



SAFETY FACT SHEET #3

UNDERSTANDING THE SAFETY OF PINK® BATTS® GLASS WOOL INSULATION.

What happens if glass wool fibres are inhaled?

Our minimum average fibre diameter is around 5 microns. WorkSafe New Zealand guidelines define a respirable fibre as one that has a diameter less than 3 microns and a length greater than 5 microns. That means that it's very unlikely that any glass wool fibres breathed in during the installation of our products will make their way into your lungs. They'll either get removed via mechanical processes (i.e. you'll cough them out) or they'll dissolve in the lungs (see 'biosolubility' below).

But what happens if a respirable fibre does make its way to the deepest part of the lung?

In the unlikely event that this happens, mechanical processes (coughing etc.) will not extract it.

However, to be considered biosoluble, glass wool fibres need to be made to comply with note Q in European Commission Directive 97/69/EC². Note Q is attached to the classification of Synthetic Mineral Fibres (SMF), a group that includes glass wool, to identify tests required to ensure that fibres are biosoluble. Biosoluble fibres are not considered to be hazardous substances.

Pink® Batts® glass wool fibres are type NK8340. Glass wool fibres of type NK8340 meet the exoneration criteria of Note Q and are therefore not hazardous.

2. Occupational Health Report Series Number 8: 2001 Update on Synthetic Glass Wool

UNDERSTANDING THE SAFETY OF PINK® BATT® GLASS WOOL INSULATION.

What is biosolubility?

Biosolubility is the measure of a substance's ability to dissolve in bodily fluids. The opposite expression of this is biopersistence (can't be broken down by the body).

Biosolubility is measured in terms of half-time, i.e. how long does it take for half of the fibre to dissolve? Glass wool fibres have a half-time of around 9 days.

Why is biosolubility important?

Biosoluble fibres are not considered to be hazardous substances. This is important because of what happens if a fibre can't be broken down.

The worst-case scenario is that the fibre persists perpetually as is the case with asbestos. The half-time of asbestos fibres (i.e. their biopersistence) can be up to 7-8 years³. During that time the fibres sit in the lungs causing scarring known as asbestosis that, in turn, inhibits the ability of your lungs to transfer oxygen to your blood stream. Asbestosis can also lead to lung cancer.

3. <https://worksafe.govt.nz/topic-and-industry/work-related-health/monitoring/exposure-standards-and-biological-exposure-indices/>

How do we know that glass wool isn't the next asbestos?

- There's about 80 years' worth of research on glass wool – dating right back to its invention in the 1930s.
- All modern glass wool from reputable manufacturers is made to meet a minimum biosolubility requirement. We regularly send product overseas for accredited independent testing to make sure that our glass wool meets these requirements.
- This combination of extensive research and proven biosolubility means that glass wool is currently classified by the International Agency for Research on Cancer (IARC) as Group 3 – not classifiable as to its carcinogenicity to humans. This is the same classification as tea and coffee.

By comparison, asbestos is not biosoluble and is classified by IARC as Group 1 - carcinogenic to humans.

So are there no health effects from inhaling glass wool fibres?

There is the possibility of some irritation to the respiratory system. Potential symptoms can include a sore throat and cough.

While uncomfortable, these symptoms are temporary, harmless and easily treated.