

The Gas Card tool is a web-based visualization tool of refrigerant gases, developed by UN Environment Programme (UNEP) OzonAction, to provide engineers, workers, and technicians with easily accessible information on substances/gases that they are working with or handling in the workplace on visual printable cards.



HFC-134a **HFC**

GENERAL CHARACTERISTICS

CHEMICAL TYPE: Hydrofluorocarbon (HFC)

COMPONENTS (and % composition): N/A

ASHRAE DESIGNATION: R-134a

COMMON TRADE NAMES: SSB R134a (Daikin)

2012 HS CODE: 2903.39

GAS PERFORMANCE

Ozone Depleting Potential: ODP = 0.00

Global Warming Potential: GWP = 1430

ENVIRONMENTAL AND SAFETY IMPACT

TOXICITY & FLAMMABILITY CLASS:

HIGHER TOXICITY	B1	B2L	B2	B3
LOWER TOXICITY	A1	A2L	A2	A3
	NO FLAME PROPAGATION	LOWER FLAMMABILITY	HIGHER FLAMMABILITY	

CONTROLLED UNDER MONTREAL PROTOCOL (MP):

HAZARD SYMBOLS:

R-410A **BLEND** **HFC**

GENERAL CHARACTERISTICS

CHEMICAL TYPE: Blend containing Hydrofluorocarbon (HFC)

COMPONENTS (and % composition): HFC-32 [50,0]/HFC-125 [50,0]

ASHRAE DESIGNATION: R-410A

COMMON TRADE NAMES: Suva 410A, Forane 410A, Puron, EcoFluor R410, Genetron R410A, AZ-20, Daikin R410A

2007 (or previous) HS CODE: 3824.78

2012 (or previous) HS CODE: 3824.78

GAS NUMBER: 75-10-5 / 354-33-6

TOXICITY & FLAMMABILITY: A1 - Lower Toxicity & No Flammability

CONTROLLED UNDER MONTREAL PROTOCOL (MP): Yes

MONTREAL PROTOCOL ANNEX: Refrigerant Blend Mixture

CONTROL MEASURES: Controls on HFCs came into force in 2019 (2024 in developing countries). Control/monitoring measures may be in place at national/regional level

GAS PERFORMANCE

Ozone Depleting Potential: ODP = 0.00

Global Warming Potential: GWP = 2088

Flammability Class: No Flame Propagation

Toxicity Class: Lower

ENVIRONMENTAL AND SAFETY IMPACT

TOXICITY & FLAMMABILITY CLASS:

HIGHER TOXICITY	B1	B2L	B2	B3
LOWER TOXICITY	A1	A2L	A2	A3
	NO FLAME PROPAGATION	LOWER FLAMMABILITY	HIGHER FLAMMABILITY	

CONTROLLED UNDER MONTREAL PROTOCOL (MP):

HAZARD SYMBOLS:  Pressurised Gas

GLOBAL WARMING POTENTIAL: GWP = 2088

Content of Gas Cards

Each Gas Card is printable (in PDF or image format) and includes the following information about each substance/gas:

- General Characteristics (Chemical name, formula and type, ASHRAE designation, Trade names, Harmonized System (HS) codes, Chemical Abstract Service (CAS), United Nations (UN) numbers, Blend/mixture components, Montreal Protocol Annex and Control measures, main usage, etc.)
- Gas Performance—Radar Chart (in terms of: Ozone depleting potential-ODP, Global warming potential- GWP, Toxicity Class & Flammability Class)
- Environmental and Safety Impact, and Safety Impact (with visualization of Toxicity & Flammability Class, Hazardous Symbols)

More Information

The Gas Card web-based tool is part of UNEP OzonAction's portfolio of activities and tools to assist various stakeholders in developing countries, including customs officers and technicians, to achieve and maintain compliance with the Montreal Protocol on Substances that Deplete the Ozone Layer.

