

3M Transcript for the following interview: Ep-12-Asbestos

Where was it used and where is it found today?

Mark Reggers (R) Linda Apthorpe (L)

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Welcome to the 3M Science of Safety podcast presented by 3M Australia and New Zealand Personal Safety Division. This is a podcast that is curious about the signs and systems of all things work, health and safety, that keep workers safe and protect their health. I am Mark Reggers, an occupational hygienist, who likes to ask the questions Why, How, and Please Explain. Whether you are a safety professional, occupational hygienist, or someone with any level of WHS responsibility in the workplace, maybe you are a user of safety products or maybe you are a bit of a safety nerd who finds this stuff really interesting, then this is a podcast for you.

(R) Today is our second episode talking about asbestos with Linda Apthorpe. Welcome Linda!

(L) Hi Mark.

(R) So, for those who haven't listened to our first episode of Linda now is probably a good a time to pause it, go download and listen. Welcome back those who've just come back and listened but for those who haven't listened to our first episode, Linda can you introduce yourself, where are you from and what do you do?

(L) Thanks Mark. So, I am Linda Apthorpe and I am an occupational hygienist and I'm consultant. I've been working in the industry for over 20 years, so my

experience includes asbestos-related workplace risk assessments, also a variety of other different workplace hazards, physical and chemical and biological hazards. I am also a lecturer at the University of Wollongong where we have a Work, Healthy & Safety Program that people can come and study occupational hygiene in a post-graduate or an undergraduate format and they end up with a Masters of Occupational Health & Safety

(R) Fantastic. So, where our previous episode we spoke about well what is asbestos and some of those health-related effects that can occur. So just a bit of a summary, can you explain non-friable versus friable asbestos-containing materials for those that may not have listened to the first episode?

(L) Sure, look they're really important terminology to understand. A friable asbestos-containing material is one where the fibres are loosely bound in a matrix and the real classic definition is that the material can be crumbled in your fingers to dust when its dry. It's like a piece of cake where you can crumble it and the fibres will be released and then there is a possibility of inhaling those fibres. A non-friable material is one which also includes the bonded form where there is actually the fibres are locked into a matrix and its very, very difficult to get them out of that matrix. So that matrix might be a vinyl type of binder matrix, it could be glue or it could be a cementitious matrix and those fibres are locked in very, very difficult to get out of that matrix.

(R) So, we've got non-friable and friable asbestos-containing materials. Is there a certain percentage or amount of asbestos that needs to be in something for it to be classified as an asbestos-containing material?

(L) Well, in this country, asbestos is a prohibited substance and that means that really it comes down to presence or absence and that means that if any material

contains any level of asbestos, then it is considered as asbestos and certain precautions need to be undertaken.

(R) So, when you talk about this country we are recording in Australia, talking about, is that the same across the world?

(L) Unfortunately, not. In other countries you are allowed to have a certain percentage as an example in the US, anything <1% is in fact called asbestos-free and that percentage changes across the globe but it's a good example of if you're ordering something from overseas that if you order it to be asbestos-free, based on that country's limit, it still can be imported into this country and be considered a prohibited substance because it can contain asbestos.

(R) So, whether its imported or something that may be in the house, you know my house has got asbestos eaves, can you tell if something contains asbestos just by looking at it? Can I do a tap test? Can I taste it?

(L) Well some folks can do a little bit of a test and determine that it might contain asbestos and that's, that's a reasonable assumption, you can take then the precautions that it does contain asbestos but you don't know if something doesn't contain asbestos and that's most important to understand because the only way that you can tell if something doesn't contain asbestos, is to get it tested formally by a laboratory who is NATA accredited to do that work.

(R) So, we spoke in the previous episode about all these, some of the materials that asbestos was used in. Today, in Australia, New Zealand and I guess some of the westernised nations, where would I be likely to come across materials that may contain asbestos?

(L) Well, it was used in the past, it is now prohibited for use or reuse in this country and that occurred in 2003 but prior to that, it was being manufactured in Australia into various products. It was extensively discontinued from use in the early 1980s in building products and it was still used in brakes and clutches up until the early 2000s before it was formally prohibited for use in this country in 2003. You can typically find it in older buildings, buildings built from the early 1950s right through to mid-1980s, there is a possibility for asbestos-containing materials to be present particularly in domestic properties for asbestos cement sheets, vinyl flooring, also corrugated rooves etc. sometimes also present in gutters, downpipes and in drainage pipes that are put underneath the ground.

(R) So, my house, it's a 1970s house, so if I'm, this is I guess for our listeners, the age of a building and material is that a good sort of rule of thumb to sort of go more likely, less likely, something may contain asbestos?

(L) Yeah definitely, if you're in that 70s bracket then for sure particularly in areas such as the wet areas of your house, the laundry, the bathrooms, sometimes the kitchen can contain asbestos-cement products and if you're doing any renovation in those areas its most important that you take a sample of that material to a NATA accredited laboratory to understand whether the material actually contains asbestos and then you can plan your renovation, plan the removalist to come and remove it properly for you and of course they are licensed-asbestos removalists who have got all the kit and will undertake all the precautions to remove it properly in your house.

