

# EMSL Analytical, Inc. - Microbiology

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**Client:** Homeowner  
123 Street  
City, State Zip

**Attention:** Homeowner  
**Project:** House mold test

**EMSL Order ID:** 123456789  
**Date Received:** 01/01/2007  
**Date Analyzed:** 01/01/2007  
**Date Reported:** 01/01/2007

## American Relative Moldiness Index by Mold Specific Quantitative Polymerase Chain Reaction (MSQPCR) (EMSL Method:M050)

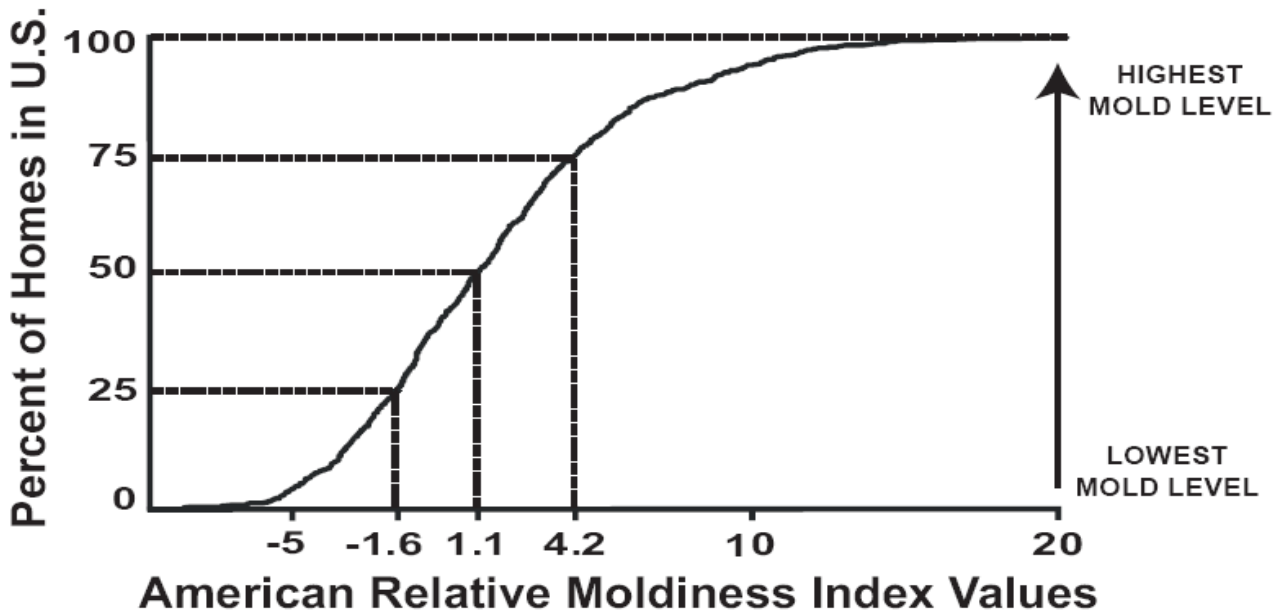
based on USA EPA SOP MERB-020, Revision No. 3, 7/11/02

Lab Sample Number	328-1		-	-	-	-	-	-
Client Sample ID	1		-	-	-	-	-	-
Sample Location	House composite		-	-	-	-	-	-
Sample size	0.0849 mg dust		-	-	-	-	-	-
EPA ARMI 13 Species	Total cells in sample	cells/ mg dust	Total cells in sample	cells/ m3 air	Total cells in sample	cells/ m3 air	Total cells in sample	cells/ m3 air
Group 1								
<i>Aspergillus niger</i>	ND	ND	-	-	-	-	-	-
<i>Aspergillus ochraceus</i>	ND	ND	-	-	-	-	-	-
<i>Aspergillus penicillioides</i>	142,866	1,682,759	-	-	-	-	-	-
<i>Aspergillus restrictus</i>	124,912	1,471,289	-	-	-	-	-	-
<i>Aspergillus sydowii</i>	ND	ND	-	-	-	-	-	-
<i>Eurotium (A.) amstelodami</i>	16,040	188,927	-	-	-	-	-	-
<i>Chaetomium globosum</i>	ND	ND	-	-	-	-	-	-
<i>Paecilomyces variotii</i>	ND	ND	-	-	-	-	-	-
<i>Penicillium chrysogenum</i>	ND	ND	-	-	-	-	-	-
<i>Wallemia sebi</i>	ND	ND	-	-	-	-	-	-
<b>Sum of the Logs</b>	<b>17.7</b>		-	-	-	-	-	-

