

# TOOLBOX TALK

October 2017

## Proper Oily Rag Disposal

Many people do not believe that oily rags can ignite all by themselves without the presence of an ignition source, such as a spark or lighted match. However, oily rags stored in a waste can or thrown in a pile on the floor can ignite even without any help from a separate ignition source. This is known as **spontaneous combustion**.

**Spontaneous combustion** occurs when a combustible material, including liquid, is heated to its ignition temperature by a chemical reaction involving the oxygen in the air around the material. This heating process is known as self-heating. In the case of oily rags, it's a simple process of oil oxidizing to generate heat, which will continue to build up until combustion occurs. Generally, this can happen when the materials are left in piles, which provide a source of insulation, trapping the heat that is generated.

The possibility of **spontaneous combustion** increases when the surrounding air is also warm and dry. Also, heat radiating from nearby sources, such as machinery or a non-insulated steam line, can accelerate the process by heating both the materials and the surrounding air.

It is simple to prevent **spontaneous combustion** of oily rags. They should always be stored in a metal safety can with a self-closing lid manufactured specifically to hold oily rags. OSHA requires that this can be emptied every day. This smaller can may be emptied into a larger metal container (55- or 60-gallon barrel) as long as the lid is sealed and is located in an outbuilding, detached garage, or shed outdoors.

The largest high-rise fire in modern U.S. history started as a result of the **spontaneous combustion** of oil-soaked rags left in a pile by contractors working in the building. The fire occurred in Philadelphia on February 23, 1991, on the 22nd floor of the 38-story Meridian Bank Building. The fire started in a vacant 22nd floor office in a pile of linseed oil-soaked rags left by a contractor and resulted in the death of three firefighter and injuries to 24 other firefighters. The 12 alarms brought 51 engine companies, 15 ladder companies, 11 specialized units, and more than 300 firefighters to the scene.

