



Spray Foam Insulation Industry and Federal Agencies Agree On Product Stewardship Measures

Spray foam insulation has become a substantial player in the building products market. This growth is partly the result of the U.S. Government's investment of billions of dollars toward increased energy efficiency. Growing enthusiasm for this product has caused several manufacturers to ignore safety issues associated with the product, as well as to overstate its performance and make untrue and unsupported comparisons with other insulation products. These misleading claims come from a small minority of spray foam producers and have prompted the U.S. Environmental Protection Agency ("EPA"), the Occupational Safety and Health Administration ("OSHA"), the National Institute for Occupational Safety and Health ("NIOSH"), and the Consumer Product Safety Commission ("CPSC") to sponsor a public meeting and webinar to educate the public about the safety concerns surrounding spray foam insulation. Specifically, the briefing educated the public about the inaccurate and misleading marketing claims being made, corrected inaccurate hazard and risk information, and urged the development of exposure assessments, including the collection of exposure data. To the credit of some members of the spray foam insulation industry, significant action has been taken to address these issues. Effective guidance for the

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industry has been created through the Center for the Polyurethanes Industry-Spray Polyurethane Foam Alliance ("CPI-SPFA") Product Stewardship Program.

While the federal agencies' educational outreach effort has corrected a lot of misinformation, unfortunately, there are still a certain few spray foam insulation manufacturers that have not heeded the advice of government agencies and their own industry leaders to correct the misleading information. The presentation given during the "What You Need to Know About the Safe Use of Spray Polyurethane Foam (SPF)" briefing and webinar is available online and from EPA. The 112-page presentation on spray polyurethane foam is also available on EPA's Design for the Environment site at <http://www.epa.gov/dfe/> or the direct link to review or download the pdf of the slides is http://www.epa.gov/dfe/spf_presentation_2009_epa_osha_niosh_cpsc.pdf.

The government's summary of spray foam issues focuses on the need for accurate hazard and risk information, certain inaccurate and misleading marketing claims, and issues surrounding exposure to SPF. The majority of producers of SPF are responsible companies that provide appropriate warnings and avoid unsubstantiated claims, but there have been enough false and misleading claims and failure to disclose health and safety issues to cause these federal agencies to provide the warnings and precautions described below.

Misleading and Inaccurate Claims

To understand the importance of accurate hazard and risk information and the value of accurate exposure data, it is necessary to start by identifying the false, misleading, and inaccurate claims made by certain spray foam insulation manufacturers that have been made in the marketplace in recent years. The "What You Need to Know About the Safe Use of Spray Polyurethane Foam (SPF)" presentation specifically identified the following spray foam insulation claims as misleading: "no off gassing," "nontoxic," "safe," "green," "environmentally friendly," "plant based," and "made from soy beans."

Federal law prohibits false or deceptive advertising. Specifically, Section 5 of the Federal Trade Commission Act, 15 U.S.C. § 45, prohibits deceptive and unfair claims and trade practices. In addition, the Federal Trade Commission's ("FTC") environmental marketing guidelines, 16 C.F.R. Part 260, prohibit unqualified and untrue claims of general environmental friendliness, false statements about green product attributes,

or complete lack of health and environmental risks. SPF insulation shares environmental benefits with other types of insulation because of their insulating properties. However, neither SPF nor other forms of insulation are "green," "environmentally friendly," or "ecofriendly" because nearly all forms of insulation have some impact on the environment. Nor do any forms of insulation ingredients qualify as "organic" unless there is competent and reliable data and information that the ingredients are planted, cultivated and harvested according to US Department of Agriculture National Organic Program standards.

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The federal agencies' briefing on spray foam insulation alerted consumers to certain spray foam environmental and health and safety claims that were not accurate and failed to disclose toxic and hazardous characteristics of spray foam insulation. The briefing also uncovered the deceptive practice employed by some spray foam producers to claim that their products are made from soy beans or other natural sources without revealing that the majority of the products' constituents are hazardous chemicals that require prudent and careful handling.

