

Fire retardants and private water sources

This fact sheet contains information about what to do if fire retardants have been used on your property and may have affected your private drinking water supply.

Key points

- NSW Health recommends that people with a private drinking water supply maintain an emergency store of drinking water in case a bushfire disrupts your normal supply. Each person requires a minimum of 3 litres of drinking water each day.
- Disconnect the down pipe to your rainwater tank as soon as there is a bush fire risk to prevent contaminated water from entering it.
- The fire retardants currently used in Australia are of low toxicity.
- If the water tastes, looks or smells unusual do not drink it or give it to animals.

What are fire retardants?

Fire retardants are used to slow the spread or intensity of a fire. They help fire fighters on the ground to control and contain a fire and help protect properties. Fire retardants may also be dropped from aircraft during firefighting operations. Sometimes a red coloured pigment, made from iron oxide, is added so that those spraying can see where they have released the fire retardant.

Fire retardants consist of detergent chemicals made from a combination of wetting agents and foaming chemicals, fertilisers (ammonium and diammonium sulfate and ammonium phosphate) mixed with thickeners (guar gum) and corrosion inhibitors (for aircraft safety). They are mixed with water to form a foam or slurry. Examples

include, Angus Forexpan S and Phos-Chek WD-881, Phos- Chek D75-F and Phos-Chek D75-R.

How do fire retardants work?

Fire retardants are mixed with water before they are used in the environment. After the water has completely evaporated, the remaining chemical residue retards vegetation or other materials from igniting, until it is removed by rain or erosion. Fire retardants also work by binding to plant material (cellulose) and preventing combustion.

What about health effects?

The fire retardants currently used in Australia are of low toxicity. Testing shows these chemicals can produce minor irritant effects before they are mixed with water. The concentrated powder may cause minor respiratory irritation to workers who are handling it. Gels can irritate eyes, airways and the skin. Workers are required to wear gloves, goggles and dust masks when handling the powder. Risk assessments carried out in the United States and in Victoria demonstrated that the risk of health effects was very low, even to people who are accidentally exposed to the fire retardants during their application. The health risk from drinking rain water contaminated with fire retardants is also low, but the water may taste and smell unpleasant and consumption should be avoided.

First Aid

If eye contact occurs, rinse eyes with fresh water continuously for several minutes until all contaminant is washed out; if symptoms develop or persist, seek medical attention. If swallowed, rinse your mouth out with fresh water; then

consult a doctor. If skin contact occurs wash the affected area with soap and water. For further information call the NSW Poisons Information Centre on 13 11 26.

What precautions should I take if I have a water tank?

The most effective way to prevent contamination of your water tank is to ensure that your tank is properly sealed.

- Disconnect your water tank as soon as there is a bush fire risk to prevent contaminated water from entering it.
- Install a first flush diverter or make sure the first part of runoff after rain cannot go into your tank. This will prevent any water runoff from your roof containing fire retardant from entering your tank. It will also prevent embers, ash and other contaminants from entering your drinking water. The roof should also be cleaned after the bushfire.

If the fire retardant does enter your water tank:

- Do not drink the water or use for food preparation. High levels of ammonia and sulfate in water may make it smell unpleasant and taste salty. It will not be suitable as drinking water for humans or animals (pets or livestock). The water can still be used for irrigation and fire-fighting purposes. Boiling the water will not remove contamination.

Tips on cleaning up fire retardant residue:

For your comfort, when cleaning surfaces be sure to wear protective equipment such as safety glasses, disposable gloves and a disposable face mask. If aerial fire retardant or fire-fighting foam residue is present on the house and/or cars, use a mild detergent with water and brushes to scrub and dilute the dried residue and flush it from the surfaces. Rinse with clean water.

Further information on the maintenance of rainwater tanks can be found on the NSW Health website: <https://www.health.nsw.gov.au/environment/water/Pages/rainwater.aspx>