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Asbestos was discovered during a 2011 home remodel in Portland. (Photo: Chris Zimmer)

On the cover: This dry material, sampled during an Oregon OSHA inspection, contained less than 1 percent asbestos but produced significant dust and exposure to workers. (Photo: Penny Wolf-McCormick)

# RESOURCE

#### **Oregon Health and Safety Resource**

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# Understanding workplace chemical hazards

By Michael Wood



One of the most persistent and troubling issues in workplace health and safety is the difficulty of getting a handle on workplace chemical risks – at least at the societal level.

Individual employers and their workers can – and certainly should – understand the chemicals used in the workplace, what genuine risks they represent, and how to address them. The need to ensure that workers, in particular, have access to that basic information is the rationale behind the chemical hazard communication requirements that have been in place for the past quarter of a century.

But for those in the broader safety and health community, accurate descriptions of the degree of such chemical risks and their consequences can be hard to come by. Our normal workplace surveillance methods – whatever one thinks about them in relation to safety issues – simply do not work when it comes to identifying the extent of the risks created by chronic exposure to chemicals. And this is a particularly troubling issue when the results of overexposure today may take years, or even decades, to make themselves known.

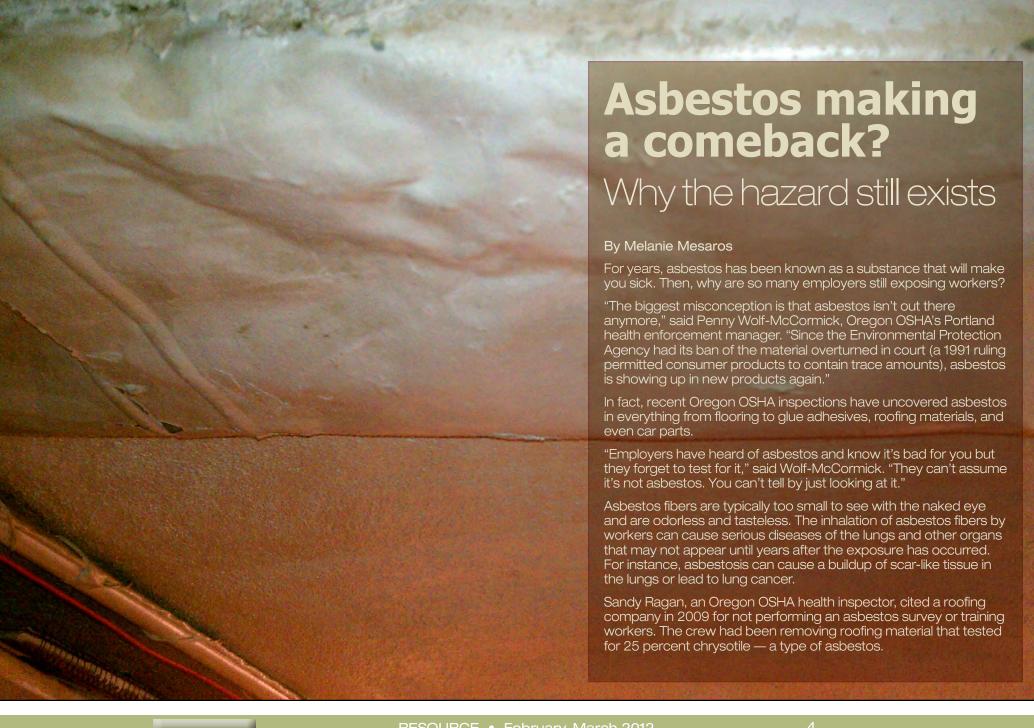
One classic example of a chemical with a long latency, of course, is asbestos. Using the OSHA 300 logs to determine whether you need to focus on asbestos exposures is obviously inadequate when illnesses are likely to take 30 or 40 years to develop. Similarly, workers' compensation claims data – even if the disease is accurately diagnosed and the workplace relationship is identified and can be documented sufficiently to justify an accepted claim – simply takes too long to develop.

This combination of circumstances means that workplace health advocates and regulators are almost always playing catch-up. That is why the hazard communication requirements are so critical. Because it is that information that allows workers to know whether there is an issue and, frequently, to determine for themselves whether the employer's response is incomplete. Without such basic information, workers are left to guesswork.

