



August 2025

## PROJECT FACT SHEET: FINAL REPORT ON THE INVESTIGATION INTO THE PRESENCE OF ASBESTOS FIBRES IN DRINKING WATER SOURCED FROM ASBESTOS CEMENT (AC) PIPES

### ASSEA and its stakeholders

#### Who is the Asbestos and Silica Safety and Eradication Agency?

The Asbestos and Silica Safety and Eradication Agency (ASSEA) is an Australian government agency that plays a central role in coordinating national actions to eliminate both asbestos-related and silica-related diseases in Australia.

#### What does ASSEA do?

ASSEA ensures that the Commonwealth, state and territory governments work cooperatively towards the common goal of eliminating disease. This includes improving awareness of the risks to health posed by asbestos and silica; the effective safe management (embracing identification, removal and disposal) of these substances; and conducting, commissioning, monitoring and promoting research that will help with management of these substances in the home, workplace and environment.

ASSEA also has responsibility, both nationally and internationally, to share best practices in asbestos and silica risk control, using the learnings from managing the harmful legacies of these substances to inform how this can be achieved. With respect to asbestos, the work of ASSEA is guided by the Asbestos National Strategic Plan, now in its third phase (2024 – 2030).

#### Who does ASSEA work with?

ASSEA collaborates with the diverse group of stakeholders who have a role in the asbestos and silica safety systems, including not only government agencies, but also researchers, industry, employer groups, unions, disease advocates, public health bodies and members of the community. ASSEA nurtures successful working relationships with all stakeholders through bilateral and multilateral participation in committees and working groups, aiming to collectively champion asbestos and silica safety matters.

### Project details

#### What was the rationale behind the project?

In a 2021 report Asbestos in drinking water: Background document for development of WHO Guidelines for drinking-water quality, the World Health Organization (WHO) noted that, based on a weight of evidence approach, there is no risk to human health from the consumption of asbestos fibres in water. Nonetheless, due to the uncertainties and limitations of epidemiological data, the WHO recommended that ‘*it is appropriate to try to minimise the concentrations of asbestos fibres in drinking water as far as practical*’, and that it would be ‘*useful to conduct investigative monitoring to obtain further information on the contribution of older AC pipes to fibre numbers, types, size and shape in drinking-water*’. This project gave effect to the recommendations of the WHO.

The question of whether there are health risks related to the ingestion of asbestos fibres from drinking water was excluded from the project, acknowledging the conclusions of the WHO report that a risk to human health from ingestion of asbestos fibres in water has not been established by the available evidence. Both the WHO and the Australian Drinking Water Guidelines (published by the National Health and Medical Research Council or NHMRC) conclude that there is insufficient data to determine a guideline value for the level of asbestos in drinking water. The project aligned with the mandate of the Agency to conduct, commission, monitor, and promote research concerning asbestos risks and controls.

### **What was the aim of the project?**

Australia has approximately 40,000 km of asbestos water mains; nearly 20% of the total length of water mains in Australia. The aim of this project was to evaluate the levels of asbestos fibres in drinking water supplied through AC pipes, while concurrently gathering data and information on factors that may influence the levels of asbestos fibres in water. These factors include daily variation in the demand for water, water pressure, distance from a water treatment plant, and aspects of water chemistry (e.g. pH, levels of representative inorganic ions, total solids). The project was also designed to develop a robust and standardised water sampling procedure that can be used to determine representative levels of asbestos fibres in drinking water distribution systems in any location.

It was conjectured that findings from the project could be used to inform additional guidance on managing AC water pipes, including prioritised decommissioning or removal and the need for more routine monitoring.

### **Who was involved in the project?**

ASSEA engaged a reputable independent university research partner to undertake the project. The Agency also formed a 'Working Group' to provide advice on the project. The Working Group consisted of representatives from both government and non-government bodies (the latter comprising of a number of Victorian water authorities and an asbestos support and advocacy organisation from that state), and researchers. The Working Group was a consultative forum to provide advice on the project, particularly its methodology, to share relevant data, and to assist with the communication of the results.

### **What did the project involve?**

The project involved the university research team taking samples of drinking water that had passed through AC pipes both in summer (February) and winter (June) during 2024. In each season, samples were taken from locations (hydrants and/or air valve connections on water mains) in a region serviced by the Goulburn Valley Water authority. These samples were analysed for asbestos fibres by a laboratory that is accredited by the National Association of Testing Authorities (NATA) for the testing of the presence of AC fibres in water. Chemical analysis (pH, temperature, dissolved metals, and dissolved solids) was conducted by the research team. Goulburn Valley Water nominated itself as the region where the project could be conducted and was supportive in collaborating with the research partner and ASSEA on this project.

### **What are the results of the project?**

Altogether, the research partner took 64 water samples from the Goulburn Valley Water region, sampling from ten water quality sampling points, six hydrants, and a water treatment plant. The levels of asbestos were analysed in the NATA-accredited laboratory using energy dispersive X-ray / transmission electron microscopy (EDX-TEM). Asbestos fibres were not detected in any of the water samples. The water chemistry of the samples was in-line with that previously measured by the water authority over the last decade and did not show substantial differences between summer and winter. Water pressure at the locations was stable during the day, indicating that any possible effect of

changes in dynamic pressure on the release of asbestos fibres was minimal. The calculated Aggressive Index (AI) and Langelier Saturation Index (LSI) values indicate the water was aggressive and corrosive, suggesting calcium carbonate has accumulated on the inside walls of the pipes. Given no asbestos fibres were found in the water it seems likely the AI and LSI qualities of the water have had little or no effect on the asbestos-cement matrix of the pipes in the area that was the subject of the study.

**Will more detail of the results be made available?**

It is possible that in the future the data from the project will be published in a peer reviewed scientific journal.

**Will there be subsequent research phases?**

Any decision on future work will be taken by ASSEA after consultation and advice from the Working Group. Such work could entail sampling at other locations in Victoria or in other states and territories, and/or gathering more information on the factors that influence the levels of asbestos fibres in drinking water.