Fire Prevention Program

STUDENT'S TRAINING GUIDE

Prepared by:
Assured Compliance Solutions, Inc.
P.O. Box 24815
Tempe, AZ 85282
(480) 829-9051

TABLE OF CONTENTS

Section I Introduction

A. Introduction

1. **Importance of Fire Prevention Training.** Fire prevention training is obviously important because it will save lives. Each year hundreds of people die in fires. Many of these fatal fires take place in the workplace. This training is designed with the purpose of first and foremost to prevent fires. And secondly, should a fire break out, you as an employee will be trained to know exactly what to do! One of the first things you need to be aware of is some of the most common type of fires and their relative frequency. They are as follows:

   a. **Electrical Causes (30 percent).** These would include faulty wiring, motors, switches, lamps, and heating elements.

   b. **Smoking and Matches (21 percent).** This includes situations where people smoking are doing so too close to flammable or combustible liquids and perhaps falling asleep while smoking. Also, children often play with matches, and fires often result.

   c. **Friction (15 percent).** This can be caused by hot bearings, misaligned or broken machine parts, choking or jamming materials, and poor adjustment of moving parts.

   d. **Hot surfaces (10 percent).** This includes exposure of combustibles to furnaces, hot ducts, or flues, electric lamps or heating elements, and hot metal.

   e. **Overheated Materials (8 percent).** Includes abnormal process temperatures, materials in dryers and overheating of flammable liquids.

   f. **Open Flames (7 percent).** Especially around gasoline or other types of torches and/or gas/oil burners.

   g. **Combustible Metals (5 percent).** For example, magnesium dust can ignite then ignite other materials. Magnesium once ignited is extremely difficult to extinguish.

   h. **Spontaneous Combustion (4 percent).** Deposits in ducts and flues, low-grade storage, scrap waste, oily waste, rags and rubbish can spontaneously combust.

2. **Company Fire Safety Policy.**

STATEMENT OF COMPANY FIRE SAFETY POLICY

Fire and Health Safety in our business must be a part of every operation. Without question it is everyone's responsibility at all levels.

Our Fire and Safety program will include all necessary mechanical and physical safeguards as well as inspections to find and eliminate unsafe fire conditions or practices. Our program will emphasize training for all employees in good fire safety practices, use of personal protective equipment and use of fire extinguishers. **However, it will be the policy to evacuate the building in the case of a fire.**

To be successful, our fire and safety program needs the cooperation and involvement of every one. **Fire Safety is your responsibility**.

3. **Program Summary.**

   a. **Section I Program introduction.** The importance of Fire Prevention Awareness and Training.

   b. **Section II Fire Prevention.** Discusses the best way of avoiding fire injury and that is to prevent them to begin with. These are some practical steps you can use to help prevent fires. However, these steps are not all inclusive. Both Supervisor and Employee must review all steps and add or subtract as necessary. Your facility may have unique requirements or hazards, which must be addressed.

   c. **Section III Evacuation Procedures.** Lists the procedures that are to be followed during an emergency in order to safely exit your facility. These procedures should not just be talked about. They need to be rehearsed. Fire Drills should occur frequently and without warning. **Since effective Fire Drills can mean the difference between life and death, take them seriously!**

4. **Class Sequence.**

   a. **Student training book review.**

   b. **Post training written test.** A 20-question test will be administered. You can use this student guide and any other notes that you have taken. Following the test you will trade papers and I will review the answers.

   c. **Sign Certificates.** Following the test, you will fill out certifications and return along with the test.

   d. **Final Questions.** This is your last opportunity in class for you to ask questions, especially for those questions on the test you may have answered incorrectly. (You can of course ask questions later outside of class!)

Section II Fire Prevention

A. Electrical Safety

1. Grounding/Bonding. Static electricity is always generated whenever two substances make and break contact. A serious hazard can occur especially where low flash point solvents are used. Bonding and grounding provide a pathway whereby the static charge can travel to the earth. Bonding provides a means for two charged bodies to be at the same electrical potential. This is accomplished by placing an electrical conductor between two containers, one of which is grounded. Grounding equalizes any charge differential between the container and the ground. Bonding and grounding are required where flammable and combustible liquids are stored and dispensed.

a. The terms *grounding* and *bonding* refer to the attempt to ensure that two containers, both the dispensing container and the receiving container, (and the ground) are electrically interconnected so as to prevent a spark from being generated. This spark coming into contact with flammable vapors could produce an explosive effect.

