



## COMMONLY TRADED HCFCs AND MIXTURES CONTAINING HCFCs

*Post-Kigali Update*



### COMMONLY TRADED HYDROCHLOROFLUOROCARBONS (HCFCs)

Chemical name	Chemical formula	Refrigerant Designation	ODP <sup>1</sup>	GWP (100y) <sup>2</sup>	CAS Number <sup>3</sup>	UN number <sup>4</sup>	ASHRAE Safety Group Classification <sup>5</sup>	Previous HS <sup>6</sup> code (prior to 31 Dec 2011)	New HS <sup>6</sup> code (since 1 Jan 2012)	Type of container
Chlorodifluoromethane	CHF <sub>2</sub> Cl	HCFC-22	0.055	1810	75-45-6	1018	A1	2903.49	2903.71	Pressurized cylinders, ISO tanks
Dichlorotrifluoroethane	C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub>	HCFC-123	0.06	77	306-83-2	1078	B1	2903.49	2903.72	Drums, sometimes also pressurised cylinders or ISO tanks
Chlorotetrafluoroethane	C <sub>2</sub> HF <sub>4</sub> Cl	HCFC-124	0.022	609	2837-89-0	1021	A1	2903.49	2903.79 <sup>7</sup>	Pressurised cylinders, ISO tanks
Dichlorofluoroethane	C <sub>2</sub> H <sub>3</sub> FCl <sub>2</sub>	HCFC-141b	0.11	725	1717-00-6	9274	-	2903.49	2903.73	Drums, truck or rail cisterns
Chlorodifluoroethane	C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Cl	HCFC-142b	0.065	2310	75-68-3	2517	A2	2903.49	2903.74	Pressurised cylinders, ISO tanks
Dichloropentafluoropropane	C <sub>3</sub> HF <sub>5</sub> Cl <sub>2</sub>	HCFC-225ca	0.025	122	422-56-0	Not established	-	2903.49	2903.75	Drums, truck or rail cisterns
Dichloropentafluoropropane	C <sub>3</sub> HF <sub>5</sub> Cl <sub>2</sub>	HCFC-225cb	0.033	595	507-55-1	Not established	-	2903.49	2903.75	Drums, truck or rail cisterns

1. Ozone Depleting Potential, Montreal Protocol 'reporting' values, Montreal Protocol Handbook, 2012.

2. Montreal Protocol, Annex C (post Kigali Amendment 2016).

3. CAS Registry Number, or CAS Number, assigned by Chemical Abstracts Service (CAS) to every chemical substance described in the open scientific literature

4. UN numbers are four-digit numbers that identify hazardous materials, and articles in international trade

5. A1 = Lower toxicity, no flame propagation (non-flammable); B1 = Higher toxicity, no flame propagation (non-flammable); A2 = Lower toxicity, flammable

6. World Customs Organization Harmonized Commodity Description and Coding System, also known as the Harmonized System (HS)

7. Code 2903.79 covers also other HCFCs which have not been assigned a separate HC code

## COMMONLY USED REFRIGERATION MIXTURES CONTAINING HCFCs

Refrigerant Designation	Composition, substances*	Composition (Mass %)	ASHRAE Safety Group Classification†
R-401A	HCFC-22/HFC-152a/HCFC-124	53/13/34	A1
R-401B	HCFC-22/HFC-152a/HCFC-124	61/11/28	A1
R-401C	HCFC-22/HCFC-152a/HCFC-124	33/15/52	A1
R-402A	HFC-125/HC-290/HCFC-22	60/2/38	A1
R-402B	HFC-125/HC-290/HCFC-22	38/2/60	A1
R-403A	HC-290/HCFC-22/PFC-218	5/75/20	A2
R-403B	HC-290/HCFC-22/PFC-218	5/56/39	A1
R-406A	HCFC-22/HC-600a/HCFC-142b	55/4/41	A2
R-408A	HFC-125/HFC-143a/HCFC-22	7/46/47	A1
R-409A	HCFC-22/HCFC-124/1HCFC-142b	60/25/15	A1
R-409B	HCFC-22/HCFC-124/HCFC-142b	65/25/10	A1
R-411A	HC-1270/HCFC-22/HFC-152a	1.5/87.5/11	A2
R-411B	HC-1270/HCFC-22/HFC-152a	3/94/3	A2
R-412A	HCFC-22/PFC-218/HFC-143b	70/5/25	A2
R-414A	HCFC-22/HCFC-124/HC-600a/HCFC-142b	51/28.5/4/16.5	A1
R-414B	HCFC-22/HCFC-124/HC-600a/HCFC-142b	50.0/39.0/1.5/9.5	A1
R-415A	HCFC-22/HFC-152a	82/18	A2
R-416A	HCFC-134a/HCFC-124/HC-600	59.0/39.5/1.5	A1
R-418A	HC-290/HCFC-22/HFC-152a	1.5/96.0/2.5	A2

\* HCFC = hydrochlorofluorocarbon, HFC = hydrofluorocarbon, PFC = perfluorocarbon, HC = hydrocarbon

† A1 = Lower toxicity, no flame propagation (non-flammable) A2 = Lower toxicity, flammable

N.B. The World Customs Organization Harmonized System (HS) Code for all the above mixtures (i.e. mixtures containing HCFCs) is: 3824.74

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