

SAFETY MEETING TOPIC

This form shall be completed and kept on file

Job Name _____ Location _____ Job No. _____
Meeting Leader _____ Title _____
Date Held _____ Place _____ Time _____
Subject of Meeting PREVENTING WORKPLACE FIRES

Controlled fire is a constructive and valuable tool of industry and society. Fire is used to heat our homes, manufacture our automobiles and build our cities. Uncontrolled fire is a devastating force that takes lives. It destroys millions of dollars in property each year.

To prevent fires from occurring in the workplace we must first understand how fires start. The three elements needed for fire are heat, oxygen and fuel. Ignition sources are sources of heat that can start a fire. Ignition sources can include open flames, over-heated electrical parts, and heated surfaces such as light bulbs. Fuels can be combustible and flammable materials such as paper, gasoline and propane. Fires get oxygen from the air. Sometimes other sources such as compressed oxygen cylinders provide oxygen in high concentrations. This can reduce the temperature needed to ignite flammable materials making them especially dangerous.

CAUSES OF WORKPLACE FIRES

22% of all fires are caused by **ELECTRICAL DEFECTS** in wiring, motors, switches, lamps and heating elements. Inspecting electrical equipment for defects can prevent fires. Inspection and maintenance of electrical systems, equipment and tools should only be performed by qualified workers.

18% of workplace fires are caused by the **FRICTION** in tools and equipment. Hot bearings, damaged parts, and chocking or jamming material generates large amounts of heat. Reduce friction by keeping tools and equipment in good repair and properly lubricated. Always make sure tools and equipment are in proper adjustment.

9% of workplace fires are caused by **HEATED SURFACES**. Heated surfaces such as furnaces, heating devices, and even light bulbs can generate enough heat to ignite flammable materials. Store combustible and flammable materials away from these hot ignition sources. Store flammable liquids in approved flammable store cabinets.

OVER-HEATED MATERIALS account for about 7% of workplace fires. The temperature at which a substance produces enough vapor to burn is called flash point. When materials are heated to their flash point a fire can result. Be careful not to overheat flammable and combustible materials. For example, cleaning solvents are often overheated causing fires.

6% of workplace fires are caused by **OPEN FLAMES**. Open flames are dangerous ignition sources. Use extreme caution when working around oil burners, gas burners, torches and sources of open flames.

FOREIGN SUBSTANCES are credited with 5% of workplace fires. Keep the work area free of materials that do not belong there. Defects or impurities in metals or material can produce

sparks when struck by fast spinning tools. Look for foreign material in stock before you work with it.

SPONTANEOUS HEATING accounts for about 4% of workplace fires. Some materials can generate enough heat by chemical activity in themselves to ignite. Basic rubbish, oily waste and combustible scrap can spontaneously ignite. Clean up and dispose of this material daily. Place discarded material in suitable containers and keep them out of the work area. Watch for deposits in ducts and flues.

Heat and sparks created by CUTTING AND WELDING operations account for 4% of workplace fires. Cutting and welding operations are dangerous sources of ignition that should be performed with extreme care.

Oxygen, acetylene, propane and other hazardous gases must be properly handled, transported and stored. Gas apparatus such as piping, regulators, and torches must be inspected regularly for defects. Hazardous gases and gas apparatus should only be used by trained workers.

COMBUSTIBLE SPARKS from sources such as burning rubbish, fire boxes, foundry cupolas and furnaces ignite 4% of workplace fires. Monitor these types of operations closely.

MISCELLANEOUS causes account for 10% of workplace fires and include such sources as:

- Fires spreading from nearby or connected buildings.
- Static electricity igniting flammable liquids dispensed from underground containers.
- Lightening, and
- Chemical reactions