



Sample Report

Home Air Analysis For: Josephine Patricia Barkley
Home Tested: PO Box 486
 Boston, MA 02120
 USA
Client Sample ID: Kitchen
Sample Volume (L): 5
Date Sampled: 02/05/2013
Sample Type: TDT 112J

Report Number: 6011
Laboratory ID: 6011-2
Order Date: 02/08/2013
Scan Date: 02/11/2013
Report Date: 02/13/2013

Location/Notes:

Thank you for using Home Air Check!

If you have questions about your report please contact
customerservice@homeaircheck.com

Formaldehyde Report

Formaldehyde Concentration: 52 ng/L (42 ppb)

Formaldehyde Level: **Elevated**

Recommendation

Locate and remove formaldehyde sources. Investigate the resources listed in this report for more information on formaldehyde sources and their removal.

Formaldehyde Exposure Guidelines for Homes

Although there are no requirements set for formaldehyde concentration limits in homes, there are a number of recommendations. Many organizations or government authorities suggest formaldehyde concentrations not exceed **100-120 ng/L (80-100 parts per billion or ppb)** and **50-60 ng/L (40-50 ppb)** for short term and longer term exposures, respectively. Some organizations or government authorities recommend more stringent levels for longer term exposures. Most homes measured by Prism's air test have concentrations in the range of 30 to 70 ng/L.

For comparison with workplace exposure, the National Institute for Occupational Safety and Health (NIOSH) has set a recommended exposure limit (REL) of 20 ng/L (16 ppb). The Occupational Safety and Health Administration (OSHA) has set a workplace permissible exposure limit (PEL) of 940 ng/L (750 parts per billion).

The levels in this report are set based on these recommendations, as well as measured concentrations from over 7,000 homes.

Level	Conc Range (ng/L)	Conc Range (ppb)
Low	< 20	< 16
Moderate	20-50	16-40
Elevated	50-100	40-80
High	> 100	> 80

Major Health Effects of Formaldehyde Exposure

Health effects vary depending on the individual. Common symptoms of acute exposure include irritation of the throat, nose, eyes, and skin; this irritation can potentially exacerbate asthma symptoms and other respiratory illnesses. Long term, or chronic, exposure may also cause chronic runny nose, chronic bronchitis, and obstructive lung disease. In 2004, the International Agency for Research on Cancer (IARC) reclassified formaldehyde from "probably carcinogenic to humans" to "carcinogenic to humans" related to nasopharyngeal cancer. Since many factors are involved in the development of cancer, no definitive "safe level" of exposure has been established. The best way to reduce the risk of cancer is to limit exposure.



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Formaldehyde Sources

There are many possible sources for formaldehyde in a home, although building products typically make up a large proportion of the concentration. Any recent renovation or new materials brought into the home is likely to increase the formaldehyde levels. The concentration will decrease over time as the materials off gas, so increasing the ventilation as much as possible is typically the best way to quickly decrease the formaldehyde in your home after recent renovation or installation of new materials.

Formaldehyde is also produced naturally in living systems, e.g., trees and other plant life, and during decay and combustion processes. Formaldehyde is also involved in atmospheric processes. Outdoor concentrations of formaldehyde from both natural and man-made sources can range from less than 1 ng/L in remote areas to 10-20 ng/L in urban environments.

- Products that contain urea-formaldehyde (UF) resins
 - particleboard, hardwood plywood paneling, medium density fiberboard
- Products that contain phenol-formaldehyde (PF) resins (lower concentrations of formaldehyde than UF resins)
 - softwood plywood, flake or oriented strand board
- Pre-finished engineered flooring
- Insulation
- Glues and adhesives
- Paints and coatings
- Textiles
- Disinfectant cleaning products and soaps
- Preservatives
- Personal care products, especially certain hair products
- Cosmetics
- Pet care products
- Bactericides and fungicides
- Combustion byproduct (burning)
 - Tobacco smoke and fuel-burning appliances (gas stoves, kerosene space heaters and fireplaces)

Additional Resources

World Health Organization (WHO) [Air Quality Guidelines for Europe, 2nd Edition \(2000\): pg 87-91](#)

Europe: [Report No. 7-Indoor Air Pollution by Formaldehyde in European Countries \(1990\)](#)

Health Canada: [Residential Indoor Air Quality Guideline-Formaldehyde](#)

US Consumer Product Safety Commission (CPSC) [Update on Formaldehyde \(2013\)](#)

Environmental Health (US) - [Formaldehyde Exposure in Homes: A Reference Guide for State Officials to use in Decision Making](#)

US Environmental Protection Agency: [Formaldehyde](#)

US Agency for Toxic Substances and Disease Registry (ATSDR): [Formaldehyde ToxFAQs™](#)

US National Institutes of Health (NIH): [ToxTown: Formaldehyde](#)

Household Products Database: [Formaldehyde](#)

These results are authorized by the Laboratory Director or approved representative.

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