

How safe and effective is Icynene Foam Insulation when installed in the new construction of a home?

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Joel Hirshberg 02/18/2013

This is a solid foam sprayed inside the roof and the exterior walls of a house under construction.

Isocyanates

Icynene brand, like similar brands of foam insulation, is composed of almost 50% isocyanates, a **questionable petrochemical in the eyes of many**. Regardless of whether it is open cell or closed cell, this chemical is contained in varying amounts.

The EPA says it doesn't have sufficient data to accurately assess the potential hazards of isocyanates.

The Center for Disease Control and Prevention (part of NIOSH), however, makes it clear that:

- "Isocyanates are powerful irritants to the mucous membrane of the eyes and gastrointestinal and respiratory tracts."
- "Isocyanates can also sensitize workers, making them subject to severe asthma attacks if exposed again."

Hazards during installation

The Icynene website clearly indicates the potential for harm, but **primarily during the installation phase**. One can argue, as sales people do, that once dry, the foam is inert and not harmful.

Even though spray foam insulation has been around for 25 years with no known incidents of serious illness due to incidental exposure, this fact does not necessarily make it safe in all regards. As you will read below, the manufacturers of Icynene require anyone to treat this product with extreme caution

because they know that potential hazards exist, especially for installers who are exposed on a regular basis.

It has been our experience over the past 15 years that homeowners that purchase spray foam for their new homes don't complain about off-gassing issues later on but at least one spray foam contractor we know **has become very ill and stopped spraying as a result.**

Below is a section taken directly from the Icynene website from the last page of the **product specification for Classic Max:**

"Icynene products have an excellent health and safety record spanning more than 350,000 insulation projects over more than 25 years. Nonetheless, safe handling practices during and immediately following installation are required to eliminate the possibility of health effects from exposure to isocyanates. Asthma, other lung problems, and irritation of the nose and throat can result from inhalation of isocyanates. Direct contact with the skin and eyes can result in irritation.

"Different individuals will react differently to the same exposures; some will be more sensitive than others. Severe asthma attacks have been reported in some sensitized workers exposed repeatedly to isocyanates while not wearing proper protective equipment. Some reports indicate a reaction and sensitization can occur following a single, sustained occupational exposure to isocyanates without proper protective equipment above the OSHA permissible exposure limit.

"But sensitization might not occur immediately in some individuals. Consistent use of personal proper protective equipment to prevent exposure during spraying and within the 24 hour-period after spraying is completed is critical to eliminating the health hazard. Once sensitization has occurred, a worker might not be able work safely with spray foam insulation again."