CHESS, Inc.
7060 Valley Creek Plaza #115-108
Woodbury, MN 55125
Ph: 651-481-9787
Complete Health Environmental and Safety Services
www.chess-safety.com

Hidden Fire Dangers – Flammables and Combustibles

There are some fire dangers in your shop that are obvious. The flame from an oxyacetylene torch, for instance (how many of you have started rags on fire?). Gasoline. The 55-gallon drum of thinner. People smoking in the shop.

But there are a number of fire hazards you probably aren't aware of. Windshield washer fluid, for instance. Did you realize that it can ignite? The main ingredient is usually methanol. The lower the temperature rating on the washer fluid, the higher percentage of methanol, and the greater the fire hazard.

If you do collision repair, you know lacquer thinner is flammable. And everyone knows water is not. Does that mean waterborne paints won't catch fire? Wrong. They're combustible. They'll burn.

OSHA and the Minnesota Fire Code have standards that require the use of a spray booth if you're applying flammable and combustible liquids. The standards don't say that you need to use a spray booth only when you are applying base and clear paint coats. They require the booth any time you are repeatedly spraying paint, primer, poly prime, or any other flammable or combustible coating. If you're spraying poly primer – a spray booth is required. If you're spraying water-based automotive paints, a spray booth is required.

How do I know that waterborne paints are combustible? Or that windshield washer fluid will ignite? Look at the material safety data sheet, for the flash point of the product. If a flash point below 100°F is listed, the material is flammable. If the flash point is 100°F or more, the product is combustible. If the MSDS says "none" or N/A, the material won't burn, and (within some reason) we don't care where you apply it.

Does that seem unreasonable? What if you're a mechanical shop, with a can of spray paint on hand to touch up a tiny little mark? Those aerosol cans usually are pressurized with propane and isobutane, which are highly flammable. But the amounts of those that you're likely to spray are so low that no booth is required.

Paint isn't the only flammable aerosol. Propane and isobutane are the most common propellant in aerosol cans. They're used in spray adhesives, in bumper stripper, lubricants (WD-40), brake cleaners, and nearly any other aerosol product. Check the label. If it has a warning about fire, the propellant is probably propane/isobutane. Take extra care to keep those spray cans away from sources of ignition. And make sure they aren't heated up, as they'll blow up.

If you've eliminated spray cans of brake cleaner, you haven't necessarily eliminated the fire hazard. Many brake cleaners contain hexane. That's very flammable. If you're getting that in drums, have you grounded the drum to control static electricity? You need to do so.

Partswashing solvent is usually not flammable – it's combustible. That eliminates a need to ground the partswasher. But it doesn't eliminate all fire hazards. If you're using a mineral spirits type of partwasher, your equipment should have a lid with a fusible link. The lid is usually kept open, and that's allowed. But it has to be able to close automatically if the solvent catches on fire. If you leave gloves and brushes on the side of the partswasher, or leave large parts draining in there, you've defeated that safety mechanism.

One final fire hazard, and this one's obvious but too often overlooked: gasoline. You know it's flammable. Did you know it is much more flammable than lacquer thinner? Its flash point is well below that of thinner, or of ethanol. Its fire danger is close to that of ethyl ether, the main ingredient in starting fluid. But we use it every day, so tend to forget its fire danger. To protect yourself, store it in approved safety cans, and store those with your other flammable liquids. And use gasoline only as a fuel – never as a parts washer, never as a fire starter.

This article is intended to provide general information (not advice) about current safety topics. To discuss your specific concerns and how CHESS may help, please contact CHESS at 651-481-9787 or chess@chess-safety.com.