

WHAT YOU SHOULD KNOW ABOUT FORMALDEHYDE WHEN MAKING YOUR CABINETS DECISION

On May 26 2007 The California Air Resources Board approved 8-0 to regulate formaldehyde emissions from building materials.

Formaldehyde is used in the industrial glues that are commonly used to bond plywood, particle board and medium-density fiberboard used for kitchen cabinets, shelving, countertops and ready-to-assemble furniture. Many state, national and international governments and health agencies have agreed that it is a cancer-causing chemical with no known safe exposure levels, that is, risk depends upon amount and duration of exposure.

The standard would be phased in starting in 2009 and would become the most stringent in the world by the time it is fully implemented in 2012. The goal is to meet Europe's E1 in the first phase followed by the stricter standards set by Japan's F Three Star Standard in the second phase. Worldwide manufacturers, most notably the Chinese, are currently meeting these standards for exports to Europe and Japan now. In the meantime, with no regulations to constrain them, those same Chinese manufacturers are selling cheap inferior formaldehyde laden products in the US.

The Ecohome line of custom cabinetry is among the few cabinetry brands in the U.S. marketplace which offer a totally formaldehyde free product. We use Columbia Forest Product Pure Bond hardwood plywood, a urea-formaldehyde free product achieved by using soy-based glues. We also specify low and zero V.O.C finishes that are always formaldehyde free. We hope that as you learn more the concerns conventional materials used in cabinetry, you will agree that your investment in cabinetry must not only include good design but also healthy home material. We are pleased to be years ahead of the curve, aren't you?

Below is the press release announcing the CARB's decision followed by a summary of state, national and international governments and health agencies position on formaldehyde.

California approves limits on formaldehyde, used in wood products

04/26/2007

By SAMANTHA YOUNG / Associated Press

California air regulators on Thursday approved the nation's most sweeping restriction on emissions of formaldehyde, a cancer-causing chemical found in kitchen cabinets, shelving, countertops and ready-to-assemble furniture.

The rule will require manufacturers to reduce by more than half a toxic chemical in manufactured wood. Experts say it is inhaled most frequently by new home buyers, home remodelers and workers who handle the chemically laden wood.

"There is no safe threshold for this carcinogen, and we know how to eliminate it," said Harry Demorest, president and chief executive of Columbia Forest Products, an Oregon-based manufacturer that began taking formaldehyde out of its plywood in 2002.

The standard, approved 8-0 by the California Air Resources Board, would be phased in starting in 2009 and would become the most stringent in the world by the time it is fully implemented in 2012. Other countries also are moving to tighten rules for formaldehyde use.

For some American cabinetmakers, manufacturers and others in the wood industry, the higher standard would force them to use more expensive wood glues and lead to longer processing times. That could affect profits and drive up prices for consumers, said dozens of witnesses who testified during Thursday's hearing.

Health advocates, meanwhile, complained that the state was not moving quickly enough and urged the board to implement its standard two years earlier because of the potential for severe health risks.

The proposed regulation would cut by nearly 60 percent the amount of formaldehyde emissions that seep into the air from the resin or glue most commonly used to bond plywood, particle board and medium-density fiberboard.

Whether those emissions are harmful to the general public were a key part of the discussion. State regulators and public health groups cited studies linking

formaldehyde to throat cancer, workplace asthma and increased cases of asthma and allergies in children exposed at home.

In 2004, the International Agency for Research on Cancer linked the chemical to throat cancer. An analysis for the Air Resources Board estimated that formaldehyde exposure leads to an increase in cancer for those exposed as adults and during childhood.

The board listed the chemical as a toxic air contaminant with no known safe exposure level in 1992. Some experts questioned the credibility of the studies California was relying upon in drafting its proposal.

Dr. Gary Marsh, a biostatistics professor at Pittsburgh University, cautioned that formaldehyde's designation as a carcinogen was "premature" and was based on a small sample of workplace deaths.

Formaldehyde emissions are mostly unregulated in the United States, unlike Australia, Japan and some European countries, which have set some standards.

American manufacturers meet a voluntary standard set by the U.S. Department of Housing and Urban Development that is described by California regulators as insufficient to protect public health.

The California rule would apply to all products sold, used or manufactured for sale in the state. It would require manufacturers to obtain third-party certification, maintain records and label all wood showing it complied with California law.

The regulation would close California markets to low-cost, chemically laden wood imported from Canada, China and other parts of Asia, according to the Air Resources Board.

It also is expected to affect the U.S.-based, wood-products industry. Some manufacturers warned that the California rule could put them out of business.

"All this leads to additional costs," said Wade Gregory, president of SierraPine Ltd., which is based in the Sacramento suburb of Roseville and is one of two particle board manufacturers in California. "These costs would have to be passed on to our customers or we simply go out of business."

Who says what about formaldehyde

State of California

OEHHA – California Office of Environmental Health Hazard Assessment

Declared formaldehyde a Toxic Air Contaminant (TAC) in 1992: "The OEHHA staff recommends that formaldehyde be identified as a TAC and that formaldehyde be treated as having no threshold exposure level below which no significant adverse health impacts are anticipated."

[OEHHA's final report on the identification of formaldehyde as a TAC:](http://www.oehha.ca.gov/air/toxic_contaminants/html/formaldehyde.htm)

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CARB – California Air Resources Board

Cites formaldehyde as a known human carcinogen and considers there to be no known level of exposure with zero risk. California's governor signed Assembly Bill 1173 (Keely) into law in September 2002, requiring CARB to compile a comprehensive report on indoor air pollution. From the report submitted to the California State Legislature July 2005: "Emission limits for pollutants emitted from building materials and furnishings (formaldehyde being the most predominant) would benefit all indoor environments and has potential for significant health benefits due to reduced incidence of asthma exacerbation, cancer, and eye, nose and throat irritation."

