

Cosutin Industrial CO., Limited

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HFC-407C (R407C)

GENERAL DESCRIPTION

HFC-407C is a zero ozone depletion (ODP) hydrofluorocarbon (HFC) refrigerant blend. HFC-407C is a ternary blend of R32, R125 and R134a (23%/25%/52%). It has been formulated to closely match the properties of R22. It is widely used in new equipment that would have previously used R22 and can with specific modifications be retrofitted into existing R22 equipment. HFC-407C rated A1 by ASHRAE (lowest levels of toxicity and flammability), having zero ozone depletion potential and a Global Warming Potential of 1774.

Mainly used to residential and commercial air conditioning systems, direct expansion fluid chillers and some commercial refrigeration systems. Since HFC-407C has similar properties to R22, it is possible (with modifications) to use it in existing R22 systems. It should not be used in systems with a flooded evaporator.

POE lubricants must be used with HFC-407C since it is not miscible with mineral or alkyl benzene lubricants found in most R22 systems. When retrofitting, a lubricant flushing procedure is necessary to reduce the original oil content below 5%.

SPECIFICATIONS

Appearance :	Colourless and not turbid
Purity, %	≥99.8%
Moisture%	≤0.001
Evaporation residue %	≤0.01
Acidity %	≤0.0001

PROPERTIES

HFC-407C

CAS Number: 811-97-2/354-33-6/75-10-5

Colour: Colourless

Smell: Ether-like

Appearance: Colourless and not turbid

Chemical name: 1,1,1,2-Tetrafluoroethane /Pentafluoroethane/Difluoromethane

Chemical formula: C₂H₂F₄/C₂H_F₅/CH₂F₂

pH Neutral

pKa Not applicable

Melting point/freezing point -103°C (Pentafluoroethane)

Boiling point/boiling range -44 to -37°C

Flash point Not applicable

Evaporation rate No data

Flammability (solid, gas) The product is not flammable

Flammability Not applicable

Explosive properties Not explosive

Vapour pressure 10.35 bar at 20°C

21.94 bar at 50°C (Pentafluoroethane)

Vapour density 3.45

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Density	Not applicable
Relative density	1.17 at 20°C
Bulk density	Not applicable
Solubility	430 mg/l at 25°C, water (Pentafluoroethane)
Solubility/qualitative	No data available
Partition coefficient: n-octanol/water	log Pow: 1.48, 20°C (pentafluoroethane)
Auto-ignition temperature	No data available
Decomposition temperature	No data
Viscosity	Not applicable
Oxidizing properties	Non oxidizer

Handling method and safety information

HFC-407C is liquefied gas. Read the Material Safety Data Sheet (MSDS) before use.

Hazard pictogram(s):



Packaging specifications

Filled in 11.3kg/400L/800L/926L cylinders, ISO tank.