



## **SPONTANEOUS COMBUSTION ALERT**

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### **Introduction**

After speaking to your cause and origin expert on a new large loss you learn that there was no electrical device or other product in the area of origin. You also learn that the usual series of potential causes have been ruled out – arson, negligently discarded smoking material, or the structural wiring to the property. So you ask: How can a fire start when there is nothing there to ignite the fire? Welcome to spontaneous combustion fires.

### **Process**

The National Fire Protection Association defines spontaneous combustion as “a byproduct of spontaneous heating, a process by which a material increases in temperature without drawing heat from its surroundings. If the material reaches its ignition temperature, spontaneous ignition or combustion occurs.”

The common process of spontaneous combustion is as follows. First, you have a substance with a relatively low ignition temperature such as hay or grass/vegetation. Second, with a small amount of moisture and air, that substance begins to release heat. However, these substances are also good insulators of heat, preventing the heat from escaping and thereby raising the temperature of the substance. Third, spontaneous combustion occurs when the temperature rises to the ignition point of the material and sufficient oxygen or fuel is present to support combustion.

### **Example of Spontaneous Combustion**

- Haystack Fire
- Grass/Vegetation Fire
- Trash Can Fire

- Discarded Oil-Soaked Rags (chemical reaction)
- Wood Chips/Sawdust
- Compost Pile
- Vehicle Fires (chemical reaction)

### **Statistics**

More than 14,000 fires per year are categorized as either spontaneous combustion or spontaneous combustion from chemical reaction. Over one-third (35 percent) of the spontaneous combustion fires that occur in homes involve the ignition of oil-stained rags. And of the fires that occur in storage buildings/property, oily rags account for 22 percent, with agricultural crops a close second at 20 percent.

### **How Can Spontaneous Combustion Be Prevented?**

Preventing spontaneous combustion depends on what type of substance is at issue. With hay and agricultural products, controlling moisture is the key; this includes proper curing and adequate aeration. Frequent inspection and temperature testing may also be necessary. With respect to combustion of oil-stained rags used for the myriad kinds of contracting work, including painting and wood staining, improper storage is often the culprit. Oil-stained rags are supposed to be properly dried and stored in metal containers that are securely covered. But if they are carelessly thrown into a plastic trash bag or container, spontaneous combustion becomes a real danger.

Whether you are dealing with oil-stained rags, agricultural products, or any other spontaneous combustion scenario, a failure to take the necessary precautions to prevent spontaneous combustion may provide the basis for a lawsuit in your case.

## Subrogation Considerations

As with any fire case, elimination of alternative ignition sources, including discarded smoking material, becomes critical to the case evaluation. With spontaneous combustion fires you will also want to gather information on surrounding temperatures and moisture exposure. Outside spontaneous combustion fires are more likely to occur in the summer months and in the afternoon and early evening hours. In addition, the following are examples of questions that should be asked as part of your subrogation evaluation in two types of spontaneous combustion cases:

### Haystack/Agricultural Fires

- Who provided the hay where the spontaneous combustion occurred? Often bales of hay are supplied from various vendors, so it becomes critical to determine at the scene which bales came from which vendors.
- What was the process for curing and aeration of the alfalfa prior to baling the hay? If insufficient time is provided for these processes, then high levels of moisture can be retained in the hay bales.
- When, how, and how often were the hay bales probe tested for moisture? If only a few bales were tested or if the moisture probe is not inserted fully into the center of the hay bale, the tester may not realize that there is high levels of moisture in the center of some hay bales, which accelerates the spontaneous combustion process.
- How large were the hay bales? The larger the bales the more likely they are to retain moisture/heat.
- Was there any farm equipment in operation near the area of origin at the time of the fire? A common defense claim is that sparks from the insured's farm equipment could have started the fire.

### Discarded Oil-Stained Rags

- Who were the contractors last performing work in the area of origin?

- What was the type of oil/paint being used? Many wood staining and oil-based paints have warnings on the can itself regarding spontaneous combustion and how to properly discard rags.
- What actions, if any, did the contractor take to protect against spontaneous combustion *before* discarding/storing the oil-stained rags? Properly drying the rags to reduce moisture is critical.
- What actions, if any, did the contractor take to protect against spontaneous combustion *after* discarding/storing the oil-stained rags? It is important to store the rags in a covered metal container to prevent a fire and fire spread in the event of a fire. Too often uncovered plastic trash bags or plastic containers are used allowing air for the fire's ignition, and are combustible, allowing the fire to spread.

Unlike fire scenes where often a tangible piece of evidence or electrical device can be preserved from the scene and later destructively tested to prove it was the cause of the fire, spontaneous combustion fire scenes often may have little if any evidence to save and destructively test. As a result, documentation of the scene becomes critical to preserving your subrogation case. A failure to either allow the target defendants an opportunity to examine the scene or to properly document the scene will inevitably result in claims that alternative ignition sources could have caused the fire.

Cozen O'Connor is available to assist in preventing these defenses by assisting with an early case evaluation, putting the proper defendants on notice, and ensuring proper scene documentation and preservation of evidence.

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*To discuss any questions you may have regarding the opinion discussed in this Alert, or how it may apply to your particular circumstances, please contact David D. Brisco at [dbrisco@cozen.com](mailto:dbrisco@cozen.com) or 619.685.1704.*