Chemicals, of course, are not altogether evil. They are the building blocks of everything around us. Even synthetic or industrial chemicals are clearly a part of the modern world – and I for one am not prepared to discard all preservatives, plastics, laminates, solvents, etc., in a search for a mythical "chemical-free" existence. But I do want to know what I'm exposed to, and what it might do to me.

And that is why material safety data sheets and labeling remain critically important. They are not simply "paperwork" exercises – they are the first step in protecting one's workers and oneself. That is why we must continue to insist that manufacturers provide complete and accurate descriptions of the chemicals used and the hazards that may be involved. With so little information truly available to us, chemical hazard communication is one of the only things that can give us all a fighting chance.





# Asbestos making a comeback? - Continued









"An employee working at the convenience store (where work was under way) saved a piece of roofing debris and made an OSHA complaint because he suspected the material contained asbestos," Ragan said. "They were ripping off the pieces and throwing them down from the rooftop, making it airborne."

Oregon OSHA rules require building owners to perform a survey to identify asbestoscontaining or presumed asbestoscontaining material. If it's identified, the owner must maintain asbestos-survey records and inform employees, contractors, subcontractors, and tenants' employees about the hazard.

"When the roofer bid on this job, he was told there was no asbestos," Ragan said. "It's notable because it shows the misconception goes beyond just the contractor - the building owner was also misinformed."

Oregon OSHA inspector Chris Zimmer said in recent years he has cited subcontractors in trades such as plumbing, electrical, or HVAC for their exposures.

"They are constantly putting themselves at risk because they don't think of asbestos as a primary concern," Zimmer said. "You have electricians who need to drill into siding or walls and may unknowingly come in contact with it."

It's well-known that many building materials installed before 1981 contain asbestos, but employees who perform jobs such as brake and clutch repair should also be cautious.

"Any auto shop that does brake or clutch work should assume asbestos is present and must follow specific control methods," said Wolf-McCormick. "Many parts are imported from foreign countries and don't highlight the asbestos hazard."

Training workers to ask questions or recognize when asbestos might be present is essential to keeping them safe, said Wolf-McCormick.

"Even if there's less than 1 percent asbestos, OSHA rules apply," she said, "The truth is you can't grind it, cut it, or work with it dry and create a dusty environment if there is even trace amounts of asbestos."

#### More information on working with asbestos:

Oregon OSHA fact sheet for automotive shops:

http://www.orosha.org/pdf/ hazards/2993-09.pdf

Guidance for building owners:

http://www.orosha.org/pdf/ pubs/3022.pdf

**Left:** A 2011 home remodel in Portland uncovered asbestos. (Photo: Chris Zimmer)

Middle: Piping with asbestos. (Photo: Brandi Davis)

Right: Brake and clutch repair work requires certain control methods because it's likely asbestos is present in parts. (Photo: Sharon Dey)

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# Asbestos, you've come a long way

By Ellis Brasch

A mere 40 years ago, asbestos was at the top of its game. It found its way into thousands of consumer and industrial products because it stopped fire, it insulated, it didn't rip or tear, it didn't wear out, and it didn't rot or mold.

But, like all things that seem too good to be true, asbestos harbored problems. The microscopic asbestos fibers that made such useful products would also cause a slow buildup of scar-like tissue in human lungs, reduce lung function, and lead to long-term disability - then, quite likely, death. And those disability and death effects had a 20- to 50year latency period, meaning that individuals would not experience full-blown symptoms for decades. The result? Asbestos-caused diseases in the United States now claim the life of one out of every 125 American men who die over the age of 50.



The remarkable line of asbestos-enhanced products began in 1901 with the formation of the Johns-Manville Corporation, which used asbestos in sheet packaging for cylinders, brake linings, cement, and acoustical products. By 1923, Johns-Manville offered more than 200 diverse asbestos products and applications. And at the 1939 World's Fair, Johns-Manville's invincible-looking "Asbestos Man" greeted visitors who came to the exhibit.

In the 1940s, thanks to the war effort, military products requiring fire-retardant properties were in high demand. Every branch of military service needed materials made with asbestos

> for barracks, vehicle parts. ships, tanks, and aircraft.

