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Insulation foam doesn't deserve to be banned

New carpeting can give off more gas than UFFI

For more than 20 years, virtually every residential agreement of purchase and sale in Ontario has contained a clause dealing with the perceived fear that urea formaldehyde foam insulation (commonly known as UFFI) is a dangerous substance and one which has a negative effect on property value.

A careful examination of the facts, however, leads to the inevitable conclusion that UFFI is no more dangerous than new carpeting, and that the 20-year UFFI scare in Canada is totally unjustified.

This is the conclusion of a study by home inspector Alan Carson, of Carson Dunlop & Associates Ltd., and John Caverly, an inspector with Building Inspection Consulting Associates Ltd.

The study was completed several years ago, but I only recently discovered it on the Carson Dunlop web site (<http://www.carsondunlop.com>). It's an excellent report and deserves wider exposure. Urea formaldehyde foam insulation is a mixture of urea formaldehyde resin, a foaming agent and a propellant. When mixed on-site and sprayed into wall cavities, some formaldehyde gas - with a very strong odour - is released.

Formaldehyde is a common chemical, found in dry cleaning solutions, paper products, no-iron fabrics, diapers, pillow cases, the glue in particle board and plywood, cosmetics, paints, cigarette smoke, and the exhaust from automobiles, gas appliances, fireplaces and wood stoves. It occurs naturally in forests and is a necessary metabolite in our body cells. Ambient formaldehyde levels in houses are typically .03 to .04 parts per million (ppm).

Typical levels in the smoking section of a cafeteria and in a house with new carpeting can reach four to five times those levels. UFFI was used extensively in Canada from 1975 to 1978, at a time when the government of Canada was offering subsidies to upgrade home insulation levels.

By the time it was banned in 1980, some 100,000 Canadian homes had been insulated with the foam. The insulation was also used extensively in the United States in the 1970s, and is still in use in Europe where it has never been banned and is widely considered one of the best "retrofit" insulations.

In the United States, the Consumer Product Safety Commission banned the sale of UFFI in 1982, and a law to the same effect was passed soon afterward. In April 1983, the U.S. Court of Appeals struck down the law because there was no substantial evidence linking UFFI to health complaints. Despite this, UFFI is not widely used in the U.S. today.

One of the first problem cases involving formaldehyde was in an airtight and poorly ventilated mobile home in the United States. A poorly mixed, half-formed foam was applied to the trailer, and high levels of UFFI were measured. In other mobile home studies, elevated levels of the gas were traced to the panelling or carpets, not the insulation.

At the time, one laboratory study indicated that high levels of formaldehyde produced nasal cancers in rats.

Following some press releases and cautioning by authorities, a number of homeowners began to report problems that included respiratory difficulties, eye irritation, running noses, nosebleeds, headaches and fatigue. These symptoms are also frequently the result of heated, dry indoor air. Very quickly, fear and suspicion led to the conclusion that a problem must exist.

No verifiable health problems were attributable to the insulation, but widespread public fear rather than scientific fact hijacked the issue, and the stigma attached to UFFI houses became a reality. If UFFI had been injected into the walls, ceilings, attics or other cavities of a house, it rapidly became unsaleable unless it was discounted by up to 50 per cent off market value.

Mortgage companies weren't interested in financing UFFI houses, and costly remedial measures to remove the insulation became a necessity. The federal government set a threshold for houses with UFFI at a conservative 0.1 ppm, but the inspectors charged with designing remedial measures couldn't find any houses with UFFI gas levels exceeding that reading.

Several thousand homes were tested and not one was found with continuous readings above that level.

The highest levels were found in houses with new carpeting on a hot summer day, but the levels in those houses returned to normal two weeks after the carpet was installed.

A test case against various manufacturers, installers and insurers reached the Quebec Court of Appeal in 1995 after a marathon eight-year trial. The trial court dismissed the claim because there was no evidence of personal injury to homeowners. It found that removal of UFFI was not necessary.

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The decision in *Berthiaume v. Reno-Depot Inc.* was upheld on appeal. In a massive 216,000-word judgment, the appeal court ruled that there was no basis for fear of health risks, no justification for removal of UFFI, and simple remedial measures such as painting, wallpapering and plastering would deal with the problem of insulation breakdown in specific conditions of high heat and humidity.

Prior to the Quebec decision, numerous Ontario court cases usually awarded the injured plaintiffs the costs of removal of the insulation on the basis of a breach of the vendor's warranty that no UFFI was present, and not on the basis that there were any actual or perceived health risks.

UFFI is one of the most thoroughly investigated, and most innocuous building products we have used. Simply put, no one has ever proved urea formaldehyde foam insulation to be a health concern.

An eight-year long trial and appeal in Quebec confirm this conclusion. The UFFI scare arose without any proof and still casts an unjustified cloud over houses with the insulation.

The Carson Dunlop report concludes that those who have UFFI in their homes should enjoy their houses, and sleep well at night.

Real estate boards across Canada should consider dropping the UFFI clause from purchase contracts. UFFI is simply not the problem it was once feared to be.

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