

FORANE® HTS 1233zD

REFRIGERANTS

Excellent Choice for Centrifugal Chillers

LOW ENVIRONMENTAL IMPACT
HIGH ENERGY EFFICIENCY
SAFETY IN USE



ARKEMA
INNOVATIVE CHEMISTRY

FORANE® HTS 1233zd REFRIGERANT

The Efficient Choice for Chillers



Forane® HTS 1233zd refrigerant offers an excellent balance of refrigerant properties for use in centrifugal chillers, along with high efficiency, low environmental impact, and non-flammability.

Sustainability:

- Low Global Warming Potential >99.9% reduction versus 134a
- Non-Ozone Depleting Substance
- Non-Volatile Organic Compound
- EPA SNAP Approved

Safety in Use

- ASHRAE Class A1
- Non-Flammable
- Lowest level of toxicity
- Low Pressure

Versatility

- Can use with typical lubricants
- Mineral Oil, POE, and PVE

Efficiency Comparison



Properties of Forane® HTS 1233zd

ASHRAE Designation	R-1233zd(E)	
ASHRAE Classification	A1	
Chemical Name	trans-1-chloro-3,3,3-trifluoroprop-1-ene	
Formula	CF ₃ CH=CHCl (E)	
CAS No.	102687-65-0	
Molecular Weight (g/mol)	130.5	
GWP (100yr)*	1	
Flammability Limit (vol %) LFL / UFL (by ASHRAE 34 @ 20 °C)	None / None	
Specification	Meets/Exceeds AHRI 700 Standard	
	SI Units	English Units
Boiling Point	18.3 °C	64.9 °F
Critical Temperature	167.3 °C	333.1 °F
Critical Pressure (bar/psig)	36.6 bar	516 psig
Vapor Pressure @ 20 °C	1.08 bar	1.0 psig
Liquid Density @ 20 °C	1.27 g/mm ³	79.3 lb/ft ³

Arkema has patented the use of Forane® HTS 1233zd, high purity *trans*-1-chloro-3,3,3-trifluoropropene, for use in centrifugal chillers and related applications, throughout the world.

*GWP (Global Warming Potential) by IPCC AR5

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