

# WANGTREX HK L.T.D

## 1、Molecular Formula: (CH<sub>3</sub>)<sub>2</sub>CHF<sub>2</sub>=R152A

H.S. Code: UN No. : Class:

## 2、Physical properties:

Molecular weight	66.0
Boiling point under 1.013×10 <sup>5</sup> Pa°C	-24.7
Density of liquid at 25°C(g/m <sup>3</sup> )	0.901
Vapor pressure at 25°C, Mpa	0.599
Critical temperature °C	113.5
Critical pressure MPA	4.50
Critical density, g/cm <sup>3</sup>	0.365
Latent heat of vaporation at bp, kJ/kg	330.0
Solubility in water at 25°C, % by weight	0.28
Specific heat, liquid, 25°C kJ/kg.	1.680
Ozone-Depletion Potential (ODP)	0
Global Warming Potential (GWP)	0.3

## 3、Quality Standard

Grade	Excellent Grade	1ST. Grade
Purity, %≥	99.8	99.5
Moisture (PPM≤)	10	20
Acidity (PPM≤)	0.1	1.0
Nonvolatile residues≤	100	100
Noncondensable gas in Vapor phase, %≤	1.5	1.5

## 4、Usage:

It is mainly used in the field of refrigerant agent, aerosol and vesicant. It can also used as the main material of physical mixture. As a permanent refill, it is used as aerosol and propeller in the field of fixature, air-freshing agent, insecticide.

## 5、Package:

400L/320kg, 800L/640kg (≥3.01MPa) and 920L/740kg steel c ylinders

# WANGTREX HK L.T.D

## 1 、 Molecular Formula: CH3CCLF2 = R142B

H.S. Code: UN No.: Class:

## 2 、 Physical properties :

Molecular weight	100.5
Boiling point under 1.013×10 <sup>5</sup> pa, °C	-9.2
Density of liquid at 25°C, g/cm <sup>3</sup>	1.095
Vapor pressure at 25°C, Mpa	0.315
Critical temperature, °C	137.1
Critical pressure, Mpa	4.12
Critical density, g/cm <sup>3</sup>	0.433
Latent heat of vaporation at bp., kJ/kg	223.0
Solubility in water at 25°C, % by weight	0.14
Specific heat, liquid, 25°C kJ/kg. °C	1.30
Ozone Depletion Potential (ODP)	0.06
Global Warming Potential (GWP)	0.36

## 3、 Quality Standard

Grade	Excellent Grade	1ST. Grade
Purity (%≥)	99.8	99.5
Moisture Ppm (%≤)	10	20
Acidity Ppm (%≤)	0.1	1.0
Nonvolatile residues, mg/kg, %, max	100	100
Noncondensable gas in Vapor phase, % Max	1.5	1.5

## 4 、 Usage:

It is mainly used to replace CFC-11 to produce polyurethane material in industry and business refrigerant line. And it is used as refrigerant in hot pump. In steel works, it is used to substitute for CFC-12 as refrigerant in air-conditioner in hot workroom.

**5 、 Package:** Steel cylinder 40L/ 40kg net; 400L /400kg net

# WANGTREX HK L.T.D

## 1、Molecular Formula: $\text{CH}_2\text{F}_2 = \text{R}32$

H.S. Code: UN No.: Class:

## 2、Physical properties:

Molecular weight	52.02
Boiling point under $1.013 \times 10^5$ Pa ( $^{\circ}\text{C}$ )	-53.15
Density of liquid at $25^{\circ}\text{C}$ (g/m <sup>3</sup> )	0.960
Vapor pressure at $25^{\circ}\text{C}$ , Mpa	1.702
Critical temperature $^{\circ}\text{C}$	78.25
Critical pressure MPA	5.808
Critical density, g/cm <sup>3</sup>	0.430
Latent heat of vaporation at bp , kJ/kg	390.5
Solubility in water at $25^{\circ}\text{C}$ , % by weight	0.440
Specific heat, liquid, $25^{\circ}\text{C}$ kJ/kg $^{\circ}\text{C}$	2.35
Ozone-Depletion Potential (ODP)	0
Global Warming Potential (GWP)	0.11

