Safe Storage And Disposal Of Oil Or Solvent-soaked Rags Meeting Kit

WHAT´S AT STAKE

Oil-soaked rags are a spontaneous combustion hazard because as the oil oxidizes, heat is released. If the heat is not dissipated, it can build up and ignite the rags. Solvent-soaked rags are not a spontaneous combustion hazard but may be a fire hazard since many solvents are flammable. In addition, the solvents can evaporate creating a health hazard.

WHAT´S THE DANGER

THE PERILS OF OIL AND SOLVENT – SOAKED RAGS

The mishandling of rags and cloth soaked in oil, solvent, thinners, is dangerous. They can cause fires, as they can easily become flammable materials.

Spontaneous Combustion and Self – Heating Explained

Oily rags left in closed containers can present a serious risk of fire. Many people do not believe that oily rags left undisturbed could 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 a in pile on the floor, can definitely ignite, even without any help from a separate ignition source.

Spontaneous combustion occurs when a combustible material 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 relatively simple process of oil oxidizing generating heat, which if not dissipated, will 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.

Types of Materials prone to Self-Heating of Spontaneous Combustion

A number of materials are moderately or highly prone to self-heating and spontaneous combustion. Those materials can include rags, cotton, or other fibrous combustible material, that have come into contact with oil-based paint; rags that are damp with any one of a number of different types of oils, including vegetable oils; and oily uniforms or work clothes.

Dangerous Oils

While all oil-soaked rags are a fire hazard, there are certain types of oils, like linseed oil, are more likely to self-ignite.

Common combustible oils:

- Linseed oil and other drying oils
- Wood stain
- Alkyd enamel resins
- Motor fuels and lubricants
- Oil-based products such as primer, sealer, paint, white-pigmented shellac, paint thinner, turpentine, mineral spirits, and denatured alcohol

HOW TO PROTECT YOURSELF

PREVENTION AND SAFETY OF OILY AND SOLVENT-SOAKED RAGS WITH WORKERS IN MIND

Safe Storage. Oil and solvent-soaked rags or cloths should be placed in airtight, self-closing metal containers referred widely as Oily Waste Containers. This way the oxidation process is contained in this closed space and prevents any chemical reaction. The containers should be clearly labelled and stored away from elevators or room exits. Material that is cleaned and reused should be kept away from work that involves heat.

Safe waste disposal. If you are disposing of oil and solvent-soaked material, the same storage process outlined above should be followed. Do not overfill the containers and make sure they are clearly labelled. Make sure to empty the container regularly, to prevent overfilling and improper closure of the lid. The exact waste disposal process varies depending on where your business is located.

Good housekeeping. Fire prevention starts with maintaining a clean, organized space where oil and solvent-soaked material is used or stored. Try to keep materials away from other flammable sources such as wielding sparks or discarded smoking materials, and distance them from hot work activities like cutting torch slag.

Good ventilation. The way you work with fire hazards like oil and solvent-soaked material will determine the type of ventilation system you have in place. Some businesses have a single well-placed exhaust fan while others may install a complete system of hoods and ducts.

BEST SAFETY TIPS FOR STORING WET, OILY RAGS:

- Never leave cleaning rags in a pile. At the end of the day, take the rags outside to dry.
- Hang the rags outside or spread them on the ground. Weigh them down so they do not blow away.
- Put dried rags in a metal container. Make sure the cover is tight. Fill the container with a water and detergent solution. This will break down the oils.
- Keep containers of oily rags in a cool place. Keep them out of direct sunlight.
- Vapors from flammable and combustible liquids can also ignite, causing a fire. Many commonly used flammable liquids include gasoline, lacquers, and nail polish while common combustible liquids include paint thinner, oil-based paints and stains.

SAFETY TIPS FOR STORING FLAMMABLE OR COMBUSTIBLE LIQUIDS:

- Flammable and combustible liquids should not be used near an open flame. Do not smoke.
- If you spill liquids on your clothing, remove your clothing and place it outside to dry.
- Keep liquids in their original containers. Keep them tightly capped or sealed. Never store the liquids in glass containers.
- Use gasoline only as motor fuel. Never use it as a cleaner. Never use it to break down grease. Never bring gasoline indoors, even in small amounts.
- Store gasoline **ONLY** in a container that is sold for that purpose. Make sure the container is tightly capped when not in use. **NEVER** store gasoline containers in a basement or in the occupied space of a building. Keep them in an outbuilding, a detached garage, or a shed outdoors.

FINAL WORD

The best way to combat a fire is to prevent the fire from starting. Fires require three elements in order to ignite – fuel, oxygen and heat. If we eliminate one of these elements, we negate the risk of a fire starting. Solvent-soaked clothes and rags can combust due to an exothermic reaction. This reaction although spontaneous, is easily prevented with proper cleaning, storage and disposal of your used cloths and rags.