

\*The regulation on fluorinated greenhouse gases of EU 517-2014 has been taken considered.



## Thermodynamic Properties

TEMP. (°C)	ABSOLUTE PRESSURE (bar)	DENSITY (Kg/dm <sup>3</sup> )		ENTHALPY (kJ/Kg)		ENTROPY (kJ/Kg.K)	
		LIQUID	VAPOUR	LIQUID	VAPOUR	LIQUID	VAPOUR
-50	1,113	1,284	5,187	132,396	370,516	0,729	1,763
-45	1,394	1,270	6,409	138,849	373,693	0,758	1,755
-40	1,727	1,256	7,844	145,357	376,653	0,786	1,748
-35	2,118	1,241	9,518	151,925	379,662	0,813	1,742
-30	2,574	1,226	11,458	158,558	382,621	0,841	1,737
-25	3,101	1,211	13,694	165,261	385,525	0,868	1,732
-20	3,706	1,195	16,259	172,039	388,366	0,895	1,727
-15	4,397	1,179	19,187	178,897	391,135	0,921	1,723
-10	5,179	1,163	22,517	185,839	393,823	0,948	1,719
-5	6,061	1,146	26,295	192,872	396,421	0,974	1,715
0	7,049	1,129	30,567	200,000	398,915	1,000	1,712
5	8,151	1,111	35,391	207,230	401,294	1,026	1,708
10	9,375	1,093	40,829	214,568	403,543	1,052	1,705
15	10,728	1,074	46,957	222,023	405,647	1,077	1,702
20	12,216	1,054	53,860	229,602	407,586	1,103	1,698
25	13,849	1,033	61,644	237,318	409,340	1,128	1,695
30	15,633	1,012	70,433	245,184	410,883	1,154	1,691
35	17,577	0,989	80,385	253,218	412,182	1,180	1,687
40	19,686	0,966	91,696	261,445	413,199	1,205	1,683
45	21,970	0,940	104,620	269,895	412,885	1,231	1,677
50	24,434	0,913	119,497	278,642	414,173	1,258	1,672