To make claims with respect to a product's safety, environmental benefits, or insulation performance and energy savings claims, the manufacturer must have reliable scientific data to support those claims. The FTC deems unsubstantiated claims deceptive. See *Firestone Tire & Rubber Co.*, 81 F.T.C. 398 (1972), *aff'd*, 481 F.2d 246 (6th Cir.), *cert. denied*, 414 U.S. 1112 (1973). In fact, a company making unequivocal claims of superiority must verify those claims with reliable and competent evidence, such as two well controlled clinical studies. See, e.g., *American Home Products Corp. v. FTC*, 695 F.2d 681, 694, 695 (3d Cir. 1983).

In addition, some spray foam manufacturers have asserted unlawful and untrue thermal performance claims and touted misleading comparisons with competing insulation products. These types of claims are specifically prohibited by the FTC's R-value Rule.¹

The consumer should not hesitate to demand documentation from any insulation manufacturer making questionable claims.

Some spray foam manufacturers are responsible stewards for their products, as evidenced by the CPI-SPFA Product Stewardship Program. These responsible stewards provide guidance and recommendations on the safe handling of their products, clearly identifying possible risks and hazards associated with installation of their products, avoiding outlandish claims about their product's environmental benefits, and disclosing all hazards and toxicity facts necessary for a concerned

consumer. Only the irresponsible producers do not deserve the trust and confidence of the consumer.

The Concern of Federal Agencies: Spray Foam Insulation Ingredients Must Be Properly Handled to Avoid Long Known Hazards

As the combined OSHA, EPA, NIOSH, and CPSC presentation emphasized, there are health and safety issues surrounding spray foam insulation ingredients. To suggest otherwise, as some spray foam manufacturers have done, is both wrong and irresponsible. During that briefing, EPA unambiguously identified the chemical composition of spray foam insulation. (See Figure 1) EPA identified the health effects of isocyanates: isocyanates cause asthma and are the leading attributable cause of work-related asthma; isocyanates are potent lung and skin sensitizers (allergens) and irritants; isocyanates can trigger severe or fatal asthma attacks in sensitized persons at low levels; MDI is a hazardous air pollutant - Clean Air Act; NIOSH issued an Alert in 2006 to prevent MDI exposures for a similar spray application² and the European Union has issued new regulations for consumer products containing MDI.

EPA also identified the potential health effects of polyol blend: Proprietary Chemical Ingredients: Amines (catalysts) - sensitizers; irritants; can cause blurry vision (halo effect). Flame Retardants - some are persistent, bioaccumulative, and toxic. Blowing Agents - global warming potential and other considerations.

Figure 1 - Chemical Composition of SPF

Side A – Isocyanates

Methylene diphenyl diisocyanate (MDI)
pMDI (50% MDI)

Side B – Polyol Blend (variable/proprietary)

Polyols (certain % biobased)
Flame retardants
Blowing agents
Amine or metal catalysts
Surfactants

Side A + Side B = Polyurethane Foam

Exposures to Isocyanates (MDI) and Amine Presents Hazards to Workers and Consumers

OSHA, NIOSH, and EPA all emphasized that the application of spray foam insulation generates vapor, mist, and particulates that can exceed established exposure limits. In addition, isocyanates and amines can migrate to other rooms and floors. Cutting or scraping of those foams also generates dust and particles containing isocyanates. Both workers and consumers are subject to the hazards associated with exposure. The federal agencies involved in the briefing expressed concerns about the lack of proper hazard communication to workers and to consumers. Specifically, OSHA and NIOSH stressed that the legally required information on material safety data sheets are not consistently provided. Proper labeling is sometimes missing.

