Frequently Asked Questions

Aerial Fire Retardants and Return to Your Home Following a Wildfire Evacuation

May 2023

This information is for residents and property owners who are returning to their property after a wildfire evacuation. This information was prepared by Alberta Health Services' Public Health team, in consultation with the Medical Officer of Health Team.

About aerial fire retardants

What are aerial fire retardants?

- Aerial fire retardants are substances that are dropped from aircraft outside the fire perimeter to help stop or slow the spread of fire
- These fire retardants help to create a barrier between sources of fuel such as vegetation and the fire
- The non-flammable coating created by fire retardants helps to cool the fire, insulate its fuel, and suffocate the fire by starving it of air
- Fire retardants are a liquid when aerially dropped from aircraft

What is in aerial fire retardants?

Most aerial fire retardants are made up of:

- Ammonium phosphates (e.g. ammonium polyphosphate)
- Thickening agents (e.g. natural gum)
- Colourants (often red, so fire crews can see where it was applied)
- Attapulgus Clay (flame retardant)
- Iron Oxide (flame retardant, smoke suppressant)
- Spoilage/corrosion inhibitors (e.g. sodium hexacyanoferrate)
- Water

Do aerial fire retardants contain household flame retardants?

- No. Aerial flame retardants do not contain brominated compounds, hexabromocyclododecane, polybrominated diphenyl ethers, organophosphates, or tetrabromobisphenol A, all of which can be found in household products and may be harmful to health

Why are aerial fire retardants used?

- Aerial fire retardants are a tool used to prevent the spread of wildfires
- They can help to protect people, property, the environment, and the economy

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Aerial flame retardants, your health, and the environment

What are the health risks of aerial fire retardants?

- Aerial fire retardants do not pose a significant risk to your health
- Aerial fire retardants are not known to be carcinogens (do not cause cancer) and do not contain heavy metals
- None of the raw materials used in the production of fire retardant are listed on the Canadian Toxic Substances list
- Aerial fire retardants are not known or suspect to be a risk to pregnant or breastfeeding women
- Aerial fire retardants may cause skin or eye irritation with prolonged contact

What are the first-aid measures for aerial fire retardant exposure?

- If skin irritation occurs, wash skin with plenty of water. If irritation persists, please call HealthLink at 811 or seek medical attention.
- If fire retardant gets in your eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and easily able to do. Continue rinsing. If irritation persists, please call HealthLink at 811 or seek medical attention.
- If fire retardant is ingested, do not induce vomiting. Please call HealthLink at 811 or seek medical attention.

What happens if my animals eat aerial fire retardant?

- Reports have shown no adverse effects on domestic animals that ingest small amounts of fire retardant
- Please contact your veterinarian for more information

What are the environmental risks of aerial fire retardants?

- Fire retardants have minor effects of the environment
- Fertilizer-like components may lead to growth of algae (eutrophication) in watersheds if applied nearby (pilots try to avoid applying retardants near waterways)
- The growth of certain types of plants may be inhibited until the retardant washes away

Aerial fire retardants on your property

How do I know if my property has aerial fire retardant on it?

- Fire retardants are usually red in colour (though red colour breaks down when exposed to sunlight). Look for red coatings or liquids that are unusual for your property
- Contaminated water may have an unusually salty taste or smell terrible

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How should I remove or dispose of aerial fire retardants on my property?

- Fire retardants are water-soluble and able to be washed off with little effort prior to drying. Once dried, they may form a film that tends to hold to surfaces. To remove from surfaces, you may need to use some scrubbing or power washing. A mild soap/surfactant-containing product can assist in removal. Wear eye protection and gloves while washing fire retardants away to avoid skin irritation.
- Dispose of garden produce and drinking water that has been contaminated.
- Avoid the harvest of country foods for consumption (i.e. berries, mushrooms, or herbs) that have been contaminated.
- Thoroughly rinse and clean any cisterns or drinking water sources to remove fire retardants (it is important to remove precipitants on tank bottoms).
- Thoroughly rinse and clean surfaces that drain into drinking water sources as well.
- Clean sand boxes, outdoor toys, and pools where children might inadvertently ingest residual fire retardant through hand-to-mouth contact and play.

For questions about exposures to aerial fire retardant on your property, please contact HealthLink at 811.

Alberta Health Services