b. The regulations require that all class 1 liquids be grounded. Class 1 liquids are chemicals with flashpoints < 100 deg. F. (Flashpoint is defined basically as the minimum temperature at which a given chemical will emit vapors capable of ignition.). To know this, the MSDS sheet should be consulted to see what the flashpoint is. Once it is determined that a particular chemical requires grounding, then steps should be taken to do so.

c. Although OSHA regulations require that only class 1 flammables be grounded, we strongly recommend that any chemical with a flashpoint of less than 200 deg. F. be grounded. The reason is that chemicals with flashpoints below 200 deg. F., can still possibly be ignited by a spark generated from static electricity. Also, as a matter of practicality, it is much easier to require grounding of all labeled "flammables" and "combustibles" rather than always attempting to ascertain the flashpoint. (Many fire departments agree)

d. The regulations do not specify a minimum size that this requirement applies to. That is, there is no specific requirement stating for example "All 5 gallon metal containers or larger" should be grounded. In fact, after conferring with 3 OSHA consultants, it was clear that <u>any</u> size metal container would have to be grounded, if it contained Class 1 liquids.

e. The means by which grounding can be accomplished are varied. First of all, every building should have a grounding source. That is, somewhere in the building there is a metal rod going through the floor and into the ground. If a building does not have this ground, then one should be obtained. Sometimes water pipes can be effectively used as grounds. However, under <u>no</u> circumstances should electrical conduits be used!

f. Once the location of the ground has been established, then a wire must be connected to that ground and routed to wherever the flammable or combustible liquids are stored. If these liquids are in drums, then the ground wires should be directly attached to the drums by way of a clamp. Furthermore, if these liquids were in some sort of metal cabinet, then the cabinet itself would be grounded. (Most metal cabinets designed to hold chemicals have a bolt, whereby a ground wire can be attached). Within the cabinet a wire must be attached to both the cabinet and container, again by way of an "alligator" type clip.

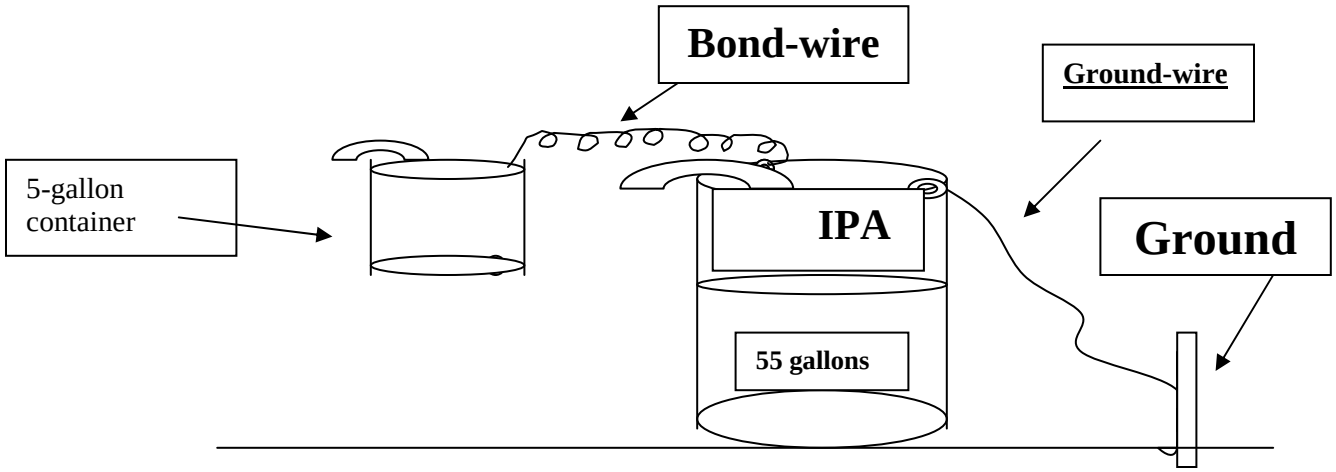
g. Even non-metallic containers must be grounded according to the regulation. Obviously, metallic containers are more likely to generate static electricity. This is why we strongly recommend that at a minimum, all 5-gallon metal cans or larger <u>must</u> be grounded!