EPA ARMI 13 Species	Total cells in sample	cells/ mg dust	Total cells in sample	cells/ m3 air	Total cells in sample	cells/ m3 air	Total cells in sample	cells/ m3 air
Group 2								
<i>Alternaria alternata</i>	ND	ND	-	-	-	-	-	-
<i>Cladosporium cladosporioides I</i>	4,428	52,154	-	-	-	-	-	-
<i>Cladosporium herbarum</i>	ND	ND	-	-	-	-	-	-
<b>Sum of the Logs</b>	<b>4.7</b>		-	-	-	-	-	-
<b>ERMI Value:</b>	<b>13</b>		-	-	-	-	-	-
<b>ERMI Interpretation*</b>	<b>Level 4</b>		-	-	-	-	-	-

ND=None detected; the result is below the analytical detection limit or not present.

Approved EMSL Signatory  
AIHA EMLAP Lab ID # 100194



\*Based on preliminary data published by the US EPA (chart above), the following ARMI levels can help predict whether an indoor environment is moldy. As research progresses, forthcoming data may change this interpretation and further refine the ARMI.

ND=None detected; the result is below the analytical detection limit or not present.

Level 4 = Buildings with an ARMI in the 4th quartile have the greatest likelihood of having a mold problem.

Level 3 = Buildings with an ARMI in the 3rd quartile have a greater likelihood of having a mold problem.

Level 2 = Buildings with an ARMI in the 2nd quartile have a lower likelihood of having a mold problem.

Level 1 = Buildings with an ARMI in the 1st quartile have the lowest likelihood of having a mold problem.

Related published paper: Quantification of *Stachybotrys chartarum* conidia in indoor dust using real time, fluorescent probe-based detection of PCR products. 2001. Jennie D Roe, Richard A Haugland, Stephen J Vesper and Larry J Wymer. JEAE Vol.11.

Rapid Monitoring by Quantitative Polymerase Chain Reaction for Pathogenic *Aspergillus* During Carpet Removal From a Hospital. 2004. Alice N. Neely, PhD, Vince Gallardo, MS, Ed Barth, MS, Richard A. Haugland, PhD, Glenn D. Warden, MD, and Stephen J. Vesper, PhD. Infection Control and Hospital Epidemiology, Vol. 25.

Quantitative Polymerase Chain Reaction Analysis of Fungi in Dust From Homes of Infants Who Developed Idiopathic Pulmonary Hemorrhaging. 2004. Vesper, Stephen J. PhD; Varma, Manju PhD; Wymer, Larry J. MS; Dearborn, Dorr G. MD, PhD; Sobolewski, John MS; Haugland, Richard A. PhD. Journal of Occupational & Environmental Medicine. 46(6):596-601.

Real-time PCR analysis of molds is performed at EMSL Analytical, Inc. in agreement with the Patent License Agreement between EMSL Analytical, Inc. and the United States Environmental Protection Agency's National Exposure and Research Laboratory-CI as well as the Patent License Agreement between EMSL Analytical, Inc. and Applied Biosystems.

For further technical information regarding the development of the ERMI or ARMI refer to the April 2006 issue of "The Synergist" pages 39-43 or [www.epa.gov/iaq](http://www.epa.gov/iaq)

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