

# Technical Bulletin



Johns Manville

A Berkshire Hathaway Company

## **Berkeley Laboratories Verifies NO Detectable Emissions from Johns Manville Formaldehyde-free Fiber Glass Insulation**

### **Berkeley Laboratories Test Finds No Detectable Formaldehyde**

In a November 2003 test under the most rigorous conditions necessary to meet the stringent *Environmental Specification 1350*, Berkeley Labs tested the fiber glass from a wide variety of Johns Manville Formaldehyde-free products and found no detectable formaldehyde, other aldehydes, or VOCs. (See, Berkeley Analytical Associates, Richmond, California, Test No. EMIT1038 November 17, 2003.)

### **California Schools know there is a big difference between formaldehyde-free and ordinary, formaldehyde-bonded fiber glass products**

California schools have determined that there is a big enough difference between ordinary, formaldehyde-bonded products and formaldehyde-free products that they specify only formaldehyde-free fiber glass batt insulation. (See, California Division of the State Architect; Construction Specifications Division 7:Thermal and Moisture Protection, Part 2, Section 2.01.B; see also, California CSI Division 07 Thermal and Moisture Protection at <http://www.ciwmb.ca.gov/GreenBuilding/materials/Matrix.htm#Division7>)

### **According to a California Waste Management board study, “certified” formaldehyde-bonded products off-gas measurable amounts formaldehyde**

The data from the waste management board verify that ordinary, formaldehyde-bonded fiber glass insulation indeed off-gases formaldehyde and that for one ordinary product tested the *rate of off-gassing actually increased* over the time period of the test. (See, Building Material Emissions Study, California Integrated Waste Management Board, November 2003, Appendix L, pages 288 - 292; found at <http://www.ciwmb.ca.gov/Publications/GreenBuilding/43303015.pdf>.)

### **US Dept. of Health and Human Services Division Notes Fiber Glass Insulation as source of Formaldehyde**

The Agency for Toxic Substances and Disease Registry, a division of the US Department of Health and Human Services and toxicology advisor to US EPA and other federal agencies, lists ordinary fiber glass insulation as a source of in-home formaldehyde. See Toxicological Profile for Formaldehyde (U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, July 1999; <http://www.atsdr.cdc.gov/toxprofiles/tp111-c1.pdf>.)

**Tough questions are being asked about "green certified" programs and products. For example:**

- In these programs (*e.g.*, Greenguard) a manufacturer can pay for product testing and secure "certification" all without having to make any substantive changes to its products.
- "Certification" does not address cumulative chemical (*e.g.*, formaldehyde) exposure; when combined, it is possible for several "certified" products to exceed even the certification criteria.
- For one prominent "certification" program the rate of off-gassing allowed for "certified" products can even be well above established health standards. For example, a 50ppm certification level for formaldehyde:
  - ***exceeds by a factor of 25*** the chronic reference exposure level (REL) established by the California Office of Environmental Health and Hazard Assessment. (See, [http://www.oehha.ca.gov/air/chronic\\_rels/pdf/50000.pdf](http://www.oehha.ca.gov/air/chronic_rels/pdf/50000.pdf) )
  - ***exceeds by a factor of four*** the maximum allowable formaldehyde emissions to qualify for a bid under Environmental Standard 1350 on California state construction projects. (See page 8 at [http://www.chps.net/manual/documents/Sec\\_01350.doc](http://www.chps.net/manual/documents/Sec_01350.doc) )
  - ***exceeds by a factor of three*** the acceptable level of formaldehyde recommended for office and other workers during a normal 8-hour day by the National Institute Occupational Safety and Health (NIOSH). (See, <http://www.cdc.gov/niosh/npg/npgd0293.html>)

**The Bottom Line**

- Formaldehyde remains a concern for federal, state and local agencies such as the Agency for Toxic Substances and Disease Registry, National Institute of Occupational Safety and Health, California Air Resources Board, and California Office of Environmental Health and Hazard Assessment
- California schools and an increasing number of owners, architects, specifiers, builders and designers are choosing and specifying formaldehyde-free products, including formaldehyde-free fiber glass batt insulation (*i.e.*, made with a formaldehyde-free binder).
- "Certified" products do not meet these formaldehyde-free specs.
- "Certified" products do not necessarily meet the more stringent Environmental Specification 1350.
- The most recent rigorous testing verifies no detectable formaldehyde from Johns Manville Formaldehyde-free fiber glass.
- The most effective way to reduce the cumulative effects of formaldehyde-bonded products is to remove formaldehyde - not certify it.

If you have any further questions please contact Tim Carey at 303.978.5157 or [careyt@jm.com](mailto:careyt@jm.com)

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