In the left navigation bar of the Gas Card tool web page, you will find a list of commonly used HFCs and HFC Blends in different sectors.*

Gas Card Tool

Find substance:

All Substances ^

Commonly Used HFCs ^

Commonly Used HFC

- Blends v
- R-404A
- R-407C
- R-410A
- R-507A

Commonly Used Other

- Alternatives v
- Methylal
- HC-290
- HC-600a
- R-744
- R-717

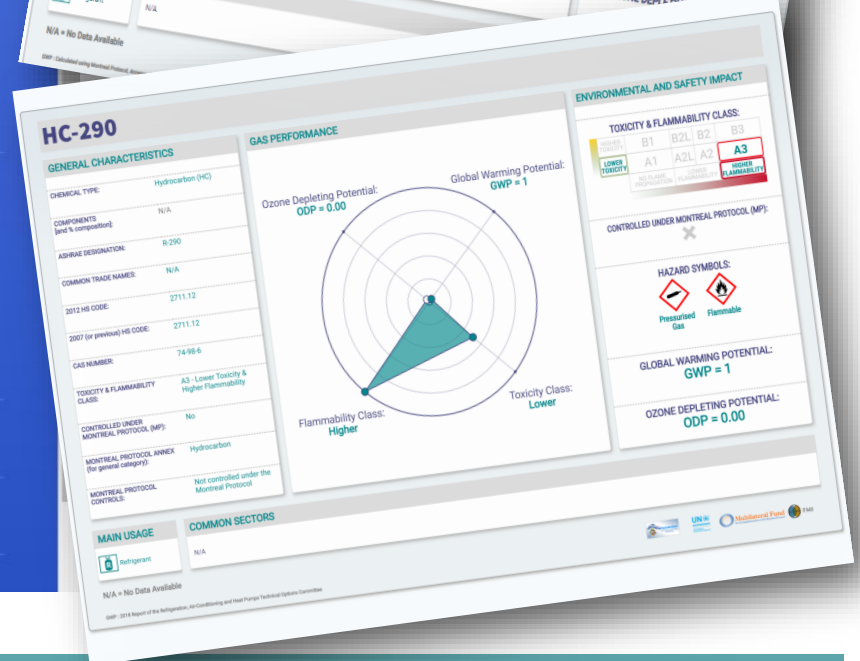
Commonly Used HFCs in Refrigeration & Air Conditioning Sector v

- HFC-134a
- HFC-152a
- R-404A
- R-407C
- R-410A
- R-507A

Commonly Used HFCs in Foam Sector ^

Commonly Used HFCs in Aerosol Sector ^

Commonly Used HFCs in



Using the Gas Gard web-based tool

The Gas Gard tool is available online on the OzonAction [website](http://www.ozonaction.org/gascard) at: www.ozonaction.org/gascard

Gas Card Tool

Find substance:

All Substances ^

Commonly Used HFCs v

- HFC-134a
- HFC-32
- HFC-152a
- HFC-160
- HFC-245ea
- HFC-227ea
- HFC-266fm

Commonly Used HFC Blends v

Commonly Used Other Alternatives v

- Methylal
- HC-290
- HC-600a
- R-744
- R-717

Commonly Used HFCs in Refrigeration & Air Conditioning Sector v

- HFC-134a
- HFC-152a
- R-407C
- R-410A

Commonly Used HFCs in Foam Sector ^

Commonly Used HFCs in Aerosol Sector ^

Commonly Used HFCs in

Gas Card Tool

The "Gas Card Tool" is a web-based visualization tool developed to provide engineers, workers, and technicians in their workplace with visual printable cards of each substance/ gas (basic information) that they are working with or handling in their workplace. Each Gas Card is a four-section printable card (in PDF format or image format) covering each substance/gas following information:

- General Characteristics,
- Gas Performance,
- Environmental and Safety Impact, and
- Main Usage.

In addition, and through the left navigation bar, the Gas Card tool provides lists of commonly used HFCs and HFC Blends in different sectors. The Gas Card online tool contains the same basic information of the "WhatGas?" but in a visual format.

* Based on the Overall Analysis of the Results of the Survey of ODS Alternatives Report (conducted in 119 countries from 2012 to 2015)

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