

# Scientific Evaluation of LiquiSmoke™

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## **A Summary of the Scientific Evaluation Reports Produced by Maxim Technologies of Sioux Falls, South Dakota**

During testing conducted by Maxim Technologies, the following facts concerning the smoke generated by LiquiSmoke were determined, under the guidelines set by The National Institute of Occupational Safety and Health (NIOSH), and the Occupational Safety and Health Administration (OSHA).

During the tests, Maxim Technologies collected a sample of the smoke generated by LiquiSmoke in a charcoal tube. The sample was sent to the Wisconsin Occupational Health Laboratory. A GC Solvent Scan was conducted to determine if the smoke generated by LiquiSmoke formed any hazardous compounds or conditions. The GC Solvent Scan searched for 107 different hazardous organic compounds. Of the 107 items listed, only .01 parts per million (ppm) petroleum distillates was found. The OSHA permissible Exposure Limit is 500 ppm.

Further testing by Maxim Technologies found that the ambient carbon monoxide levels were found to be zero. NIOSH regulations have determined that the “8 hour time weighted average” (TWA) for carbon monoxide to be 35 ppm. During the duration of the test, measurable TWA levels of LiquiSmoke ranged from 4.6 to 7.8 ppm – within the OSHA Permissible Exposure Limit (PEL) set by OSHA.

Maxim Technologies also tested for carbon dioxide levels. Ambient levels were found to be at 330 ppm. The level of carbon dioxide during the entire LiquiSmoke test was determined to be 500 ppm. The OSHA Permissible Exposure Limit (PEL) is 5,000 ppm.

In addition, testing by Maxim Technologies was also performed to determine if usage of the product left any staining or odor. Residual staining and odor tests were conducted in a closed facility filled with LiquiSmoke. Time interval testing of filter paper samples exposed to LiquiSmoke were examined under a microscope at 40X magnification. In all cases, no visible staining was present, along with no odor on any of the filter papers exposed to the smoke.

This summary is based on complete reports from Maxim Technologies of Sioux Falls, South Dakota. Copies of these tests, as well as the findings of the Wisconsin Occupational Health Laboratory, are available from Hurco Technologies, Inc.