The use of asbestos continued to rise in the United States until the mid 1970s when more than 3.000 consumer and industrial products contained the mineral.





Emergency Temporary Standard that established the first Permissible Exposure Limits for the substance. In 1989, the EPA issued an Asbestos Ban and Phase Out Rule, but the rule was overturned in the courts (Corrosion Proof Fittings v. EPA, 5th Cir. 1991), which meant that many consumer products could still legally contain trace amounts of asbestos.

> Not only was the date 9/11 imprinted in our nation's consciousness when the World Trade Center towers collapsed in 2001. In a threatening reminder of asbestos' staying power, the microscopic fragments of glass and asbestos that served as a fire

retardant on lower-level steel beams found a new home in the lungs of rescue workers and survivors. Doctors are still monitoring their symptoms for an ailment known as the "World Trade Center Cough."



#### A downward spiral

In an August 1963 issue of *Marvel Comics* Strange Tales, readers were introduced to another "Asbestos Man" - just as powerful as the Johns-Manville character, but sinister. This Asbestos Man. aka Dr. Orson Kasloff. was an analytical chemist who turned to a life of crime when his legitimate pursuits didn't pay off. He wore an asbestos suit and carried a shield made from his own special blend of "super asbestos." After defeating his nemesis, the *Human Torch*. Dr. Kasloff worked with a local New York crime boss and supplied the technology to help the syndicate improve their success in robbing banks.

Ironically, 1963 was just about the time that more than 200 new studies were shedding light on health risks associated with manufacturing and using asbestos products (although the first instance of asbestosrelated lung disease was identified in 1906 and the U.S. Dept. of Labor was calling for "more extensive investigation" of asbestos in 1918).

Not surprisingly, the rise in asbestos disease and mortality statistics also took its toll on manufacturers. Johns-Manville faced major class-action lawsuits in the 1980s, alleging the company was responsible for asbestosrelated diseases such as asbestosis and peritoneal mesothelioma. When Manville filed for bankruptcy protection in 1982 amid thousands of asbestos-related lawsuits, it was the largest company in United States history to have done so.

OSHA took notice of asbestos hazards in December 1971 when it issued an

## The Oregon connection

According to a detailed study released in 2004 on asbestos exposures, Oregon ranked 15th in the nation for asbestos-related deaths between 1929 and 2001. A study by the Environmental Working Group found that at least 838 people in the state had died from mesothelioma or asbestosis, but the authors noted that the number might be less than 20 percent of total asbestos mortality because a large portion of cases were misdiagnosed or unreported.

Oregon's shipyards and lumber and paper mills accounted for a significant number of workplaces where workers were exposed to asbestos during the mid-20th century. Oregon is also one of several states that have natural deposits of asbestos, and three asbestos mines in the state were commercially successful in the 1940s and 1950s: the Mount Vernon deposit in Grant County, the Raspberry Creek deposit in Jackson County, and the L.E.J. Asbestos mine in Josephine County. These mines were also sources of asbestos exposure for Oregon workers.

Continued on page 8

### How workers are exposed today

One thing about asbestos has not changed over the years: the nature of exposure. People are exposed when they ingest or inhale asbestos fibers. The fibers end up in the lungs or the stomach and that's where they do their damage. Now, however, workers who are exposed to asbestos can protect themselves with appropriate engineering and administrative controls – and personal protective equipment. Still, many workers and employers aren't aware of potential exposures and they may not know how to protect themselves. In the construction industry, for example,

exposures can occur during renovation work and in demolition. And workers can still be exposed to asbestos in general industry work such as automotive brake and clutch repair.

## Regulating asbestos exposures in the workplace

Oregon OSHA's rules regulating asbestos cover construction, general industry, and agricultural work (federal OSHA has jurisdiction over maritime and shipyard work). These rules require that employers provide personal exposure monitoring to assess employees' exposure risk and hazard awareness training for work where there is potential exposure to asbestos.

The rules prohibit airborne levels of asbestos from exceeding "permissible exposure levels" (PELs). If the exposure does exceed legal limits, employers are required to create regulated areas, prohibit certain work practices, and use engineering controls to bring exposures within permissible limits. Employers must also use administrative controls and require workers to use appropriate personal protective equipment to reduce exposure levels.

