



1101 Beacon Street  
Four West  
Brookline, Massachusetts 02446  
Tel: 617.232.1704, Fax: 617.232.3280

**L. Christine Oliver, MD, MPH, MS**  
*Associate Physician*  
*Pulmonary and Critical Care Unit*

**PUBLIC HEALTH RISK FROM ASBESTOS IN SOIL: WR GRACE DISPOSAL SITE  
62 WHITTEMORE AVENUE, CAMBRIDGE, MA**

**PUBLIC COMMENT  
JANUARY 28, 2005**

It has been brought to my attention by Alewife Neighbors, Inc. that the WR Grace Disposal site located at 62 Whittemore Avenue in Cambridge, MA is contaminated with asbestos and volatile organic compounds. The site in question is now under the oversight of the Massachusetts Department of Environmental Protection (DEP). The owner of the site, WR Grace, wishes to opt out of DEP oversight. The comments provided below address the potential public health hazard posed by the asbestos in the soil, the need for a rigorous oversight and management program, and specific steps that can be taken to ameliorate the hazard.

My comments are based upon my own professional experience in occupational and environmental medicine and upon relevant published medical and scientific literature. I am board certified in internal medicine and in preventive (occupational) medicine. Presently I am President of Occupational Health Initiatives, Inc. and an Assistant Clinical Professor of Medicine at Harvard Medical School and Associate Physician in Medicine at the Massachusetts General Hospital. A copy of my curriculum vitae is attached.

The WR Grace Disposal site is located in an area of Cambridge that is proximate to a subway station (Alewife T Station) entrance, to Russell Field, to the Minuteman Bike Path, and to a pond. Russell Field is a large outdoor recreational area where Cambridge Little Leagues play soccer, baseball, and football. It also houses a state DCR swimming pool. Prevailing winds are toward Russell Field. The site is also at the intersection of three major state highways – Routes 2, 3, and 16.

It is estimated that over 600,000 lbs of asbestos contaminate the site. The asbestos is scattered throughout the site. Fortunately, vegetation, asphalt, and other cover now protect the site and serve to prevent egress of asbestos-containing soil into nearby areas. Because of its location, however, the site will likely undergo commercial (or residential) development in the future.

As part of its proposal to DEP to opt out of oversight and in an effort to assure DEP and the community that the site is safe now and will remain safe in the future, WR Grace has drawn up an Activity And Use Limitation (AUL) Opinion and Notice Of Activity And Use Limitation pursuant to MGL c 21E, Sections 6 and 310 CMR 40.0000. In

December, 2004 I had an opportunity to review this document. Specific comments with regard to the AUL are provided below:

1. In (1)(ii) under “Activities and Uses Consistent with the AUL Opinion” there is inclusion of “Any other office, industrial, retail, commercial, research and development ...”. It would appear that the reference is to “current” facilities as specifically stated in (1)(i) above. If so, that should be explicitly stated.
2. With regard to Licensed Site Professional (LSP) in (1)(vii), it is not clear whether the LSP will be hired by WR Grace or employed by the State. That should be clarified.
3. Sections (3)(ii) and (iii) propose the implementation of a health and safety plan developed by a certified industrial hygienist (CIH) “or similar knowledgeable and trained professional”. The plan would include “airborne asbestos, dust, and odor management and monitoring”. In my opinion, a similarly knowledgeable and trained professional is unacceptable. It should be an experienced CIH trained and certified in asbestos abatement and management. I have witnessed serious mistakes in exposure assessment when it was left to a trained but not certified “professional”.
4. Wet down and “handling techniques which would minimize the potential for dust generation” are discussed in (3)(iii). In my opinion, the use of wet down alone is insufficient to control generation and dispersal of asbestos-containing dust from the Site. Other containment methods such as the use of impenetrable barriers will be needed in the event of development or other significant disruption of the integrity of the soil to assure that asbestos will not become airborne and dispersed to areas beyond the site. If that is included in the “handling techniques” mentioned, it should be explicitly stated.
5. To my knowledge, there are no “applicable limits” for odors (3)(iii). The “applicable limits” for asbestos and the analytical methods to be used in monitoring compliance with those limits need to be spelled out.

With regard to the health hazards of asbestos, my comments are as follows: Asbestos is a known carcinogen. Risk for diseases caused by asbestos is dose-related. These diseases include asbestosis, asbestos-related pleural plaques, lung cancer, and malignant mesothelioma. The higher the dose, the greater the risk for development of disease. Because asbestos fibers tend to be retained in the lungs over time, dose is cumulative and depends on both level and duration of exposure.

At lower levels of asbestos exposure, the greatest risk to those exposed is for the development of malignant mesothelioma. Development of this almost universally fatal tumor has been reported in association with household, neighborhood, and by-stander exposures. It has also been reported in association with incidental exposures such as making a paper mache puppet out of asbestos-containing material. Malignant mesothelioma is a tumor of the mesothelial lining of the abdominal and thoracic cavities. The latency period is long – 30 to 40 years on average.

Children are at greater risk for the development of malignant mesothelioma than those exposed to asbestos as adults. The reasons are several. Children are more likely to live out the 30-40 year latency of malignant mesothelioma. Their cellular growth and metabolic rates are more rapid, rendering their DNA more vulnerable to any carcinogen, including asbestos. Their respiratory rate is higher than that of adults, and they are shorter and closer to the ground. Thus they are likely to breathe in more asbestos-contaminated dust.

### Summary and Recommendations

Because asbestos is a known carcinogen and causes disease at low concentrations, every step must be taken to prevent exposure. For those living, working, or playing close to an asbestos-contaminated site such as the WR Grace Disposal site, the greatest risk is for the development of malignant mesothelioma, although pleural plaques have been reported in association with neighborhood exposure to asbestos-containing soil.

Presently the likelihood of exposure to asbestos from the soil on the site is minimized by the groundcover. If this groundcover is disturbed, however, the risk will increase. And risk will be particularly great for children engaged in Cambridge Little League sports activities on Russell Field.

Commercial or residential development of the site will most certainly result in disruption of the groundcover. Excavation will be necessary – both as part of planned construction activities and unexpectedly when obstacles or other problems are encountered. Multiple contractors and subcontractors will likely be involved. The excavated soil will have to sit on the site until it can be removed. Proper containment of asbestos-containing dust that is generated will require a well-thought-out and properly implemented “operations and maintenance” program.

Recommendations for elimination or minimization of public health risk, in addition to (1)-(5) above, are as follows:

1. Development of an operations and maintenance (O&M) program for the site by an experienced CIH and LSP, ideally appointed by the State;
2. Submission of the program to the State for review;
3. Development of an oversight mechanism through the DEP to insure that the O&M program is properly implemented;
4. Inclusion in the O&M program of clear and explicit descriptions of control methods to be used in soil containment;
5. Establishment and enforcement by DEP of air-borne asbestos exposure limits based on existing government regulations and relevant literature;
6. Provision of the O&M program and oversight plan to the Alewife Neighbors, Inc. and the Cambridge Health Department for review and comment.

Respectfully submitted,

[signed]

L. Christine Oliver, MD, MS

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