

**TABLE 5-6 (continued)**  
**Allowable Refrigerant Table<sup>1, 9, 12</sup>**

Refrigerant	Chemical Formula	Chemical Name <sup>4</sup> (Composition for Blends)	Safety Group <sup>1</sup>	OEL <sup>5</sup> (ppm)	IDLH <sup>6</sup> (ppm)	Kg/280m <sup>3</sup> of Space <sup>7</sup>
R-740	Ar	argon	A1			
R-744	CO <sub>2</sub>	carbon dioxide	A1	5,000	40,000	127.4
R-764	SO <sub>2</sub>	sulfur dioxide	B1	5	100	
R-1150	CH <sub>2</sub> =CH <sub>2</sub>	ethene (ethylene)	A3	200	5,200	10.8
R-1270	CH <sub>3</sub> CH=CH <sub>2</sub>	propene (propylene)	A3	500	3,400	2.8

**Notes:**

<sup>1</sup> Refrigerant safety group designation.

<sup>2</sup> Refrigerant properties are those needed for this chapter.

<sup>3</sup> Allowable quantities are for high-probability systems.

<sup>4</sup> Chemical name shown is the preferred name. The popular name is shown in parenthesis.

<sup>5</sup> OEL is the Occupational Exposure Limit.

<sup>6</sup> IDLH is that designated by NIOSH unless otherwise designated. If no value is shown, use the value listed under Kg/280m<sup>3</sup> of Space. Use the following formula to convert from pounds per 1000cf of Space to ppm. ppm = pounds per 1000cf of space / (0.000002557 x M), where M equals the molar mass of the refrigerant in g/mole.

<sup>7</sup> 28.3Kg/m<sup>3</sup> of refrigerant in a high-probability system of occupied space (lbs/1,000 ft.<sup>3</sup>). See Section 1104.0. This column does not apply to refrigerant machinery rooms or areas covered by Section 1106.0. If no value is listed use zero unless sufficient data can be provided to determine the value as described in Section 7 of ASHRAE Standard 34-2007.

<sup>8</sup> The OEL value shown is the TLV-C recommended by ACGIH.

<sup>9</sup> The IDLH value shown is reduced from that designated by NIOSH in light of cardiac sensitization potential.

<sup>10</sup> A PEL has not yet been established; the value given was determined in a consistent manner.

<sup>11</sup> An IDLH has not yet been established; the value given was determined in a consistent manner.

<sup>12</sup> OSHA PEL is 50 ppm; ACGIH TLV-TWA is 25 ppm.

<sup>13</sup> The OEL value shown is the WEEL recommended by AIHA

<sup>14</sup> The OEL value show is the ACGIH TLV-TWA

SI: 1Kg = 2.2 lb; 1m<sup>3</sup> = 35.5 ft<sup>3</sup>; 1mg/L = ppm