

## Formaldehyde additives in US-made drywall

 [healthybuilding.net/blog/286-formaldehyde-additives-in-us-made-drywall](http://healthybuilding.net/blog/286-formaldehyde-additives-in-us-made-drywall)



James Vallette | April 01, 2010 | [Materials](#)

*This blog post, originally shared in the Pharos Signal, includes information about parts of Pharos that are no longer available. Please use it for historical reference and for the other useful information it contains.*

The more The Pharos Team researches building materials, the more we understand how much of the built environment emits formaldehyde. Sources like insulation, laminates, and particleboard are well documented. But, few people realize that another potential source is one of the most prevalent building materials used in the United States: wallboards, also known as drywall, gypsum board or plaster board.

Last fall, drywall hit the news with mounting concerns about the health impacts of high levels of sulfur emissions from Chinese drywall (and some made in the United States) and its potential harmful synergies with formaldehyde in newly built homes. However, as the Consumer Products Safety Commission (CPSC) and US EPA officials studied this potentially toxic combination, their focus was on formaldehyde emissions from other building materials.

EPA official Jim Woolford said, "The drywall is not a source, as far as we can determine, of the formaldehyde. Formaldehyde comes from pressed wood product, laminates and certain adhesives and other items like that."

The ever-helpful Formaldehyde Council posted a blog article that same month titled "Drywall: Not Made with Formaldehyde-Based Resins." The Council followed that assertion with a press statement. "Formaldehyde is not associated with corrosion and is not a component of dry wall," said Executive Director Betsy Natz.

Unfortunately, the EPA and Formaldehyde Council are overlooking studies by the State of California and the EPA itself that demonstrate the inconvenient truth that formaldehyde is coming from the drywall itself. US EPA testing in 2009 detected formaldehyde in the core material of boards made by U.S. manufacturers. Testing by the State of California in 2003 found that both of the standard gypsum boards they sampled emitted more formaldehyde than allowed under the Section 01350 testing protocol for offices.

These findings should not be a surprise to industry and the government investigators. Formaldehyde often is used in wallboard, as part of plasticizer formulations used as dispersants in gypsum slurry production. These dispersing agents are called sulfonated naphthalene-formaldehyde condensates. As the term implies, these formulations involve a combination of formaldehyde and naphthalene chemistry. (Naphthalene is an EPA-listed persistent bioaccumulative toxicant, and an OSHA-listed carcinogen.)

As a 2003 Lyondell Chemical Company presentation on gypsum wallboard dispersants makes clear, "[N]aphthalene sulfonate formaldehyde and sodium lignosulfonate are grades commonly used commercially for wallboard production."

An annual report by GEO Specialty Chemicals states, "GEO's naphthalene sulfonate condensates... are used to shorten the drying time and expedite the manufacture of plaster board.... Major customers include the four leading plaster board producers: United States Gypsum Company, Georgia-Pacific Corporation, National Gypsum and James Hardie." [1]

GEO manufactures a dispersing agent called DAXAD that is mainly comprised of naphthalene sulfonic acid, formaldehyde, sodium salt copolymer (CAS No. 9084-06-4). DAXAD condensates are used to disperse finely divided insoluble particles in water (and) are used (in) gypsum wallboard.

Wallboard production facilities, in turn, have reported formaldehyde emissions. National Gypsum, for example, reported formaldehyde releases at its facilities in Wilmington, North Carolina, (59 pounds in 2005), and Waukegan, Illinois (24.17 pounds in 2003)

So, dear Formaldehyde Council, the chemical you promote is a component of standard, US-made wallboards. We hope that public officials and investigators will factor this information into the on-going investigations of health hazards posed by wallboards, whether made in China, or here in the United States.

In order to help our users understand the frequent presence of naphthalene sulfonate formaldehyde and other additives in wallboard, the Pharos library of wallboard evaluations lists these as common ingredients. Further references are found in our record for Common Drywall Ingredients. We look forward to further clarification from manufacturers about whether additives to their products do, in fact, include formaldehyde chemistry.

[1] GEO Specialty Chemicals Annual Report (Form 10-K), filed April 15, 2003.