The rules also assume that building materials installed before 1981 contain asbestos – they're defined as "presumed asbestos-containing materials" (PACM). Workers must treat these materials as if they contain asbestos until they have been sampled and shown to be asbestos free.

All employees who are exposed to asbestos must have one of four different levels of training, which depends on the type of work they'll do.

Construction work involving handling and disposal of asbestos invokes additional requirements from the Oregon Department of Environmental Quality and the Lane Regional Air Pollution Authority. These agencies require that all public and private buildings be surveyed for asbestos before renovation or demolition. All asbestos-containing material must be removed before any work – including demolition and remodeling – begins.

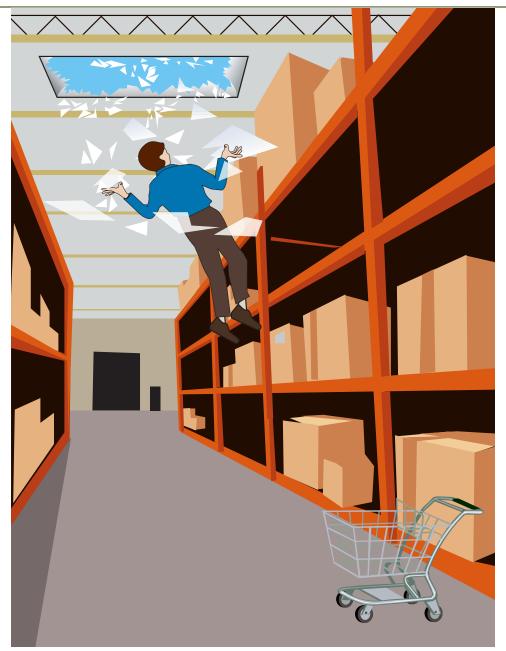








# SAFETY NOTES



Accident Report
Incident | Fall
Business | Construction
Employee | HVAC technician

A contracted maintenance person working on the roof of a big box retail store fell 25 feet through a skylight and struck a concrete floor, sustaining multiple fractures.

The victim was an employee of another company that had a contract to service refrigeration units on the store's roof. After he arrived at the store, he unloaded the filters on the ground against the building then went up to the roof and, with the assistance of a store employee, hoisted the filters up. Earlier in the day, a maintenance person had removed the existing filters so that the units would work more efficiently. However, because the units took various filter sizes, the victim had to measure each unit and match the filters accordingly.

As he was measuring a unit, he fell through one of the roof's 40 unguarded, five-foot by seven-foot Plexiglas skylights and landed in the coffee aisle within a couple of feet of a shopper. He said he remembered nothing about the accident except tripping over a skylight.

Another newer section of the roof had skylights with steel grates installed to protect workers from falling through them.

Continued on page 10





Left: Skylight openings on the older section of the building's roof were not guarded by a standard skylight screen or fixed standard railing on all exposed sides.

#### **Citations**

**437-002-0125(1):** All employees shall be protected from fall hazards when working on unguarded surfaces more than 10 feet above a lower level or at any height above dangerous equipment.

**1910.23(a)(4):** Skylight floor openings and holes were not guarded by a standard skylight screen or fixed standard railing on all exposed sides.

437-01-0765(5): The safety committee did not meet each month.





Workers' Memorial Scholarship

opens to families affected by workplace accidents

Workers' Memorial monument, outside the Labor and Industries Building in Salem.

Oregon students who have lost a parent in a workplace accident or had a parent suffer a debilitating job-related injury may be eligible to apply for the Workers' Memorial Scholarship. Applications are now being accepted for the scholarship awards, which are part of an Oregon OSHA program.

"While nothing can replace a loved one, these scholarships can help challenged families finance higher education," said Michael Wood, administrator of Oregon OSHA. "It's unfortunate that such a program is needed but we are pleased to assist these students in reaching their educational goals."

The Workers' Memorial Scholarship is open to any high school graduate, graduating high school senior, GED recipient, current college undergraduate, or graduate student.

