

FIRE MARSHAL TOWN OF NEW CANAAN

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Spontaneous combustion

One cause of fire that is sometimes thought to be rare is, in fact, somewhat common. Spontaneous combustion usually occurs from wood finishing products such as linseed oil, cotton oil and other finishing products. Less common around here is “green” hay (if farmers bale hay before it is properly dried) or wood chips. The common thread here is organic based compounds that decompose/oxidize creating heat as part of that process. Contrary to common belief “oily” rags from working on hydrocarbon based products (automotive greases and oils) will not spontaneously ignite

Understanding spontaneous combustion can help us prevent it from happening. It takes the right circumstances to occur. In the case of rags they have to be “waxed” up tight enough to hold in the heat as the organic product begins to decompose, but, not too tight or not enough oxygen penetrates to allow the chemical reaction to progress. (Remember the fire triangle – heat, fuel & oxygen?)

Knowing the above we can see that if we open and spread out any rags they will not be able to build up the heat to allow the reaction to proceed. Alternatively, if the rags are placed in air-tight, noncombustible containers there will be insufficient oxygen – also restricting the reaction.

One other occurrence is floor finishing contractors when they use stain to before applying they polyurethane finish. These stains usually are organic based and if the materials from this process are not properly disposed of, disaster can strike.

For questions about this topic or, any other fire safety issues, please contact the New Canaan Fire Marshal’s Office at 594-3030.