



**CRUM & FORSTER®**

A FAIRFAX COMPANY

**RISK ENGINEERING**



## **FIRE SAFETY IN INDUSTRIAL SETTINGS:** Identifying Sources of Fuel and Ignition

Industrial settings can have the highest concentration fuel and ignition sources and contribute to a high number of non-residential fires each year, which hover around 100,000 in the U.S. Fire education and prevention improves each year, something that has helped to drive down the incidence of non-residential fires. Simply taking the time to examine fuel and ignition sources and taking steps to reduce each can make your operation safer.

## Fire Safety in Industrial Settings: Identifying Sources of Fuel and Ignition

### C&F RISK ENGINEERS UNDERSTAND YOUR BUSINESS

Since 1822, Crum & Forster has successfully anticipated what's next. Our insurance policy is our promise to help you - the policyholder - in the event of a loss. It gives you a future benefit that you can count on. But C&F offers something more. Our Risk Engineers can help your operation right now.

Before you ever encounter a claim, our Risk Engineers can meet you and identify actual and potential loss sources. We'll conduct a thorough study of your company that includes exposures, hazards and accident trends. Together we'll review your current loss prevention efforts, physical location, loss information and other business records to pinpoint fundamental loss causes. Then we'll create an action plan with practical recommendations to strengthen existing safety programs. We can maintain an ongoing review of it to evaluate progress and effectiveness. We can even conduct a legal exposure review of your company's agreements. Everything we do is aimed at putting into place an effective loss control strategy that works consistently over time to lower your operation's risk of loss.

Our highly specialized Risk Engineers are strategically located throughout the country and have the experience, training and professionalism to provide risk management solutions to meet your business needs and contribute to your success. They have on average more than 20 years industry experience, many with roles dedicated to safety and training. And we invest not only in our insureds, but in the industry. We are members of and participate in many state associations and regularly present at industry conventions and events. These connections and experience are invaluable, and are key in assisting you in developing and deploying a modern, up-to-date safety and training program.

Our solutions are both innovative and established. Whether it's Accident Event Recorders (AERs) to help identify vehicle accident causes and tailor safety training, digital tracking systems, or online video training to assure OSHA compliance, we bring you the latest technology. Matched with the experience of our Risk Engineers, your operation benefits from the engineering awareness built over a lifetime and cutting edge safety science.

### *Identify sources of fuel*

Anything that burns is fuel for a fire. When identifying sources of fuel, look for the things that can burn easily and exist in sufficient quantity to provide fuel for a fire or cause fire to spread to another fuel source. Some of the most common 'fuels' found in industrial settings are:

- Flammable liquid-based products. Think of paints, varnishes, thinners and adhesives.
- Flammable liquids and solvents, like gasoline, mineral spirits and kerosene, cooking oils and lighter fluid.
- Other flammable chemicals, like liquid cleaning products and dry cleaning products that incorporate hydrocarbon solvents.
- Flammable gases. Industrial settings often feature liquefied petroleum gas (LPG), flammable refrigerants and flammable gas propelled aerosols.
- Combustible stored goods.
- Plastics and rubber. Plastics and rubber are petroleum-based and burn just as petroleum would.
- Paper products, such as stationery, advertising material and decorations.
- Combustible sound insulation, such as panels constructed with combustible cores.
- Textiles.
- Waste products, especially finely divided items such as shredded paper, wood shavings, sawdust and even plastic shavings.

### *Identify sources of ignition*

You can identify the potential ignition sources on your premises by looking for possible sources of heat which could get hot enough to ignite material found in your premises. These sources could include:

- Smokers' paraphernalia, like cigarettes, matches and lighters.
- Open flames, such as pilot lights or any other gas or liquid-fueled open-flame equipment like a welder's torch.
- Sparks from burning products.
- Sparks from grinders.
- Vehicle exhausts and catalytic converters. Are there any fine waste products near your factory loading dock?
- Fixed or portable electrical, gas or oil-fired heaters.
- Hot processes / hot work such as shrink wrapping.
- Cooking equipment, hot ducting, flues and filters.
- Extract fans for dust and fume removal systems. Can a hot flue ignite dust?
- Unusual heat sources such thermal fluid lines and microwaves.
- Steam lines.
- Mechanical equipment that generates frictional heat.
- Static charge let off from mechanical equipment and conveyor belts. Is equipment properly grounded or bonded?
- Poorly maintained electrical installations. Look for frayed or compressed wiring and ungrounded outlets and plugs.
- Hot light fixtures and equipment, e.g. halogen lamps, display lighting or overhead lights that are too close to stored products.
- Objects that can spontaneously ignite. Are there any rags soaked in combustible liquid anywhere on your factory floor?
- Look for indications of "near-misses," such as scorch marks on furniture or fittings, and discolored or charred electrical plugs and sockets.

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