Applicants must be a dependent or spouse of a fatally injured worker, or the dependent or spouse of an Oregon worker who has incurred a permanent total disability and whose claim for workers' compensation benefits has been accepted. Scholarship funds are available for use at colleges within the United States.

The deadline for submitting an application for the 2012-2013 school year is March 1, 2012.

An electronic application is available on the Oregon Student Access Commission (OSAC) website, www.oregonstudentaid.gov. Students can apply for more than 400 scholarships through a single application on the OSAC website.

Seven Oregon students received Workers' Memorial Scholarship awards in 2011. The 1991 Legislature established the Workers' Memorial Scholarship at the request of the Oregon AFL-CIO, with support from Associated Oregon Industries. Interest earned on a DCBS fund derived from Oregon OSHA civil fines and penalties funds the awards.

# NEWS BRIEFS

# Annual Pulp and Paper Workers Conference held in Portland Physical There Physica

Left: Keynote speaker Isabel Perry. Middle: The conference featured a variety of exhibitors. Right: Russ Youngstrom and his wife Laurel shared their story about life after an accident

The annual Western Pulp and Paper Workers Safety and Health Conference included four days of workshops and roundtable discussions in Portland from Nov. 29 to Dec. 2, 2011.

Keynote speaker Isabel Perry, known as The Safety Doctor, presented "Safety ROI: It's Everyone's Responsibility" and shared a story in which she worked with a company that spent \$5,000 on its safety committee in a year and saw no results. Her tips for making those meetings more effective include:

- Don't meet if you don't have to you don't want to turn people off
- · Set objectives
- Provide an agenda
- Assign meeting preparation give people a heads up (Perry calls this "mental perk time")
- Assign action items
- Examine your meeting process

An injured worker testimonial on the final day of the conference featured Russ Youngstrom, a painter from Black Diamond, Wash., who broke his back and was paralyzed from the waist down after falling from his boatswain chair. He and his wife Laurel spoke about the accident and the challenges of living with his disability. Attendees found the personal story moving and powerful. "It brought tears to my eyes," said one person. Another remarked, "This was a sobering message that all employees should hear."

# Oregon OSHA offers tips for working in winter weather

Flooding, downed trees, and icy and snowy conditions can all lead to more accidents on the job if workers aren't prepared. Find fact sheets for working in winter weather and other hazardous conditions online: http://orosha.org/winter conditions.html.

Gary Beck, Oregon OSHA's statewide safety manager, said workers should consider putting off certain activities, such as going on a rooftop, until conditions improve.

"Have a pre-construction meeting and discuss with employees whether they have the appropriate gear to do the job and whether it's absolutely necessary to accomplish that task when the weather is severe," he said.

"If an accident occurs, Oregon OSHA will ask questions during the investigation such as, 'How did you plan or train your people to work in these conditions?" Beck said.

Oregon OSHA also encourages employers to develop an emergency plan. Find tips for managing an emergency in the guide, "Expecting the Unexpected": http://orosha.org/pdf/pubs/3356.pdf.





# Congratulations to the new SHARP companies:

- Roseburg Forest Products EWP, Roseburg
- Harris Rebar, Portland

# Share feedback on our new design

After nearly four years, it was time to give the Resource newsletter a makeover. We want to know what you think. Send feedback on the new layout, articles you'd like to see, and any other comments to Resource editor Melanie Mesaros at melanie. I.mesaros@state.or.us.

Q:

I own a small construction business that does renovation and remodeling work. I have three employees who will be remodeling part of a 1960s-era building and they need to remove wallboard that contains *less than 1 percent asbestos*. Also, they won't be exposed above OSHA's *Permissible Exposure Limits* while they're doing the work. Do I need to comply with any Oregon OSHA asbestos rules for this project?