As noted earlier, some marketing information from certain manufacturers is misleading because it focuses on the supposedly “green” or “non-toxic” aspects of the product without any disclosures on the hazards associated with exposure to spray foam. In fact, OSHA specifically noted that communication of hazards was

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not reaching all users. For example, one company was employing a material safety data sheet on its website without any hazard warnings, leaving consumers and others to conclude that there were no hazards associated with spray foam insulation, while providing a different MSDS with the product for professional installers. The work of OSHA, NIOSH, EPA and CPSC has elicited a promise from the spray foam industry to:

- Develop exposure data.
- Communicate accurately and fully all hazards associated with spray foam insulation (these communications are to be addressed to all users of spray foam, not just professional installers).
- Provide worker training.
- Develop and identify appropriate exposure control systems that include personal protective equipment for all

workers and exposed consumers, adequate containment and ventilation, and handling procedures for all hazardous materials.

All hazard communications are to be included on material safety data sheets. OSHA provided a list of current deficiencies and inconsistencies on the material safety data sheets of some manufacturers. The fiber glass and mineral wool insulation industry is grateful to the efforts of OSHA, NIOSH, EPA, and CPSC for publicly obtaining a commitment from the spray foam insulation industry to correct any false and deceptive advertising, update any incomplete and inadequate hazard communications, and commit resources to learning more about exposure levels and proper controls. Another significant commitment from the spray foam industry is to determine when occupants, residents, and school children can safely reenter a building after spray foam insulation has been applied.

The NIOSH presentation focused on its issuance of an Alert in 1996 that requested assistance in preventing asthma, other respiratory disease, and death from diisocyanate exposure. Warnings in the Alert and on fully disclosing material safety data sheets include:

- Serious or fatal respiratory disease
 - Inhalation of vapors may result in headache, nausea, and vomiting when exposed to 0.1 ppm concentration
 - Powerful irritants
 - Marked inflammation
 - Exposure may result in chemical bronchitis, pulmonary edema, and pneumonitis.
- http://www.epa.gov/dfe/spf_presentation_2009_epa_osh_niosh_cpsc.pdf.

SOME MARKETING INFORMATION FROM CERTAIN MANUFACTURERS IS MISLEADING BECAUSE IT FOCUSES ON THE SUPPOSEDLY “GREEN” OR “NON-TOXIC” ASPECTS OF THE PRODUCT WITHOUT ANY DISCLOSURES ON THE HAZARDS ASSOCIATED WITH EXPOSURE TO SPRAY FOAM

Those spray foam insulation manufacturers that heeded the NIOSH Alert and provided workers and consumers with proper hazard warnings are following the law. After the major intervention of OSHA, EPA, NIOSH, and CPSC, we hope that the companies that are not providing accurate and reliable information on the hazards of their products will immediately do so.

Finally, it is important for the consumer to know that the installed spray foam products do not present the same hazards that exist at the time of installation.

References

1. The FTC has also adopted a rule specifically governing insulation’s performance, “Labeling and Advertising of Home Insulation,” 16 C.F.R. Part 460. This Rule, also known as the R-value Rule, enables “consumers to evaluate and compare the thermal performance characteristics of [insulation] materials, and to ensure that promotional claims for home insulation products will be fair and non-deceptive.” 44 Fed. Reg. at 50,218 (August 27, 1979).
2. National Institute for Occupational Safety and Health, *Preventing Asthma and Death from Diisocyanate Exposure*, NIOSH Alert: 1996, DHHS (NIOSH) Publication No. 96-111 <http://198.246.98.21/niosh/asthma.html>

About NAIMA

NAIMA is the association for North American manufacturers of fiber glass, rock wool, and slag wool insulation products. Its role is to promote energy efficiency and environmental preservation through the use of fiber glass, rock wool, and slag wool insulation, and to encourage the safe production and use of these materials.

NAIMA, continuing its members’ commitment to safety has established a renewed Product Stewardship Program, which embodies the components of the earlier OSHA-NAIMA Health and Safety Partnership Program (HSPP). The HSPP was a comprehensive eight-year partnership with OSHA, which NAIMA completed in May 2007, and now NAIMA incorporates these safe work practices into NAIMA’s Product Stewardship Program.

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