



**VALUE<sup>®</sup>**

Member :



ALL INDIA AIR CONDITIONING  
AND REFRIGERATION ASSOCIATION



**KATA**

The Refrigeration & Air Conditioning Traders Associations Ltd.



**The Ozone Friendly Refrigerant**



## About Us

We are one of the leading brand in Indian Refrigeration Market as Value. We are having largest Dealer net work all over India to cater Refrigeration Industry effectively. Value Refrigerants Pvt. Ltd. incorporated in November 2008 and became fully operational in June 2009. We started with importing and marketing R-134a Refrigerant Cans directly and for Blue Star. Value R-134a cans were distributed through Whirlpool and Videocon also.

We have Value R-134a can, Value Unify Butane can and Value R-600a can.

Value Unify Butane, today is a No. 1 selling product in India.

We started our Bottling Plant in District :Thiruvallur near Chennai in June 2012 after getting Licence from The Chief Controller of Explosive, Petroleum & Explosive Safety Organisation (PESO) Nagpur. For filling and Storage of R-134a, R-22 (Chlorodifluoromethane), 404A, R-407C , R-410A, and R-32Refrigerants.

Except from R-22, we are importing and marketing all Refrigerants in Indian Market. R-22 we buying locally and Marketing.

We have been growing year to year and Value have become a leading brand in India.

Our products supplied to Whirlpool, Videocon, Godrej, Blue Star, Ericsson, Carrier Refrigeration Ltd., Indian Railway, Dealers of Daikin, Mitsubishi, Voltas, Panasonic, LG & Zamil.

## Introduction

Value-134a (HFC-134a) has been developed to serve as one of key substituted for CFCs and HCFC's. R-134a is a long term, environmentally safer, non-ozonedepleting substitute.

As refrigerant, it possesses similar energy efficiency and capacity characteristics as R-12 and has an intrinsically low toxicity. R-134a is the alternative refrigerant of choice in automobile air-conditioning. It may be used in residential and commercial refrigeration, as well as commercial and industrial air-conditioning.

## Applications

Refrigeration and air conditioning

In the automotive industry, manufacturers are now using R-134a in the air-conditioning systems in their new vehicles. Retrofit kits are being developed to permit conversion of existing auto air-conditioning systems from CFC 12 to R-134a.

R-134a has been developed for a number of refrigeration applications including supermarket cases, walk-in-collers, water coolers and home refrigerators. R-134a is also being used in some centrifugal chillers.

- Packing : 10kg, 62kg Cylinders & Ton Tank.  
Cans - 450g



## PHYSICAL PROPERTIES

Chemical Name	1,1,1,2, Tetrafluoroethane
Molecular formula	CH <sub>2</sub> FCF <sub>3</sub>
Molecular weight	102.03
Boiling point (°C) at 101.3kPa	-25.9
Freezing point at 101.3kPa	-96.6
Critical temperature * (°C)	101.06
Critical pressure (kPa)	4059
Critical volume *(kg/m <sup>3</sup> )	0.002
Critical density *(kg/m <sup>3</sup> )	511.9
Vapour density at boiling point (kg/m <sup>3</sup> )	5.26
Liquid Density + (kg/m <sup>3</sup> )	1207.0
Liquid heat capacity + (kJ/Kg.°K)	1.425
Vapour heat capacity (at 101.3 kPa constant pressure kJ/.°K)	0.851
Heat of vaporization at boiling point (kJ/Kg)	216.98
Flammability limits in air (vol.%)	None
Auto ignition temperature (°C)	770
Ozone Depletion potential (ODP - R11 = 1)	0

## QUALITY INDEX

ITEM	GRADE
Appearance	Clear
Odor	No smell
Purity % (mm) ≥	99.90
Moisture %(m/m) ≤	0.001
Evaporating Residue % (m/m) ≤	0.0001
Acidity (Content of HCL) % (m/m) ≤	0.0003
Non-Condensing Vapor % (m/m) ≤	1.5
Freezing Point (°C)	-96.6



## CHARACTERISTICS & PURPOSE

- Value R-404A is a non-ozone depleting compound designed to serve as a long term alternative to R-502 and R-22 in commercial refrigeration systems.
- It is a colorless gas under ordinary temperatures, and a colorless & transparent liquid under the pressure of itself, mixed by HFC125, HFC-134a and HFC-143
- It is a suitable refrigerant for retrofits or new installations include supermarket freezer cases, reach-in coolers., display cases, transport refrigeration, ice machines and storage facilities.
- Packing : 7.5 kg, 45kg Cylinders & Ton Tank.