## 3、Quality Standard

Grade	Excellent Grade	1ST. Grade
Purity, % $\geq$	99.8	99.5
Moisture (PPM $\leq$ )	10	20
Acidity (PPM $\leq$ )	0.1	0.1
Nonvolatile residues ( $\leq$ mg/kg)	100	100
Noncondensable gas in Vapor phase, % $\leq$	1.5	1.5

## 4、Usage:

Refrigerant using in blends

## 5、Package:

Steel cylinder 400L 280kg net; 800L 560kg net.

# WANGTREX HK L.T.D

## 1 、Molecular Formula: R415B

## 2 、Physical properties :

Molecular weight	70.20
Normal boiling point °C	-26.72
Critical temperature °C	124
Critical pressure MPA	4.768
Latent heat of Vaporation at 25°C (kJ/kg)	255
Density AT 25°C Saturated Liquid(kg/m3)	962.4
Density AT 25°C Saturated Vapor(kg/m3)	20.86
Special heat at constant pressure at 25°C saturated liquid(kJ/kg.K)	1.699
(kJ/kg.K) Saturated Vapor	1.122
Heat conductivity saturated Liquid at 30°C(mW/m.K)	90.29
(mW/m.K) Saturated Vapor at -20°C	10.43
Viscosity Saturated liquid at 30°C	0.149
(mPa.s) Saturated vapor at -20°C	0.0092
Ozone Depletion Potential (ODP)	0.008
Global Warming Potential (GWP)	414.68

## 3 、Quality Standard

Grade	Excellent Grade
Purity, %, min	99.8
Moisture (PPM≤)	10
Acidity (PPM≤)	0.1
Nonvolatile Residue %≤	0.5
Complexion	Achronatic turbidlessness
Smell	No uncommonly odors

## 4 、Useage:

R415B won 1999 Class A State Recommend Item for environment Protect and 2000 State Technology Invention Award. It is an environment-friendly substitute for R12 in the refrigerators and freezers, etc.

## 5 、Character of Use:

- 1)、 Good environmental protection property;
- 2)、 No toxicity, non-combustibility;
- 3)、 Fast refrigerating speed, good energy-saving;
- 4)、 Nearly no need to change parts, pipeline original refrigerator or icebox for original R12 and direct filling is enough.

# WANGTREX HK L.T.D

## 6、Package:

12kg or 20kg disposable steel cylinder or 320kg/400L circulating steel cylinder.

## 1、Molecular Formula: CHCLF<sub>2</sub> = R22

H.S. Code: 29034910

UN No. : 1018

Class: 2.2

## 2、Physical Properties

Molecular weight	86.48
Normal boiling point	-40.82
Density(kg/m <sup>3</sup> ).Sat.liquid@30℃	1177
Critical temperature °C	96.15
Critical pressure Mpa	4.75
ODP	0.045
GWP	1700



# WANGTREX HK L.T.D

## 1. Molecular Formula: CH<sub>2</sub>F<sub>2</sub>/CF<sub>3</sub>CHF<sub>2</sub>= R410A

## 2. Physical Properties:

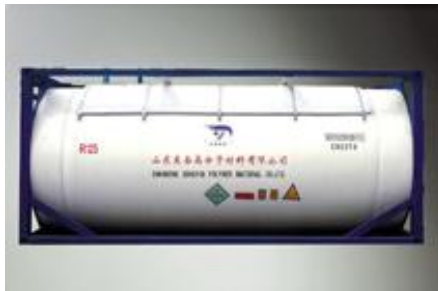
Molecular Weight	72.58
Boiling point °C	-51.6
Critical Temperature °C	72.5
Critical Pressure Mpa	4.95
ODP	0

## 3. Usage:

R410A is a blend of R125 and R32. It's a substitute of R22, mainly used in low and middle temperature refrigeration system.

