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CLEANING UP INDOOR DUST AND DEBRIS IN THE WORLD TRADE CENTER AREA

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Janitorial, building maintenance, utility and construction workers (as well as office workers and residents) are being asked to clean up and/or work around dust and debris in buildings that are near the site of the World Trade Center.

- **Workers who are cleaning or disturbing dust and debris NEED TRAINING to perform the work safely.**
- **Workers doing clean-up may also need PROTECTIVE EQUIPMENT.**

WORLD TRADE CENTER DUST MAY BE HAZARDOUS!

- Most dust in the World Trade Center area contains low concentrations of toxic substances, including asbestos, silica, fiberglass and lead.
- Any fine dust, even dust that does not contain toxic materials, can cause respiratory irritation.
- The dust can trigger a chronic illness such as asthma. It can also cause illness in people who have no history of respiratory disease.

PLEASE NOTE:

Most WTC dust is contaminated with asbestos. It is dangerous for a person who does not have an asbestos-handler license to clean it up.

NYCOSH strongly recommends that all asbestos-contaminated dust and untested dust be cleaned up only by licensed asbestos handlers. If dust is more than 1 per cent asbestos, New York City law requires that it be cleaned up by licensed asbestos handlers.

For anyone who is not a licensed asbestos handler, the safest course of action is to leave any asbestos-contaminated dust and untested dust alone.

Nevertheless, if anyone chooses to clean up untested dust or asbestos-contaminated dust, NYCOSH recommends the following precautions.

WTC DUST MAY CONTAIN ASBESTOS AND OTHER TOXIC SUBSTANCES

The Trade Center collapse and ongoing recovery efforts have resulted in the release of dust that contains various toxic substances, including asbestos, silica, fiberglass, and lead. The dust is only hazardous when airborne, but it may contain extremely fine particles that become airborne at the slightest disturbance, such as the movement of air caused by a person walking or working in the area. Unless it has been thoroughly tested, any such airborne dust should be treated as a potentially serious health hazard.

The law should require all employers to test WTC dust for asbestos

More than three-quarters of the bulk dust samples that EPA has taken in the WTC vicinity contain asbestos. Because asbestos is present in much more than half of the WTC dust samples, employers should be required by law to test any WTC dust for the presence of asbestos before cleaning up the dust or disturbing it in any way. If dust has already been removed without having been tested, but some dust from September 11 remains, the employer should test any remaining dust before cleaning it up or disturbing it.

There is a great deal of confusing information circulating about the rules that apply to WTC dust. These are the facts:

- The law that requires employers to test dust is the [OSHA asbestos regulation for general industry](#), which is section 1001 of Title 29 of the Code of Federal Regulations, 29 CFR 1001. The requirement to test dust is Paragraph (j)(2)(i): “Employers and building and facility owners shall exercise due diligence” concerning any material that could contain asbestos.
- According to OSHA, to exercise due diligence an employer must take “actions that a reasonable employer would take in a given situation.”
- A reasonable employer “is responsible for investigating” the asbestos content of any material that the employer “may know of, or suspect” as containing asbestos.
- Although the New York City Department of Health is advising people that there is no restriction on cleaning the material up before testing it, all employers should suspect that WTC dust contains asbestos, because they know or should know that three-quarters of EPA samples of WTC dust contain asbestos. If an employer does not test dust that is likely to contain asbestos and the dust is disturbed, OSHA may find the employer to have violated the law. (The OSHA definition of due diligence is from OSHA’s Standards Interpretation letter, “Questions concerning OSHA’s Asbestos Standard,” dated September 5, 1996, on the Internet at http://www.osha-slc.gov/OshDoc/Interp_data/I19960905.html)
- If dust is tested and found to contain more than 1 percent asbestos, the employer must file an Asbestos Inspection Report or a Emergency Asbestos Project Notification with the NYC Department of Environmental Protection Asbestos Control Program. If the dust is more than 1 percent asbestos, the employer must hire a licensed asbestos abatement contractor to conduct the clean-up. (See Title 15, Rules and Regulations of the City of New York, Chapter 1 - Asbestos Control Program, on the Internet at <http://www.ci.nyc.ny.us/html/dep/html/asbestos.html>)

What can an employee do about untested WTC dust?

- If an employer has not tested WTC dust and that dust is being cleaned up, or is being disturbed or has only partially been cleaned up, an employee can file a complaint with OSHA. If an employee fears retaliation, a complaint can be filed anonymously. Call 1-800-321-OSHA to file a complaint by telephone. NYCOSH recommends that anyone filing an OSHA complaint about untested WTC dust refer specifically to the “due diligence” clause of the OSHA Asbestos Standard for General Industry.
- If an employer is cleaning up untested WTC dust, anyone can file a complaint with the city’s NYCDEP 24-hour Complaint Hotline at 718-337-4357. DEP may not act on a complaint that comes from someone identified as an employee of the employer doing the clean-up, but DEP will investigate anonymous complaints.
- If the dust is tested and found to contain 1 percent asbestos or less, the employer may clean the dust up without contacting the NYCDEP. If an employer tests dust or anything else in the workplace to learn if it contains toxic substances, the employer must, upon request, share the results with employees or with a union representing employees. (OSHA’s Access to Employee Exposure and Medical Records Standard - 29 CFR 1910.1020).
- NYCOSH recommends that anyone who files a complaint with either OSHA or NYCDEP ask the agency to provide them with a complaint number or case number at the time the complaint is filed.