## PHYSICAL PROPERTIES

Chemical Formula	$\text{CHF}_2\text{CF}_3/\text{CH}_3\text{CF}_3/\text{CF}_3\text{CH}_2\text{F}$
Molecular weight (g/mol)	97.6
Melting Point (°C)	-46.1
Critical Temperature (°C)	72.4
Critical Pressure (Mpa)	3.69
Saturated Liquid density (g/cm <sup>3</sup> )	1.045(25°C)
ODP	0
GWP	0.35 (HGWP)

## QUALITY INDEX

ITEM	GRADE
Appearance	Colorless, clearness
Odor	No strange stench
Purity %≥	99.8
Moisture %≤	0.001
Acidity (As HCL) %≤	0.0001
Evaporation residue %≤	0.01
Chlorides (cl) test %≤	0.0003
No Condensable gas	
cubic fraction %≤	1.5



## CHARACTERISTICS & PURPOSE

- Value R-407C is a colorless gas under ordinary temperatures and a colorless & transparent liquid under the pressure of itself, mixed by HFC-32, HFC-134 and HFC-125.
- It is the long term substitute for R22, used mainly in the air conditioner and non-centrifugal refrigerating systems.
- It is a suitable refrigerant for retrofits or new installations include supermarket, freezer cases, reach-in coolers, display cases, transport refrigeration, ice machines and storage facilities.
- Packing : 7.5kg, 45 kg Cylinders & Ton Tank



## PHYSICAL PROPERTIES

Chemical Formula	CHF <sub>2</sub> F <sub>2</sub> /CHF <sub>2</sub> CF <sub>3</sub> / CF <sub>3</sub> CH <sub>2</sub> F
Molecular weight (g/ mol)	86.2
Melting Point (°C)	-43.4
Critical Temperature (°C)	86.2
Critical Pressure (Mpa)	4.62
Saturated liquid density (g/cm <sup>3</sup> )	1.139(30°C)
ODP	0
GWP	1600
Critical Density (g/cm <sup>3</sup> )	0.527

## QUALITY INDEX

ITEM	GRADE
Appearance	Colorless
Smell	No strange stench
Purity %≥	99.8
Moisture %≤	0.001
Acidity (as HCL) %≤	0.0001
Evaporation residue %≤	0.01
Chlorides (cl) test %≤	0.0003
No Condensable gas cubic fraction %≤	1.5

## CHARACTERISTICS & PURPOSE

- Value R-410a is a colorless gas under ordinary temperatures and a colorless & transparent liquid under the pressure of itself, mixed by HFC-32 and HFC-125.
- It is the long term substitute for R22, used mainly in the air conditioner and non-centrifugal refrigerating systems.
- It is a suitable refrigerant for retrofits or new installations.
- Packing : 7.5kg, 45kg Cylinders & Ton Tank.



## PHYSICAL PROPERTIES

Chemical Formula	$\text{CH}_2\text{F}_2/\text{CHF}_2\text{CF}_3$
Molecular weight (g/ mol)	72.59
Critical Temperature (°C)	71.47
Melting Point (°C)	-155
Boiling Point (°C)	-48.5
Liquid density (30°C), kg/ m <sup>3</sup>	1040
Vapour density (30°C), air=1.0	3.0
Critical Temperature (°C)	72.8
Critical Pressure (Mpa)	4.923
ODP	0
GWP	2000

## QUALITY INDEX

ITEM	GRADE
Appearance	Colorless, no cloud
Smell	No Odor
Purity %≥	99.8
Moisture %≤	0.001
Acidity (As HCL) %≤	0.0001
Chlorides (cl) test %≤	Pass
No Condensable gas cubic fraction %≤	1.5

## CHARACTERISTICS & PURPOSE

- Value R-32 is a colorless gas under ordinary temperatures and a colorless & transparent liquid under the pressure of itself, mixed by HFC-32.
- It is the long term substitute for R22, used mainly in the air conditioner and non-centrifugal refrigerating systems.
- It is a suitable refrigerant for new installations.
- Packing : 7.5kg, 45kg Cylinders.



## PHYSICAL PROPERTIES

Chemical Formula	Difluoromethane
Molecular weight (g/ mol)	72.59
Melting Point (°C)	-136
Boiling Point (°C)	-51.7
Liquid density (30°C), kg/ m3	NA
Vapour density (30°C), air=1.0	NA
Vapour Pressure (Bar)	17.01
Flame ability (Solid, Gas)	Extremely Flammable
Flammability limits (in air, upper, % by volume)	31.0%(v/v)
Flammability limits (in air, lower, % by volume)	14.0%(v/v)

## QUALITY INDEX

ITEM	GRADE
Appearance	Colorless, no cloud
Odor	Slight Ethereal
Purity %≥	99.9
Moisture %≤	0.001
Acidity (As HCL) %≤	0.0001
Vapour Residue % (≤)	0.005





**VALUE<sup>®</sup>**

**VALUE REFRIGERANTS PVT. LTD.**

**# 343, Shop No: 27, Munoth Centre,  
I Floor, Triplicane High Road, Chennai - 600 005**

**Phone: +91 44 2851 4050**

**E-Mail: [info@valurefrigerants.com](mailto:info@valurefrigerants.com)**

**[www.valurefrigerants.com](http://www.valurefrigerants.com)**