

Questions and Answers About Formaldehyde and Fiber Glass Insulation

Q. What is formaldehyde?

A. Formaldehyde is a colorless, strong-smelling gas, and is a very common industrial and commercial chemical. There are two types of formaldehyde resins: urea formaldehyde (UF) and phenol formaldehyde (PF). Products made of urea formaldehyde can release formaldehyde gas; products made of phenol formaldehyde generally emit lower levels of the gas.

Q. Where is it found?

A. Formaldehyde is an important chemical used to make other chemicals, building materials, and household products. It is used in glues, wood products (including furniture made with pressed wood products), preservatives, permanent press fabrics, and paper products coatings, for example.

Q. What is IARC?

A. IARC, part of the World Health Organization (WHO), is the International Agency for Research on Cancer.

Q. What recent action did IARC take regarding formaldehyde?

A. On June 9, IARC announced that it reclassified formaldehyde from a 2A, Probable Human Carcinogen, to 1, Known Human Carcinogen.

Q. Why did IARC reclassify formaldehyde?

A. This decision was based on studies in which individuals' workplace exposure over 30 to 60 years ago to high doses of formaldehyde developed a rare cancer of the nasopharyngeal cavity (nasal passageway). In recent decades levels of formaldehyde in the workplace have declined dramatically.

Q. What does this mean?

A. An IARC classification is a “hazard identification”, the first of many steps in the risk assessment process for a substance.

Q. How is formaldehyde present in fiber glass insulation?

A. Some fiber glass insulations use phenol formaldehyde in the binder, which holds the glass fibers together. During the manufacturing process, the binder is cured at very high temperatures, virtually eliminating the formaldehyde content. There is a small amount of free formaldehyde present in today’s fiber glass insulation products.

Q. Should installers or homeowners be concerned about formaldehyde emissions from fiber glass insulation?

A. No! For consumers: The U.S. Consumer Products Safety Commission (CPSC) has stated that formaldehyde is present in both indoor and outdoor air at low levels and “that fibrous glass insulation and ceiling tiles will have little impact on in-home formaldehyde levels”.

For installers: The U.S Occupational Safety and Health Administration (OSHA) has established an “action level” of 50 ppb (parts per billion) for formaldehyde and our products are in the 11 to 15 ppb range. Therefore, installers do not need to wear personal protective equipment.

Q. Is there any reason for CertainTeed fiber glass insulation manufacturing workers to be concerned?

A. Currently CertainTeed regularly monitor employee exposure.

Q. What about formaldehyde-free resins?

A. The insulation industry and major resin manufacturers have been investigating formaldehyde-free resins for twelve to fifteen years. Although these types of resins are available, for the most part, they have not been used because of the loss of mechanical properties, such as strength and resiliency, and potentially higher cost. Formaldehyde-free means that there is no formaldehyde used in the manufacture of the binder used to make the insulation. Interestingly, it does not necessarily mean that the binder will not emit formaldehyde and other volatile organic compounds (VOC) when it is applied to hot glass.

Q. What are the components used in the manufacture of non-formaldehyde resins? Are they safe?

A. Laboratory studies have shown that some chemicals typically used to make resins emit aldehydes such as formaldehyde and acetaldehyde when the resin is exposed to high temperatures such as hot glass. Some of these components used in the manufacture of non-formaldehyde resins are glycols, glycerols, and amines such as monoethanolamine, diethanolamine, and triethanolamine. As with phenol-formaldehyde resins, acrylic resins are considered very safe.

Q. Will CertainTeed launch a formaldehyde-free product?

A. CertainTeed is and has been evaluating formaldehyde-free resins for the past ten years. We see no technical advantage to implementing such a change, as our products are essentially formaldehyde-free today. We will continue to monitor the progress of the new product, and will consider the option of implementing such a resin, should there be some commercial reason to do so in the future.

References

U.S Environmental Protection Agency: www.epa.gov/iaq/formalde.html
Environmental Health Center: ww.nsc.org/ehc/indoor/formald