

## Safety Alert

<b>Date of Incident:</b>	August 15, 2019	<b>Alert Topic :</b>	<b>Spontaneous Combustion</b>
<b>Incident Location:</b>	Field	<b>Operation:</b>	Housekeeping/Fire Prevention
<b>Time of Incident:</b>	Overnight	<b>Memo:</b>	<b>20190815</b>

### Brief account of the issue:

Aircrane mechanics were constructing wood boxes for consumables for their pod. They used Tung Oil to coat the boxes and disposed of the rags in the trash. The crew departed at the end of the day. When they returned the next day, they discovered that a fire had started in the garbage can, which had consumed the trash can, and the heat had damaged a plastic fluorescent light cover and air conditioning vent in the ceiling. Luckily there was only minor damage, and no aircraft components were damaged. The Pod is being professionally cleaned due to the smoke that permeated it.

The crew chief elected to use Tung Oil because he believed that it would not be as dangerous as Linseed Oil and combust if left in the trash, which is why he did not caution the mechanics about throwing the rags in the trash can. Tung Oil has a flash point of 110° F, and because the pod is in a warm location, it is believed that the internal temperature of the pod exceeded that when the air conditioner was turned off.

Spontaneous combustion of oily rags occurs when rag or cloth is slowly heated to its ignition point through oxidation. A substance will begin to release heat as it oxidizes. If this heat has no way to escape, like in a pile, the temperature will raise to a level high enough to ignite the oil and ignite the rag or cloth. The fire from this can spread quickly to other combustibles and cause great damage.

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Prevention of spontaneous combustion fires begins with good housekeeping. A clean work area can prevent a fire from spreading and getting bigger by not allowing the fire fuel to burn. Also understanding the potential for self-heating of rags soiled with oils such as linseed oil and turpentine is a key step in eliminating these preventable fires. To properly and safely dispose of oily rags, use the following steps:

- Use a container with a tight fitting lid. A metal can is preferable but a plastic can or zip lock bag can work if nothing else is available.
- Place soiled and used rags inside and then fill the rest the way with water, seal the top and do not open it. This will prevent the oils from oxidizing, and thus keeping the rags from heating up and igniting.
- Each location should have a procedure for disposing of oily rags, either through trash pickup or disposal locally. Oily rags should never be left in maintenance areas overnight