New light on asbestos risks

September 18 2013

Scientists are coming up with new ways to assess the risk of exposure to asbestos, leading to improved management of sites contaminated with the potentially lethal material.

Like many countries, Australia once actively mined asbestos using it for insulation in buildings or household products but since the serious health risks associated with asbestos came to light, many countries, including Australia, have banned its trade and use.

Julie Wroble is a regional toxicologist at the Environmental Protection Agency (EPA) in the United States. At CleanUp 2013 – the world's leading scientific contamination conference, which is being held in Melbourne this week – she will present the latest techniques being used by the federal agency to estimate exposure risk to asbestos, which may benefit research here in Australia.

"Although we've largely stopped using asbestos, there are still a number of sites, with naturally occurring asbestos or man-made products containing asbestos, where people might be at risk of exposure," says Ms Wroble. "At the EPA we have been developing techniques to better estimate this exposure and the resulting health risks."

"Unlike a number of other contaminants, the main risk of asbestos is not so much direct contact but inhalation of the fibres that can enter the air if material contaminated with asbestos is disturbed.

"Because of this, it's not enough to just sample the contaminated

material. There are a number of other factors that need to be considered when assessing how likely the fibres are to get into the air.

"For example, we need to know what type of fibres we are dealing with and even what the weather is typically like in the local area. Most importantly we need to know what kind of activities take place at that site and whether these could release asbestos."

Ms Wroble and her colleagues at the EPA have developed a technique called 'activity-based sampling' where they mimic likely activities at a site and monitor air in the 'breathing zone' to determine the concentration of asbestos fibres.

"Sometimes, something as simple as walking on contaminated soil will be sufficient to stir up asbestos fibres and could create a significant health risk if done regularly enough, such as taking the dog for a daily walk through a contaminated area," explains Ms Wroble.

"Activity-based sampling is a simple technique but it is an effective part of a strategy helping us build a clearer picture of the risks posed at asbestos-contaminated sites across the US," she says. "Armed with this information we can make clear decisions about how best to manage these sites."

Ms Wroble is part of a workgroup that has been co-ordinating nationwide research into asbestos contamination in the US.

Together the team has ensured that the same techniques are being used to assess asbestos exposure risk in different parts of the country, allowing for meaningful comparisons between sites and identification of the highest priorities for containment or clean up.

By sharing the EPA's experiences with the international audience at

CleanUp 2013, Ms Wroble hopes others will gain new ideas for investigating and dealing with asbestos contamination. Her session 'Recent trends and developments in asbestos in soil (asbins) – US EPA perspective' will be held in Conference Hall 2 at 9:00 am on Wednesday 18 September.

CleanUp 2013 is hosted by the CRC for Contamination Assessment and Remediation of the Environment (CRC CARE). It is taking place at the Crown Conference Centre, Melbourne, Victoria, from 15 to 18 September 2013 and incorporates the 5th International Contaminated Site Remediation Conference.

More information: www.cleanupconference.com/

Provided by CRC for Contamination Assessment and Remediation of the Environment