Table 2B. Hydrocarbon Blends (400 & 500 Series Refrigerants) and their Allowable Levels of Contaminants

	Reporting Units	Reference Section	R-432A	R-433A	R-433B	R-433C	R-436A	R-436B	R-441A	R-443A
CHARACTERISTICS:										
Refrigerant Components	N/A	N/A	R-1279/E170	R-1270/290	R-1270/290	R-1270/290	R-290/600a	R-290/600a	R-170/ 290/600a/600	R-1270/ 290/600a
Nominal Composition	% by weight	N/A	80.0/20.0	30.0/70.0	5.0/95.0	25.0/75.0	56.0/44.0	52.0/48.0	3.1/54.8/6.0/36.1	55.0/40.0/5.0
Allowable Composition	% by weight	N/A	79.0-81.0/ 19.0-21.0	29.0-31.0/ 69.0-71.0	4.0-6.0/ 94.0- 96.0	24.0-26.0/ 74.0-76.0	55.0-57.0/ 43.0-45.0	51.0-53.0/ 47.0- 49.0	2.8-2.4/52.8-56.8/ 5.4-6.6/34.1-38.1	53.0-57.0/ 38.0-42.0/ 3.8-6.2
Bubble Point[1]	°C @ 101.3 kPa	N/A	-45.2	-44.4	-42.5	-44.1	-34.3	-33.3	-41.5	-45.2
Dew Point[1]	°C @ 101.3 kPa	N/A	-42.4	-44	-42.4	-43.7	-26.1	-25	-20.3	-42.1
Critical Temperature[1]	°C	N/A	97.3	94.4	96.3	94.8	115.9	117.4	117.3	95.1
VAPOR PHASE CONTAMINANTS[2]:										
Air and Other Non-condensables, Max.	% by volume @ 25.0°C	5.10	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
LIQUID PHASE CONTAMINANTS[3]:										
Sulfur Odor[4]	No odor to pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
High Boiling Residue, Max.	% by volume or % by weight	5.8	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Particulates/Solids	Pass or Fail	5.9	Visually clean	Visually clean	Visually clean	Visually clean	Visually clean	Visually clean	Visually clean	Visually clean
Acidity, Max.	ppm by weight	5.7	1	1	1	1	1	1	1	N/A
Water, Max.	ppm by weight	5.4	20	10	10	10	10	10	10	10
All Other Volatile Impurities, Max.	% by weight	5.11	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Total C3, C4 and C5 Polyolefins, Max.	% by weight	5.12	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Chloride[2]	Pass or Fail	5.6	No visible turbidity	No visible turbidity	No visible turbidity	No visible turbidity	No visible turbidity	No visible turbidity	N/A	N/A

1. Bubble points, dew points, and critical temperatures, although not required, are provided for informational purposes. Refrigerant data compiled from Refprop 9.1.
2. Taken from vapor phase
3. Vaporized from liquid phase
4. Including hydrogen sulphide and mercaptans