



Combustible Materials Toolbox Talk

Combustible materials are always present on many worksites. Reviewing the solids, liquids, and gases that could be hazardous to your site's safety can help prevent unfortunate accidents from happening. It is important to review what material might ignite (solids, liquids, gasses) as well as potential ignition sources, then establish safe handling procedures so they don't become dangerous fires.

What are combustible materials?

Combustible materials are solids or liquids that can easily ignite and burn. If a combustible material is exposed to fire or heat, it is likely to ignite, burn or release flammable vapors.

Common Combustible materials on construction worksites include:

Solid Elements

- Wood
- Saw dust

Liquid Elements

- Fuels such as gasoline or propane
- Solvents or thinners
- Paints and varnishes
- Cleaners, waxes, or polishes
- Adhesives

It is important to remember that these materials are present on almost all worksites and workers must be aware of the risks associated with using combustible materials.

Dangers of Combustible Materials

Combustible liquids themselves do not burn. It is the vapors that can ignite when mixed with the air. Each combustible liquid has a different flashpoint. A flashpoint is the temperature that must be reached for the liquid to release enough vapor in the air for ignition. For example, the substance Phenol has a flashpoint of 79° Celsius. At this temperature the substance vapors could begin burning if they come into contact with an ignition source such as a flame or spark.

Vapors also have hidden properties that make them exceptionally dangerous. Most vapors are invisible making it difficult for workers to identify their presence. Vapors are heavier than air so they stay near the ground and can gather in low places such as pits, trenches and basements. This makes ventilation essential when dealing with combustible liquids.



Finally combustible liquids can leave vapor trails, that when ignited can travel back to the source of the liquid. For example, if a combustible liquid is spilled on a worker's sleeve, a flame could travel along the vapor trail and burn the worker even if he or she is at a distance from the source of ignition. Combustible materials also have other potential dangers besides their ability to burn. Some liquids can cause health problems depending on the specific material and route of exposure. Some liquids are corrosive and can cause chemical burns. Many liquids can undergo chemical reactions if they contact incompatible chemicals such as oxidizing materials or if they are stored improperly.

Safety tips for handling Combustible Materials

Know the materials you are working with. Each combustible material has different properties such as flashpoint and effects of exposure. The Safety Data Sheets (SDS) supplier labels should tell you about the hazards for the combustible liquids you work with.

Know your environment. Remember there are many hidden ignition sources including friction and static electricity; always assume there are ignition sources around you. Knowing your environment will help you stay out of potentially hazardous situations.

Handle with care. The best method of safety is always prevention. Most combustible liquids will never have a chance to produce harmful vapors if handled properly. Follow the safe work procedures outlined in the Safety Data Sheet (SDS) and always ensure you wear the appropriate personal protective equipment.

Key takeaways:

- Be sure to understand what types of combustible materials are present in your work areas
- Understand the dangers associated with combustible materials
- Follow safe work practices listed in the SDS and on the product label