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Re: Jason T. Lotter, Ben Roberts, John L. Henshaw & Jennifer S. Pierce (2016) Airborne asbestos exposures associated with the installation and removal of roofing products, Journal of Occupational and Environmental Hygiene, 13:8, D121-D131, DOI: 10.1080/15459624.2016.1183010

Dear Dr. Nicas

I am contacting you to request that the above referenced article that was recently published in the Journal of Occupational and Environmental Hygiene be retracted. The article fails to meet the standards of the journal as it provides misleading information and contradicts some of the key original research that it references. Furthermore, the article groups together different types of roofing materials that are associated with very different airborne asbestos exposures while misrepresenting and falsely summarizing the data.

Some of the false claims made in the article are summarized below:

1) Lotter et al. state that "Roofing products are generally considered nonfriable and are not expected to release appreciable amounts of airborne asbestos fibers." Asbestos-cement products if disturbed, damaged or cut will become friable under EPA regulations. Friable is a temporary condition used to characterize waste materials and does not characterize the ability of asbestos fibers to become airborne following typical construction activities in the installation or removal of these products. EPA regulates these types of roofing materials if they have a "high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations." Asbestos-cement (A/C) roofing falls within this category.

2) Secondly, the claim that roofing materials “are not expected to release appreciable amounts of airborne asbestos fibers” is not supported by the literature cited in the case of A/C roofing materials.

For example, the largest study reported by Brown SK (1987) showed that the removal of A/C roofing products resulted in average full shift exposures of 0.1 f/ml. In fact 4 out of 7 jobs (at 5 different sites) shown on Table VI in that publication have a TWA exposure of 0.1 f/ml or greater and Table VII shows that an additional 7 out of 10 roofing removal conditions at another site resulted in a TWA exposure of 0.1 f/ml or greater. This information that the majority of exposures from this type of roofing material exceeds OSHA standards directly contradicts the statement by Lotter et al. that “The findings indicate that short-term and full-shift exposures from the use of asbestos-containing roofing products were typically well below applicable occupational exposure limits.”

3) The authors define a new class of exposures for “full-shift samples” that must exceed a specific number of monitoring minutes. They use this artificial definition of full shift to make misleading statements including: “Similarly, the mean fiber concentrations based on full-shift samples ( $\geq 360$  min) were all below the current OSHA 8-hr TWA PEL of 0.1 f/cc.” The record clearly indicates that the majority of TWA exposures monitored for the removal of A/C roofing reported in the literature cited exceed the current OSHA TWA PEL.

4) In Table 2 Lotter, et. al. summarize data from very different types of roofing materials and conclude that “typical” exposures are below applicable occupational exposure limits.” This statement contradicts the air sampling data reported in the largest study covering A/C roofing removal (Brown SK 1987). The Antilia et. al. report indicates that average exposures measured for the removal of A/C roofing materials were 0.1 f/cc (although this is reported as 0.09 f/cc by Lotter et. al.). In an effort to conceal contradictory information, Lotter et al average exposures from studies on “shingles or other asbestos cement (A/C) roofing materials” and provide a combined mean exposure.

In addition, the NIOSH report used to bolster the claims in this article does not involve the removal of A/C roofing but reports on the removal of roofing shingles that may be asphaltic. Lotter et al. do note that 3 out of 10

samples in this investigation collected during the removal of roofing shingles exceeded 0.1 f/cc. However, they also fail to note that the air samples that were analyzed by TEM showed much greater exposures in that study.

Taken together the Lotter et. al. publication intentionally combines and summarizes data from relatively low exposure conditions noted with bituminous roofing materials along with higher exposures from A/C roofing products that have a very different matrix and exposure pattern. Drawing broad conclusions and averaging exposures for roofing materials that generally exceed OSHA standards with those that do not does not satisfy the publication standards that one would expect in this Journal.

I strongly urge you to retract this article to avoid the spread of this misinformation.

Regards

Perry Gottesfeld, MPH

#### Conflict of Interest Statement

Perry Gottesfeld is involved as an expert in litigation involving exposures to asbestos-containing materials.