h. Grounding is only part of what is required. *Bonding* must also be accomplished. This is done by simply attaching a wire from the dispensing containers to the containers being dispensed into. Whereas 5-gallon metal dispensing containers should be grounded, all metal containers being dispensed into should be bonded.

i. The ground wire you use can be either braided or solid. Braided wire is actually several wires intertwined (braided) together. Braided wire is preferred if you are going to remove the ground wire itself often. This is because braided wire is more flexible

Solid wire is simply wire that, while it may provide a better pathway is not very flexible and repeated use will cause breakage. Use solid wire for wiring that will be for the most part stationary. The gauge of the wire is not as important as it's strength and durability. Also, whether the wire is coated (insulated) or not depends on your situation. Braided wire is better if coated in order to preserve the integrity of the wire. Whereas solid wire is fine uncoated.

Grounding and bonding



2. Extension Cords

Many people are somewhat confused as to the proper use of extension cords. The following should hopefully clear up some of the confusion.

a. First of all, **extension cords cannot be used in lieu of fixed or permanent wiring.** Obviously, if you have an extension cord attached to a wall, running through walls, or going up and through ceilings, this of course would be a violation. (CFR 1910.305 (g) (H) (iii)).
Therefore, the question is what about the use of extension cords for items such as fans. The answer is you can definitely use extension cords in these circumstances provided you meet the following criteria:

1. If they are temporary (30 days or less, or the equipment is moved during each shift).
2. That you use heavy duty round extension cords and not the "flat" type.
3. Also the extension cord must have a ground plug on it.

4. The extension cord has no cuts, frays or missing parts and that everything is in good working condition.

5. The extension cord must be free of splices. The regulation states that "...flexible cords shall be used only in continuous lengths without splice or tap..."

* The only exception to this is according to the regulation "...Hard service cords NO. 12 or larger may be repaired if spliced so that the splice retains the insulation, outer sheath properties, and usage characteristics of the cord being spliced..."

6. Extension Drop cords must be UL approved and equipped with a ground connector.

7. The extension cord itself presents no trip, or any other type of hazard (i.e. electrical, etc.).

b. If you have a situation where the existing cord on a piece of equipment simply isn't long enough and you need some type of extension, then you might consider the following. Replace the entire length of the cord with a new longer cord.

You can do this provided you ensure that the new cord meets manufacturer's specifications, has a ground plug, and that the work is done by a qualified individual.

c. As many of you know, using extension cords are many times an unavoidable necessity. As mentioned above, there are some fairly strict regulations regarding their use. However, even if you use them properly, recent studies have shown that many extension cords, power strips etc. are faulty or poorly made resulting in many fires and injuries.

The U.S. Consumer Product Safety Commission (CPSC) conducted a study in which they found that electrical cords and plugs caused or helped cause over 7,100 fires in 1996 resulting in 120 deaths. This is nearly 1/3 of all deaths in residential fires! This being the case, it is important that not only does your company need to use extension cords and power strips safely, but also you need to use the proper ones.

d. It may be a good idea to research the best cords and power strips to use. Consumer Reports magazine and other consumer related publications will help you. (Or ask your favorite/trusted sales attendant at Home Depot or Radio Shack and/or your electrician). Remember, you may have a very expensive piece of equipment powered through a $5 dollar power strip. Would it not be worth a little more money for a higher quality power strip, if it meant protecting your valuable equipment?

e. So prevalent is this problem that the CPSC has recalled nearly 25 various types of cords, power strips, surge protectors involving over 2 million actual types of these devices. Many of these cords are cheap devices purchased in discount stores, many of which are produced in China. Some even have bogus 'UL Listed' labels. Remember, if you eliminate to the degree possible all of your electrical hazards, you will go a long way in preventing the number one cause of fires, that being electrical fires.

3. Other Electrical Hazards

A. **Prevent machinery from overheating by keeping them clean and in good working order.** Many times overheated machinery can cause fires. Be sure to be aware of unusual electrical type smells. These could be indications of overheating machinery. Also do not plug machinery or equipment (especially larger items) into multiple outlet plugs, even if it is a "power strip".

B. **Do not use shop rags to change 'Hot Light' bulbs.** The solvent on the rag could ignite when in contact with the hot bulb.

