



IICL RTB 003, 23 March 2012

Title: “Refrigerant Gas Testing”

REFRIGERANT GAS TESTING

The container industry has been tracking the situation involving contaminated refrigerant gas in refrigerated containers (“reefers”) designed to operate with R134a refrigerant. The use of an incorrect refrigerant gas during the servicing of such reefers has resulted in contamination of some reefers with chlorinated products. Refrigerant gas service cylinders contaminated with chlorinated products have apparently also been found on ships.

The container leasing industry has been investigating and reviewing possible methods for testing supply gas cylinders and reefers for such chlorinated product contamination. The investigation and review processes have been conducted by various interested parties, internationally, over several months. The Institute of International Container Lessors (“IICL”), along with many other industry organizations, has participated in this process and has monitored the various developments. Currently, there appears to be a consensus within the container leasing industry on certain best practices and procedures regarding testing for any potential chlorinated product contamination of reefers designed to operate with R134a refrigerant.

The precise requirements regarding any testing, including whether any given reefer or supply gas cylinder requires testing, when such testing should occur, the specific procedures surrounding any such testing, the manner to proceed when a test reveals chlorinated product contamination exists, and documentation that is required, are to be determined by the owners or managers of the equipment at issue. The purpose of this paper is to present IICL’s position only with respect to methods of testing for contamination from a chlorinated product. As technology develops or changes, and based on further experience of the container leasing industry with these issues, best practices and procedures may change. Please check the IICL website, <http://www.iicl.org/techcorner/reefer.cfm> , for updates on these issues and for related information.

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The current best practices and procedures regarding testing methods are outlined below:

- There are several methods that presently can be used to test whether gas in supply cylinders or in reefers designed to operate with R134a refrigerant is contaminated with chlorinated products. The industry consensus is that there currently are two safe, accurate, and effective methods for such testing: the Halide flame test and the system incorporating ‘gas sniffer’ tubes supplied by RAE Benelux.
- Details regarding the Halide flame test are available from multiple sources and the users should become familiar with the proper procedures and equipment to use, as well as the safety precautions that should be followed. A sample set of Halide flame test procedures is posted on the IICL website at <http://www.iicl.org/techcorner/reefer.cfm> .
- Detailed procedures regarding the ‘gas sniffer’ test are available from RAE Benelux and users should become familiar with the proper procedures and equipment to use, as well as the safety precautions that should be followed. A sample set of gas sniffer test procedures is posted on the IICL website at <http://www.iicl.org/techcorner/reefer.cfm> .
- Regardless of the method that is used, only properly trained personnel should be involved with the servicing and testing of reefers and supply cylinders.

IMPORTANT NOTE: This reflects the position of IICL as of the date of this document.

Please visit <http://www.iicl.org/techcorner/reefer.cfm> , for revisions or updates regarding this position and for further information regarding these issues. As noted above, future experience with these issues and changes in available technology may result in changes to this information.

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