[CARB's indoor air quality guideline "Formaldehyde in the Home":](http://www.arb.ca.gov/research/indoor/formaldGL08-04.pdf)

<http://www.arb.ca.gov/research/indoor/formaldGL08-04.pdf>

National

EPA — U.S. Environmental Protection Agency

In 1987 classified formaldehyde as a probable human carcinogen under conditions of high or prolonged exposure. Today, states it has been shown to cause cancer in animals and may cause

cancer in humans. Delayed their possible reclassification of formaldehyde until the completion of the National Cancer Institute's follow-up study.

[EPA's "Sources of Indoor Air Pollution — Formaldehyde":](http://www.epa.gov/iaq/formalde.html)

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NCI – National Cancer Institute

Cites both the international Agency for Research on Cancer's classification of formaldehyde as a known human carcinogen and the EPA's classification as a probable human carcinogen. In the process of a follow-up epidemiological research study to supplement its earlier cohort study of U.S. industrial workers.

[NCI's fact sheet on formaldehyde:](http://www.cancer.gov/cancertopics/factsheet/Risk/formaldehyde)

<http://www.cancer.gov/cancertopics/factsheet/Risk/formaldehyde>

DHHS — Department of Health & Human Services

NTP — National Toxicology Program 12th Report on Carcinogens (ROC)

NTP is developing its 12th ROC and formaldehyde has been nominated for listing as "known to be a human carcinogen" based on the International Agency for Research on Cancer's reclassification of formaldehyde as a known human carcinogen. Formaldehyde has been listed as "reasonably anticipated to be a human carcinogen" since the 2nd ROC in 1981.

[NTP's substance profile of formaldehyde from the 11th ROC:](http://ntp.niehs.nih.gov/ntp/roc/eleventh/profiles/s089form.pdf)

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OSHA – U.S. Occupational Safety and Health Administration

As of 1987, reduced the regulated amount of formaldehyde exposure for workers from 3.0 ppm to 1.0 ppm per 8-hour day. It has since reduced it further, to 0.75 ppm. Considers formaldehyde to be a suspected human carcinogen linked to nasal and lung cancer.

[OSHA's formaldehyde fact sheet:](http://www.osha.gov/OshDoc/data_General_Facts/formaldehyde-factsheet.pdf)

http://www.osha.gov/OshDoc/data_General_Facts/formaldehyde-factsheet.pdf

CDC — Center for Disease Control
National Institute for Occupational Health & Safety

Lists formaldehyde as a potential occupational carcinogen as well as having other adverse health effects, such as upper respiratory irritation. **For further NIOSH data on formaldehyde:**

<http://www.cdc.gov/niosh/npg/npgd0293.html>

http://www.cdc.gov/niosh/81111_34.html

ATSDR — Agency for Toxic Substances & Disease Registry

States that formaldehyde is a potent sensitizer and probable human carcinogen.

ATSDR's "**Medical Management Guidelines for Formaldehyde**":

<http://www.atsdr.cdc.gov/MHMI/mmg111.html>

Environmental Health Center (EHC) — part of the National Safety Council

Fact sheet on formaldehyde states, "Formaldehyde has caused cancer in laboratory animals and may cause cancer in humans; there is no known threshold level below which there is no threat of cancer."

EHC formaldehyde fact sheet:

<http://www.nsc.org/EHC/indoor/formald.htm>

National Safety Council's website:

<http://www.nsc.org/>

International

IARC — International Agency for Research on Cancer, part of the World Health Organization

In June of 2004, IARC reclassified formaldehyde as a known human carcinogen based on sufficient evidence in humans and sufficient evidence in experimental animals. IARC Working Group also concluded there is "strong but not sufficient evidence for a causal relationship between leukemia and occupational exposure to formaldehyde."

IARC's 2004 announcement:

http://www.iarc.fr/ENG/Press_Releases/archives/pr153a.html

European Union—

Commission of European Communities classifies formaldehyde as a Category 3 carcinogen, meaning, "Substances which cause concern for man owing to possible carcinogenic effects but in respect of which the available information is not adequate for making a satisfactory assessment."

Formaldehyde is currently on the European Chemicals Bureau agenda to determine a reclassification to Category 1,

"Substances known to be carcinogenic to man."

The European Chemical Bureau's current classification and labeling document on formaldehyde:

<http://ecb.jrc.it/>

[classlab/3805_F_formaldehyde.doc](http://ecb.jrc.it/classlab/3805_F_formaldehyde.doc)

Canada—

According to Environment Canada/Health Canada & the CEPA (Canadian Environmental Protection Act) Management Committee, formaldehyde presents a carcinogenic hazard to humans and is listed on their most recent Toxic Substances List (11/30/05).

CEPA notice on formaldehyde:

<http://www.ec.gc.ca/CEPARRegistry/notices/NoticeText.cfm?intNotice=54&intDocument=365>

Environment Canada's Toxic Substance List:

http://www.ec.gc.ca/CEPARRegistry/subs_list/Toxicupdate.cfm

Japan—

In 2003, Japan changed its laws for building standards and tied emission allowances to loading ratios – i.e., how much is allowable in how big a room. Japan has developed a certification system for building products through its Building Standard Law (BSL). Products are ranked into four categories, with the highest being the best emission level – Type 1, Type 2, Type 3, or the 4th category referred to as "exempt from regulations," meaning no formaldehyde, allowing these materials to be used without limitation.

For detailed information on Japan's formaldehyde building standards:

http://www.bcj.or.jp/en/03/01/01_02.html