

*Standard 700–1995.* The test will show noticeable turbidity at chloride levels of about 3 ppm by weight or higher.

5.5.2 *Turbidity.* The results of the test shall not exhibit any sign of turbidity. Report the results as “pass” or “fail.”

5.6 *Acidity.*

5.6.1 *Method.* The acidity test uses the titration principle to detect any compound that is highly soluble in water and ionizes as an acid. The test method shall be that described in *Appendix—C to ARI Standard 700–1995*. This test may not be suitable for determination of high molecular weight organic acids; however, these acids will be found in the high boiling residue test outlined in 5.7. The test requires a 100 to 120 gram sample and has a detection limit of 0.1 ppm by weight calculated as HCl.

5.6.2 *Limits.* The maximum permissible acidity is 1 ppm by weight as HCl.

5.7 *High Boiling Residue.*

5.7.1 *Method.* High boiling residue shall be determined by measuring the residue of a standard volume of refrigerant after evaporation. The refrigerant sample shall be evaporated at room temperature or at a temperature 45°C (115°F) for all refrigerants, except R–113 which shall be evaporated at 60°C (140°F), using a Goetz bulb as specified in *Appendix—C to ARI Standard 700–1995*. Oils and/or organic acids will be captured by this method.

5.7.2 *Limits.* The value for high boiling residue shall be expressed as a percentage by volume and shall not exceed the maximum percent specified (see Tables 1A, 1B, and 1C). An alternative gravimetric method is described in *Appendix—C to ARI Standard 700–1995*.

5.8 *Method of Tests for Particulates and Solids.*

5.8.1 *Method.* A measured amount of sample is evaporated from a Goetz bulb under controlled temperature conditions. The particulates/solids shall be determined by visual examination of the Goetz bulb prior to the evaporation of refrigerant. Presence of dirt, rust or other particulate contamination is reported as “fail.” For details of this test method, refer to Part 3 of *Appendix—C to ARI Standard 700–1995*.

5.9 *Non-Condensables.*

5.9.1 *Sample.* A vapor phase sample shall be used for determination of non-condensables. Non-condensable gases consist primarily of air accumulated in the vapor phase of refrigerants. The solubility of air in the refrigerant's liquid phase is extremely low and air is not significant as a liquid phase contaminant. The presence of non-condensable gases may reflect poor quality control in transferring refrigerants to storage tanks and cylinders.

5.9.2 *Method.* The test method shall be gas chromatography with a thermal

conductivity detector as described in *Appendix—C to ARI Standard 700–1995*.

5.9.3 *Limit.* The maximum level of non-condensables in the vapor phase of a refrigerant in a container shall not exceed 1.5% by volume (see Tables 1A, 1B, and 1C).

5.10 *Impurities, including Other Refrigerants.*

5.10.1 *Method.* The amount of other impurities including other refrigerants in the subject refrigerant shall be determined by gas chromatography as described in *Appendix—C to ARI Standard 700–1995*.

5.10.2 *Limit.* The subject refrigerant shall not contain more than 0.5% by weight of impurities including other refrigerants (see Tables 1A, 1B, and 1C).

**Section 6. Reporting Procedure**

6.1 *Reporting Procedure.* The source (manufacturer, reclaimer or repackager) of the packaged refrigerant shall be identified. The refrigerant shall be identified by its accepted refrigerant number and/or its chemical name. Maximum permissible levels of contaminants are shown in Tables 1A, 1B, and 1C. Test results shall be tabulated in a like manner.

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