

# Property Owners & Commercial Operations Safety – Spontaneous Combustion

If you work with paints, polishes, varnishes and/or stains as a professional, or perhaps are doing a project around your home, you should have a good understanding of how you can prevent spontaneous combustion.

A real American National claim illustrates this extremely dangerous but controllable situation. An insured's employees were applying a highly flammable stain to the exterior of a home. The employees took a lunch break in the middle of the job. Upon their return, the home they were staining and two neighboring homes were on fire. It appeared materials used for the staining were not properly stored, which resulted in spontaneous combustion. Fortunately, no one was injured. However, the property damage was significant. With a proper understanding of the risks inherent to the job and how to minimize those risks, this loss could have been avoided.

## What is Spontaneous Combustion?

Combustion basically means "burning." It involves a material that reacts with oxygen, giving off heat. Spontaneous combustion involves the ignition of a combustible material because of internal heat generation usually caused by rapid oxidation.

## How Does Spontaneous Combustion Occur?

Fire requires three key elements to exist: fuel, oxygen, and a heat or ignition source. Isolation of these elements is crucial in fire prevention.

Rags saturated with paint, oil, stain or other flammable material chemically produce heat when

drying out. If the rags are piled or stacked together with oxygen present, the heat builds quicker than it can dissipate until a fire starts.

Working with paints, stains and other flammable items requires an understanding of spontaneous combustion. Incorporating preventative measures on every job can significantly reduce your exposure to injury, loss of your property and the lives and property of others.

## Preventing Spontaneous Combustion

Proper handling of combustible materials can reduce the risk of spontaneous combustion. A few steps can keep you and your property safe:

1. Read and follow the safety precautions and storage instructions on product labels
2. Do not leave towels, rags, paint scrapings, steel wool or other solvent-saturated materials that have the potential to combust unattended
3. Properly dispose of saturated items that have the potential to combust according to directions on the product label. They should not be disposed of in regular waste containers. Instead, the items should first be completely rinsed with water and placed in a noncombustible container with a tight-fitting lid. They could also be placed in a metal container filled with water and sealed
4. Regularly check around your job site, work shop, garage or home for items that could pose a fire hazard. Store or dispose of those materials appropriately

5. Safely store flammable products outside your living area and far away from places where they could catch fire. Keep flammable products away from portable heaters, electric baseboard heaters, furnaces and outdoor grills

Learn about chemicals and toxins from the United States Environmental Protection Agency (EPA). The EPA also provides information about specific chemicals and how you can protect yourself, your family and your community. <https://www.epa.gov/environmental-topics/chemicals-and-toxics-topics>.



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