A:

Yes, because exposure to any amount of asbestos can harm your employees. If there is asbestos in the materials your employees are removing – even if it's less than 1 percent – you must still follow specific requirements in Oregon OSHA's asbestos standard for the construction industry: 1926.1101, Asbestos. These requirements can be found in:

- 1926.1101(f) Exposure assessments and monitoring
- 1926.1101(g) Methods of compliance
- 1926.1101(n) Recordkeeping



# GOING THE DISTANCE - Meet a leading Oregon health and safety professional



# What is your background and safety philosophy?

My entire 20-year career in safety has been with Walsh Construction. I was lucky enough to get hired when the company was small and I was able to literally cut my teeth and grow the safety program. Other than knowing the difference between a hammer and a nail, construction was new to me when I joined Walsh Construction. How could I apply "safety" when I didn't understand the hazards that our employees dealt with on a daily basis? I worked with our crews on several projects to develop an understanding of their jobs. In turn, I not only gained incredible knowledge, I gained their respect. Building a strong relationship with our employees and subcontractors has been the key to establishing a solid safety culture. I believe that a true safety program is driven, supported, and enforced by those who work on the job sites - I don't see myself as a "safety cop," but rather as a resource to staff in the field.

# What are the unique safety challenges you face on current projects?

Every project, every day, presents safety challenges. It doesn't matter how many times you have built a similar project, the risks are always there. The biggest challenge is keeping the safety message fresh, keeping employees engaged, and understanding the issues they face.

Currently, we are working on a project at Portland State University. Early on, the project presented issues related to fall protection. While constructing handset form systems that were 18 feet high,

Continued on page 16

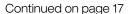
# GOING THE DISTANCE - Continued



there were no effective means to tie off. We contacted an Oregon OSHA consultant who agreed that this was a challenge. With that collaboration, we determined that scaffold planks would be placed less than 10 feet to allow workers to have a solid deck to continue to build the form system. When they reached 10 feet and above, a manufactured scaffold choker was used to establish an anchor that employees could connect to a lanyard to achieve a safe work method.

#### Has the tight economy had any impact on your safety program?

With a somewhat lighter workload, we've been able to hone our focus on certain programs, processes, and procedures. Safety is one of the most important. Periodic and careful review of our safety program is necessary; otherwise, it can become dated and perceived as not important by our employees. Over the past year, Walsh Construction management has upped the ante by reinforcing the safety message. Going back to the grassroots of safety helps motivate us. Keeping employees safe so they go home in the same manner as they came to work is the ultimate goal. Consistent site visits by management to communicate the safety goals and feedback from the field is a high priority. The best part of my job is partnering with employees and subcontractors because I enjoy the training component of safety. This time has allowed me to work closely with subcontractors who may not have a solid safety program. Taking time to mentor them makes them successful and has a positive impact on our program as well. It's a win-win situation.







Top left: Potter and Jeremy Freeman inspect chains of crane hook. Top right: The building is constructed in close proximity to the craftsman style home in the foreground. Bottom right: Crane work on 17-story building on the Portland State University campus. Bottom middle: Bryan Ware, Jeremy Freeman, and Potter watch for crane hook to pick up the concrete bucket. Bottom left: Jason Trickett works on rebar.





Photos: Stacey Thias

# GOING THE DISTANCE - Continued



# How do you keep your crew engaged in safety issues?

Keeping crews engaged in safety is extremely important to achieving a successful program. For me, it's about being in the field a lot. Watching, listening, and working in partnership with our employees. I don't walk the site with a clipboard and pen at the ready to write up safety infractions - let's be honest, they exist. But by simply approaching the workers to ask about what they are doing and why allows the safety questions to arise and the issue to be resolved. Don't misunderstand, I carry a heavy hammer, but that's not how I approach a job site. My goal is to be viewed as a resource to the project. If an employee or subcontractor approaches me to help solve a safety issue, then, for me, that is a successful safety system. Safety policies are well received when employees feel part of the process.

# What advice do you have for other safety and health managers hoping to make a difference?

Be passionate - the most common feedback I receive is that I'm passionate about my job. How could I be anything other than that? I have the care and concern of our employees and subcontractors constantly at the forefront of my mind. Showing that you care and make a sincere connection with employees is very important as a safety and health manager. This job is about people. Respecting their work and the challenges they face in adverse conditions is necessary. It's also important to listen. Listening to them will help you help them be safe; more times than not, they have the best answer when it comes to how to make their work safe.



**Top left:** Jason Trickett and Potter discuss a safety matter on the project rooftop in Portland. **Top right:** A view from the roof highlights fall protection rails.

**Bottom:** Potter stands watch over the concrete mixer.



# March 2012



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