(R) Now there's certain cement sheeting that I have seen, and you hear about that, like a golf ball dimple effect. Is that the only sheets that have asbestos in it with that golf ball dimple effect?

(L) Well the golf ball dimple effect gives you a bit of an idea, yep, okay it contains asbestos but there are many other flat cement sheet products that do not have that dimple effect that can still contain asbestos and so that's why its most important to get your material tested formally by a NATA accredited laboratory so you'll understand exactly what's there before you start the work rather than at any other time.

(R) Now I want you to cast the net really wide here because we're trying, using so many products, what other building products that you haven't mentioned so far that are known to contain asbestos that people may not be as familiar with Super Six roof sheeting or are they golf ball dimple effect materials?

(L) Well they're of course non-friable materials so the risk profile of those is much lower. There is also vinyl flooring particularly vinyl floor tiles and some continuous vinyl flooring products that contains asbestos. Some of the other non-friable asbestos-containing materials include brake lining, clutch plates and other friction materials. Sometimes it's in paint, in certain structured coatings and textured finishes and from a friable point of view, sprayed asbestos and loose packing can be present in some domestic properties and you may have heard of that Mr Fluffy material that was used predominantly in the ACT as well as the southern parts of New South Wales, and its legacy now continues with some removal activities still occurring to this day to remove asbestos from ceiling spaces where Mr Fluffy insulation was actually used.

(R) There was also the New South Wales loose-fill asbestos program as well which I guess was a bit further afield than Canberra, but they just say that legacy lives on unfortunately.

(L) Absolutely, and so it's good to get that testing done in your house to understand if you actually have any of that loose fill asbestos and that Mr Fluffy material so that

it can get removed properly. Friable insulation can also be present in air conditioning, sprayed insulation on soffits and as a fire retardant particularly in commercial buildings, multistorey buildings etc. where it can still be to this day and its most important that those asbestos-containing materials are managed in accordance with regulations of your particular state.

(R) So, you've said previously asbestos was banned in 2003 in Australia. What was some of those asbestos-containing materials and products that were more likely to have been used in the late 90s and early 2000s that people should be aware of because I guess you look at a year 2000 building and think that seems pretty modern and there's no chance they would have asbestos in it?

(L) Look it's a fair guess that it wouldn't. The building materials were phased out in the 1980s but that said, there may have been some materials that were still used up until the 90s and the Australian regulations say that if you've got a building that's built before 2003, that you need to have an asbestos register and understand where asbestos is in your particular building. So, asbestos was still used in manufacturing in this country up until early 2000s and typically it was put into brakes and clutch linings, so it still can be present in some vehicles today.

(R) So, one of the other uses of asbestos was in asbestos cement pipes used for water pipes and throughout Australia there has been hundreds and hundreds of kilometres, is there a risk there with us drinking asbestos fibres that may be getting loose in those water pipes?

(L) Well we got to go back to our first principles and remember that risk to health is via inhalation of the fibres and like in Australia and many other countries of the world, asbestos is a naturally-occurring mineral, it can be present in natural waterways and we can actually be ingesting it. So, with regard to water pipes, it can be present in the water however it's not, it can be present in the water but it's

not a risk to health via that route of entry or pathway into our body. It's a risk to health via inhalation of these respirable fibres the very, very small fibres that can travel down into the lower alveolar or gas exchange region of our lung and that's where they can do their damage.

(R) So, I guess the risk for water pipe is more going to be to council workers or people for the water board who are having to cut, replace those water pipes than us drinking the water that is flowing through them.

(L) Yes, it's not an issue for the users but now as those pipes are starting to fail then it is definitely an issue that needs to be considered for people who are doing ground works, changing out the water pipes as you mentioned and so on to take precautions and prevent exposure to asbestos because you're disturbing that asbestos cement that the pipes are being made out of.

(R) And here's my favourite question, now I know there's lots of weird and wonderful asbestos-containing materials because I think most people probably think about building materials, that's what the bulk of our regulations are written around because that's in situ. Can you go through the weird and wonderful products where asbestos was used? and I know this is a nice long list so yeah hit it.

(L) Well, because asbestos was the wonder fibre it was used in a wide variety of products and it's been used for decades. It has been used in asbestos cigarette filters crazily enough in the actual filter mechanism in the cigarette.

(R) So, you'd be breathing, in your essentially sucking in asbestos or right on asbestos?

(L) Yeah totally and the filter wouldn't have really prevented any of the chemicals in the smoke actually entering your lungs, but you would have got a nice dose of

fibres from inhaling through those cigarette filters. It was used as fake snow and people could actually buy packets of it and actually put it over their Christmas trees to make it look like snow in their houses at Christmas time as a decoration.

(R) On a nice white Christmas so you could put the lovely fake yep.