Even though the dust may contain hazardous materials, it may not qualify for regulation by any government agency, because the concentration of toxic materials falls below a regulatory threshold. The following recommendations are based on the principle that health hazards should be eliminated or reduced as much as possible, regardless of whether they are high enough to be officially regulated. This principle is especially important for cancer-causing substances (such as asbestos dust) for which safe exposure thresholds are not known to exist.

For more information on asbestos or other toxic substances, contact NYCOSH at 212-627-3900 or nycosh@nycosh.org or visit the NYCOSH website at www.nycosh.org.

A. NYCOSH Recommendations for Respiratory Protection

- **Anyone cleaning up or disturbing this dust should wear respiratory protection!**
- Any employee who requests a respirator must be provided with one by the employer or be permitted to supply his or her own, unless the respirator itself would create a hazard.
- Do not use a disposable dust mask! It does not provide adequate protection.
- Use a NIOSH-approved air-purifying respirator, either N-100 or N-95. (If the respirator is marked with the letter “N”, “P” or “R” and a “95” or “100”, it is NIOSH-approved.)
 - *Use an N-100 respirator (either a half-face respirator with N-100 cartridges or a disposable N-100 respirator, NOT a dust mask) when working with dust that has not been tested or dust that has been tested and identified as containing any amount of asbestos or lead dust. All respirator cartridges and disposable respirators are marked with their rating, which is designated by a letter, N, P or R, and a number, 100 or 95. A P-100 or R-100 respirator may be used in place of an N-100 for protection from dust.*

- *Use an N-95 respirator (either a half-face respirator with N-95 cartridges or a disposable N-95 respirator, NOT a dust mask) when working with dust that has been tested and identified as containing no asbestos and no lead. A P-95 or R-95 or P-100 or R-100 respirator may be used in place of an N-95 for protection from dust.*
- Respirators must fit with a tight seal to the face. A respirator that has a bad seal provides little or no protection. A beard or sideburns will prevent a respirator from making a tight seal.
- If an employee uses a respirator, the respirator should be worn when performing any work that disturbs dust, including changing vacuum-cleaner bags.
- If an employee uses a respirator, the employee should continue wearing the respirator when changing clothes at the end of the shift, and not remove the respirator until work clothes have been bagged.

If the employer provides respirators, the OSHA respirator regulation ([29 CFR 1910.134](#)) requires that the employer establish a written respiratory protection program. An employer must provide a respirator if air tests indicate that enough asbestos is present to exceed the OSHA permissible exposure limit. The employer also must provide a respirator if there is untested dust in the air that could be contaminated with asbestos. Similar rules apply to other toxic substances, such as lead. A written program must include procedures for:

- selecting and using respirators based on work hazards
- cleaning, storage and inspection of respirators
- employee training on the use and limitations of respirators
- medical evaluation of employees and their ability to wear respirators
- hazard assessment of workplace (identifying all hazards and choosing methods to control them)
- fit-testing of respirators (checking the quality of the seal on each wearer)

For basic information on respiratory protection and legal requirements, see the OSHA Small Entity Compliance Guide for Respiratory Protection Standard. Free copies are available from OSHA at 202-693-1888 or at the OSHA website:

<http://www.osha-slc.gov/Publications/secgrev-current.pdf>

B. NYCOSH Recommendations for Other Personal Protection:

- Wear a hat or a hood and disposable coveralls or work clothes that can be removed before leaving the work area. Work clothes should be bagged at the work site and should be laundered separately.
- Wear gloves to prevent skin irritation from fiberglass or other materials in the dust
- Wash hands before eating, drinking, smoking or using the bathroom.

➔ ***For more information, see the NYCOSH World Trade Center Catastrophe Worker Health Fact Sheet (<http://www.nycosh.org/wtc-catastrophe-factsheet.pdf>).***

C. NYCOSH Recommendations for Vacuuming and Other Cleaning Procedures:

All WTC dust should be cleaned up by workers who have received the appropriate EQUIPMENT AND TRAINING to ensure that:

- work practices during clean-up do not cause dust to become airborne
- collection of dust is maximized
- workers are protected at all times

Cleaning up WTC dust without appropriate equipment and training is potentially a serious health risk.

Wear respiratory protection at all times when cleaning or disturbing dust and when changing vacuum bags and filters (see NYCOSH respiratory protection recommendations above.)