## 4. Packing:

ISO-Tank, 926L, 11.3KG/25lb



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1. **Molecular Formula:** CH<sub>2</sub>FCF<sub>3</sub>/CH<sub>2</sub>F<sub>2</sub>/CF<sub>3</sub>CHF<sub>2</sub> = R407C

2. **Physical Properties:**

Molecular Weight	86.2
Boiling point °C	-43.8
Critical Temperature °C	87.3
Critical Pressure Mpa	4.63
ODP	0

3. **Usage:**

R410A is a blend of R134A, R125 and R32. It's a substitute of R22, mainly used in low and middle temperature refrigeration system.

4. **Packing:**

ISO-Tank, 926L, 11.3KG/25lb

# WANGTREX HK L.T.D

**1.Molecular Formula: CHF<sub>2</sub>CF<sub>3</sub>/CH<sub>3</sub>CF<sub>3</sub>= R507**

## **2.Physical Properties:**

Molecular Weight	98.86
Boiling point °C	-47.1
Critical Temperature °C	70.9
Critical Pressure Mpa	3.79
ODP	0

## **3.Usage:**

R410A is a blend of R125 and R143a. It's a substitute of R502, Can be used in large commercial air-condition system, refrigeration truck, etc.

## **4. Packing:**

ISO-Tank, 926L, 11.3KG/25lb



# WANGTREX HK L.T.D

1.Molecular Formula: CHF<sub>2</sub>CF<sub>3</sub>/CF<sub>3</sub>CH<sub>2</sub>F/CH<sub>3</sub>CF<sub>3</sub> = R404A

## 2.Physical Properties:

Molecular Weight	97.60
Boiling point °C	-46.4
Critical Temperature °C	72
Critical Pressure Kpa	3740
Density of saturated liquid (25°C) g/cm <sup>3</sup>	1.045
ODP	3740
GWP	0.11

## 3.Usage:

R410A is a colorless gas at normal temperature, is a blend of R125,R134a and R143a. It becomes transparent liquid under its saturated vapor pressure.It mainly used in low and middle temperature refrigeration system.

## 4. Packing:

Packed in cylinder net weight 10.9kg, 500kg, 870kg, also shipping by iso containers or tanks. It should be stored in cool, dry and ventilated place, and kept away from sunlight and rain.

# WANGTREX HK L.T.D

**1.Molecular Formula:** CHCIF2/CH3CCIF2/C4H10= R406A

## 2.Physical Properties:

Molecular Weight	89.86
Boiling point °C	-32.7
Critical Temperature °C	116.5
Critical Pressure Kpa	4880
ODP	0.036

## 3.Usage:

R410A is a colorless gas at normal temperature, is a blend of R22,R142b and R600a. It's a transparent liquid under its saturated vapor pressure. Mainly it's a substitute of R500,R12.

## 4. Packing:

Packed in cylinder, net weight 11.3Kg, 360Kg/400L, 720Kg/800L, also shipping by ISO containers or tanks. It should be stored in cool, dry and ventilated place, and kept away from sunlight and rain.

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**1.Molecular Formula:** CHClF<sub>2</sub>/CH<sub>3</sub>CF<sub>3</sub>/CHF<sub>2</sub>CF<sub>3</sub>= R408A

## 2.Physical Properties:

Molecular Weight	87.01
Boiling point °C	-44
Critical Temperature °C	83.8
Critical Pressure Kpa	4420
ODP	0.026

## 3.Usage:

R408A is a colorless gas at normal temperature, is a blend of R22,R125a and R143a. It's a transparent liquid under its saturated vapor pressure.It's a substitute of R502.

## 4. Packing:

Packed in disposable steel cylinder10.9kg/24lb, recycle steel cylinder 350Kg/400l, 700Kg/800l, 800Kg/926l, also shipping by ISO containers or tanks. It should be stored in cool, dry and ventilated place, and kept away from sunlight and rain.