
Firewater run-off

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Overview

During a fire, large volumes of water, either on its own or mixed with foams or fire retardants, can be used to put the fire out. Often, this firewater can find its way to local waterways and impact the water quality.

What's in firewater?

The volume and composition of firewater will be different depending on the circumstances of the fire, whether any fire retardants were used, and what has been burnt.

Bushfires

In the case of bushfires where it's just plants that have been burnt, firewater will contain mostly nutrients and sediments. When buildings, farming equipment, fencing and other structures are burnt, the run-off from firewater can also contain other materials that can pollute the waterways. Firewater can pollute waterways, leading to the death of fish and aquatic life.

Firewater from a bushfire going into a waterway will lower the dissolved oxygen in the water, which may cause fish deaths. More nutrients entering a waterway can lead to algal blooms. All these may also occur when rains after a fire wash ash and soil into waterways, so the impact of rain after a bushfire can also be significant.

Industrial fires

Pollutants present in firewater from industrial fires may be toxic to the environment, and cause the death of fish, other aquatic animals and plants. These pollutants may also cause irritation to people or animals who touch affected water.

For fires at industrial sites, EPA officers provide advice to the Metropolitan Fire Brigade (MFB) or Country Fire Authority (CFA) about capturing the water used to extinguish the fire to minimise any impacts on local waterways.

However, during big fires, large volumes of water are needed to put out the fire and some may end up in waterways. You may also notice that the water might smell, if it has been affected by firewater from an industrial fire.

What about fire retardants from firefighting aircraft?

Fire retardants that are dropped from firefighting aircraft contain a mixture of salts that prevent plant material burning. Once the fire danger has passed, they act as a source of phosphate, and are a source of nutrients for plants.

MFB and CFA no longer use fluorinated foams (i.e. fire retardant foams containing PFAS) which have caused concern in recent times.

For more information about fire retardants, see [Fire retardants and health \(EPA publication 1721\)](#).

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What should I do?

When nearby waterways have been affected by industrial firewater run-off:

- avoid contact with the water
- avoid any sludge that may be present
- if you come into contact with contaminated water or sludge, remove wet clothing, and wash with soapy water
- don't allow your pets to swim in or drink the water
- don't eat fish from the affected waterway
- avoid the area, if there is odour that is making you feel unwell
- seek medical help if you continue to feel unwell.



Further information and updates

Contact EPA on 1300 372 842
or epa.vic.gov.au

- Incident information and updates: emergency.vic.gov.au
- Up-to-date air quality information: epa.vic.gov.au/airwatch
- Information about the impacts of smoke: epa.vic.gov.au/smoke
- NURSE-ON-CALL: 1300 60 60 24
- Emergency information: epa.vic.gov.au/our-work/emergency-information
- Further information on rainwater tanks is available from the Department of Health and Human Services on betterhealth.vic.gov.au



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