Clean-up must be performed with wet methods **or** with a vacuum with a HEPA (High Efficiency Particulate Air) filter **or** with a wet-extraction vacuum equipped with a HEPA filter. Do not sweep dry dust, and try to disturb it as little as possible when walking or cleaning. Dust particles will stay in the air for many hours if they become airborne. Do not use standard vacuums, since they do not ordinarily have HEPA filters! Even micro-filtration, triple filtration, and water vacuums will make the dust airborne, where it becomes a serious health hazard. Use only HEPA-filtered vacuums.

Note that “HEPA-type” filters are not HEPA filters. HEPA vacuums are available from most appliance dealers. The vacuum should have a long hose capable of reaching out-of-the-way places.

Use HEPA shop-vac style vacuums to clean up thicker layers of dust or debris. Follow manufacturer guidelines for changing vacuum bags or filters. Change vacuum bags or filters in areas that haven’t been cleaned yet to minimize re-contaminating clean areas with dust. Then vacuum the area where bags and filters have been changed.

Any dust that is not vacuumed should be dampened with a fine mist of water and then cleaned up with a wet mop or wet rag. Add a small amount of detergent to water used for clean-up. Thick layers of dust on hard surfaces can be shoveled up after the dust is thoroughly and completely dampened, preferably so it has the consistency of paste.

Clean all hard surfaces several times with a clean wet mop or rag, even after vacuuming. Mops and rags can be thoroughly rinsed and re-used for cleaning up this dust. Mops and rags used to clean up this dust should not be used for anything else. They should not be allowed to dry out.

- **Step 1.** Begin cleaning a room by HEPA vacuuming or wet-cleaning exterior sills of all windows that can be opened. After sills are cleaned, shut windows. Wet-clean inside of windows, including all non-glass surfaces. Wet-clean or HEPA vacuum blinds. Launder or dry-clean curtains and drapes.
- **Step 2. *Unplug*** and clean window air conditioning units, including all parts on the building exterior. If possible, wash or wet-wipe interior surfaces. Remove filters and replace them or wet-clean them. After cleaning, seal air conditioning units with plastic sheeting and duct tape. In buildings with central air-conditioning, cover all incoming air vents with two layers of plastic sheeting and seal with duct tape.

- **Step 3.** Mop or wet-wipe all hard surfaces. Start from the highest surface. Movable items should be cleaned as much as possible. Open shelves should be emptied and wet-cleaned. The objects that were on the shelves should be cleaned before being replaced on the shelves. If there is any dust in file drawers and other cabinets, the containers should be emptied and wet-cleaned. The objects that were in the containers should be cleaned before being replaced.
- **Step 4. *Unplug*** and clean office equipment, including computers and copying machines.
- **Step 5.** Use a wet-extraction vacuum equipped with a HEPA filter to clean carpets, upholstered furniture, draperies, and other soft surfaces. Some experts believe that any asbestos-contaminated carpet or cloth should be disposed of if it cannot be laundered.
- **Step 6.** When cleaning is complete, unseal air-conditioning units. They should be operated on “vent closed” or “re-circulate” setting, but not on a setting that brings outside air in.

After cleaning is complete, minimize re-contamination by installing washable cloth doormats that are effective at removing dust at all entrances. Wipe shoes vigorously before entering. Launder doormats regularly. For additional protection, remove shoes after wiping them vigorously and leave them near the entrance. Indoors, wear footwear that is only worn indoors.

After initial cleaning is complete, wet-mopping and/or HEPA vacuuming should be repeated at regular intervals.

Do not allow used mops and rags to dry out. Do not use them for any other clean-up activity. When they are still wet, seal mops and rags in plastic bags and discard the sealed bags with household trash.

→ ***Also see the NYCOSH World Trade Center Catastrophe Worker Health Fact Sheet (<http://www.nycosh.org/wtc-catastrophe-factsheet.pdf>).***

Not all health and safety hazards are addressed in this factsheet. If you have questions about these or any other hazards, or about laws and regulations concerning occupational safety and health, please contact:

New York Committee for Occupational Safety and Health (NYCOSH). 275 7th Avenue, New York NY 10001. Tel: 212-627-3900, ext. 15. Fax: 212-627-9812. E-mail: nycosh@nycosh.org.

Mount Sinai-Irving J. Selikoff Center for Occupational and Environmental Medicine
212-987-6043.

NYU/Bellevue Occupational & Environmental Medicine Clinic
212-562-4572

New York City Central Labor Council
212-532-7575

Your local union's safety and health department

The Occupational Safety and Health Administration (OSHA) at 1-800-321-OSHA (1-800-321-6742). For better service, you should be ready to give OSHA the zip code of your location. The zip code of the World Trade Center is 10048. OSHA regulations apply to private-sector employers and federal government agencies.

Public Employee Safety and Health (PESH) bureau of the New York State Department of Labor. 516-485-4409. PESH regulations apply to agencies of New York State and local government agencies in New York State.

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To download more information on World Trade Center catastrophe-related hazards and occupational safety and health, please visit the NYCOSH website: www.nycosh.org