(L) Yeah, yeah it was also used in the Wizard of Oz movie with the snow twinkling down on the main characters in one particular scene. It's been used in shoes and inner soles, it's been used as insulation in irons and ironing boards, it was used as asbestos clothes particularly for fire retardant clothes, for jackets and for gloves for heat resistance. It was also used in beds in fact Crocidolite blue asbestos was marketed as a good bedding material way back many years ago.

(R) I had read that they did market those beds as the best beds to smoke in as well so there is a good catchline for you, I mean it all makes sense and these products at first, I know when I first heard about a lot of these I think, what, really, but then you think well what is the product being used for and the qualities and characteristics of this asbestos absolutely would be desired on exact locations of products so it seems weird at first and you go, well, no, that actually makes perfect sense.

(L) Yes, for that era it made perfect sense. Another crazy one is they used to make and use Chrysotile asbestos and actually make it into a woven material that was made into a baby suit to actually prevent your baby from catching fire which is just quite, quite remarkable.

(R) I don't know what fire generating activities your baby is doing, may be with cigarette ash falling on the baby while you're checking on it in the crib?

(L) Yes, it was used in theatre curtains and insulation, it was used in paints, it was actually used in gas masks for a World War II gas mask and filter, lots of firefighting

umbrellas and there is plenty more uses, crazy uses of where asbestos has been used over the decades.

(R) A couple of my other favourites is asbestos in Ipana toothpaste as well, I'd read that actually they thought the asbestos was a good abrasive mechanism so there is another, another weird one there.

(L) Absolutely wacky crazy.

(R) And my other favourite weirdest one is asbestos used in asbestos heart paste so during open heart surgeries they would mix the asbestos in with this paste and apply it to the muscle thinking it used to help with blood circulation and muscle growth and I read that in a book that was referencing a 1950s-asbestos worker magazine so really it was this magic mineral that they thought had these wonderful qualities and we'll chuck it in this and it was more of a marketing type thing as well.

(L) Absolutely incredible. It was so good, so cool, used in so many different applications.

(R) So, there's plenty of locations that I think we've probably only just skimmed the surface but just highlighting the fact that it was used in so many locations. If I'm a homeowner or I'm a business, where would be some good resource that I could go may to do a bit more reading of some of these other potential materials that may be in my workplace or at home?

(L) A really fantastic resource is SafeWork Australia, they have Codes of Practice for the removal of asbestos and also for the control and management of it with regard to asbestos in buildings. Also, your local state regulator also has some fantastic information which is available freely on their websites, other places to go is the Asbestos Safety and Eradication Agency and also there is some asbestos

foundations that have some really good support information for those folks who are unfortunate to have asbestos-related diseases.

(R) Another really good one for, I guess for the homeowner's side of things is the www.asbestosawareness.com.au and I have been there a few times and have some really good homeowner guides, real visual pictures, you know pictures paint a thousand words and I am a big fan of that so there's another really good place if you're trying to think about where could this stuff be.

(L) Yeah, and those places often have good galleries, good photographs of various asbestos-containing materials so you can get a better idea of the range of asbestos-containing materials that are out there.

(R) It can be pretty daunting now when you think about the potential location that asbestos-containing materials may be. If you had to sort of summarise and just sort of reassure people with a couple of key points what we've spoken about this morning, what would that be?

(L) Well I think it's important to remember that if asbestos-containing materials are present in your house or your workplace, if they are in good condition and they're stable and they're left in situ, there is absolutely no risk to health. The issue comes with disturbance and so therefore it's important to do the testing before you disturb any potential or any suspicious asbestos-containing material, make sure you know that, know if it does contain asbestos or not before you do that removal work. All asbestos, any asbestos-containing material make sure you treat it with the respect that it deserves, and precautions are required for any disturbance work or removal or renovation work. So remember if you are planning any renovation work in your house, if you've got a house that's sort of anywhere from the 1950s up to the 1990s, it potentially can contain asbestos so it's important to think about where asbestos-containing materials could be, in the wet areas, the laundry, bathrooms

etc. and make sure you get it tested before you do any renovation or any removal work.

(R) Fantastic. That's a great summary of points, if you know that it's there, you've got to treat it with respect, the key point is knowing that it's there so to identify it. Well thanks for coming in again Linda, I've really appreciated our couple of chats.

(L) Thanks Mark it's been great, thanks for having me in and I hope the listeners gets some really good information and remember there's plenty of good information sources out there where you can find more resources and good information on asbestos.

R) Fantastic. Well thanks for listening everyone. If you have any questions, comments, suggestions for future topics or guests you think we would should get into the studio, you can shoot us an email to scienceofsafetyanz@mmm.com. If you've got any questions for Linda, you can also contact her via that email address and she will get back to you. You can also contact us via that email if you've got any questions or need any help relating to PPE in the workplace. We here at 3M are certainly here to help. Be sure to subscribe to the podcast through iTunes or wherever you get your podcast so that you don't miss any future podcasts. If you enjoyed the podcast and found it informative, we'd really appreciate if you could take a few moments to leave us a review as it really does help other people find the podcast. And as Albert Einstein once said, "anyone who has never made a mistake has never tried anything new". Thanks for listening and have a safe day.