



Arkema Inc.  
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## FORANE<sup>®</sup>134a 1,1,1,2-TETRAFLUOROETHANE (CH<sub>2</sub>FCF<sub>3</sub>)

### GENERAL DESCRIPTION

A zero ODP HFC used alone (as an R-12 replacement) or as a component in blends (especially those designed to replace R-22 and R-502). Some current applications include automotive A/C, positive pressure centrifugal chillers, medium to high temperature commercial refrigeration, refrigeration appliances, and transport refrigeration.

### SPECIFICATIONS (Meets AHRI 700-2011 Specifications)

	Maximum (unless otherwise noted)
1,1,1,2-Tetrafluoroethane, wt %	99.8 (minimum)
Air and Other Non-condensable Gases, vol %	1.5
Volatile Impurities, wt. %	0.5
High Boiling Residue, vol %	0.01
Moisture (H <sub>2</sub> O), ppm by wt	10
Acidity, ppm by wt (as HCl)	1.0
Chloride, no visible turbidity (indicates about 3 ppm)	Pass
Particulates / solids (visually clean to pass)	Pass
Halogenated Unsaturated Volatile Impurities, ppm by weight	40

### PROPERTIES

Appearance	Colorless liquefied gas
Odor	Faint, ether-like odor
Molecular Mass (g/mole)	102.03
Boiling Point at 1 atm	-14.9°F / -26.1°C
Flammable Limits (LFL, UFL), vol % (1 atm, 25°C)	Not Applicable
ANSI/ASHRAE Standard 34 Safety Group Classification	A1
Ozone Depletion Potential (ODP) (CFC-11 = 1.0)	0
Global Warming Potential (GWP) (CO <sub>2</sub> = 1.0) (100 year)	1,430

Temperature	50F	70F	105F	115F	130F
Vapor Pressure, psia <sup>(1)</sup>	60.1	85.8	149.6	173.1	213.4
Liquid Density, lb./ft <sup>3</sup> (1)	78.7	76.2	71.4	69.9	67.5

<sup>(1)</sup> generated using NIST REFPROP Version 9.0

**CAS Number:** 811-97-2

**Customer Service: 1.800.245.5858**

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**BEFORE HANDLING THIS MATERIAL, READ AND UNDERSTAND THE MSDS (MATERIAL SAFETY DATA SHEET) FOR ADDITIONAL INFORMATION ON PERSONAL PROTECTIVE EQUIPMENT AND FOR SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION.**

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