C. **Welding.**

1) Though Section IIA deals with electrical hazards, we will go over fire prevention safety for gas welding as well as arc welding. Obviously before any welding is done, the area in which it is to be done needs to be clear of any hazards. In fact according to CFR 1910.252 (a)(1)(vii) "Where practicable all combustibles (i.e. flammable/combustible liquids, solid combustibles-paper etc.) shall be relocated at least 35 feet (10.7 m) from the worksite". When it is not possible to relocate the combustibles, they must be protected by "flameproofed covers or otherwise shielded with metal or asbestos guards or curtains".

2) Other requirements involved in fire prevention are to ensure that fire extinguishers are available and employees trained in their use. Also, besides fire extinguishers, you may need to have available "pails of water, buckets of sand, hose or portable extinguishers" and these would be determined by "the nature and quantity of the combustible material exposed" (1910.252 (a)(2)(ii).

A fire watch may be necessary should welding take place in areas "where other than a minor fire might develop". A fire watch might also be necessary should the following conditions be met:
(1) Appreciable combustible material, in building construction or contents, closer than 35 feet (10.7m) to the point of operation.

(2) Appreciable combustibles are more than 35 feet (10.7m) away but are easily ignited by sparks.

(3) Wall or floor openings within a 35-foot (10.7m) radius expose combustible material in adjacent areas including concealed spaces in walls or floors.

(4) Combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or roofs and are likely to be ignited by conduction or radiation.

3) Firewatchers shall have fire-extinguishing equipment readily available and be trained in its use. They shall be familiar with facilities for sounding an alarm in the event of a fire. They shall watch for fires in all exposed areas, try to extinguish them only when obviously within the capacity of the equipment available, or otherwise sound the alarm. A fire watch shall be maintained for at least a half an hour after completion of welding or cutting operations to detect and extinguish possible smoldering fires.

D. Exposed wiring. Always look for worn or frayed wiring. If you see any, do not use the equipment or cords and report these faulty items to your supervisor.

B. Chemical Safety

1. Vapor Hazards. As mentioned in Section IIA, flammable and combustible liquid vapors are easily ignitable by such ignition sources as static electricity. But these vapors can be ignited by a variety of ignition sources, not just static electricity.

a. One of the first things you need to know is exactly what is the flashpoint of a liquid? Basically the flashpoint is the temperature at which a given chemical will give off or emit enough vapor, that if a spark were to come into contact with it, it would ignite.

b. Once we know the flashpoint of a chemical, we can determine if it is a flammable or combustible or neither. First of all, a flammable is a liquid that has a flashpoint of less than 100 degrees F. (for example film cleaner and some press washes). A combustible on the other hand is a chemical that has a flashpoint greater than 100 degrees F. but less than 200 degrees F. (for example most press washes).

c. Chemicals with flashpoints less than 140 degrees F. (film cleaner and most press room solvents) are especially hazardous and would always need to be grounded. For chemicals that do not have flashpoint

below 200 degrees F., it is nearly impossible for the fumes or vapors to be ignited. These chemicals in order to burn would need to be pre-heated.

d. Keep in mind that nearly everything has a flashpoint, that is a point where it will burst into flames. For example the flashpoint of paper is 451 degrees F. Below this temperature a simple spark would not ignite paper, but it would ignite a flammable or combustible liquid because of the low flashpoint of the liquid.

e. All chemicals that are flammables or combustibles should be labeled as such. If you see a label that has an HMIS 1-4 rating on it, remember the higher the rating the greater the fire hazard. The following is the HMIS warning for Flammability.

	FLAMMABILITY *(Red)*
4	**FLASH POINT BELOW 73 F: This substance is very flammable, volatile, or explosive depending on it's state. Extreme caution should be used in handling or storing of these materials.**
3	**FLASH POINT BELOW 100 F: Flammable, volatile, or explosive under almost all normal temperature conditions. Exercise great caution in storage or handling of these materials.**
2	**FLASH POINT BELOW 200 F: Moderately heated conditions may ignite this substance. Caution procedures should be employed in handling.**
1	**FLASH POINT ABOVE 200 F: This substance must be preheated to ignite. Most combustible solids would be in this category.**
0	**WILL NOT BURN: Substance will not burn.**

f. Also, knowing the Vapor Density is important in handling Flammable and Combustible liquids. The Vapor Density (indicated on the Physical/Chemical Characteristics section of an MSDS) of a chemical indicates whether or not the vapors are heavier or lighter than air.

g. Some MSDS indicate simply Vapor Density = Heavier than air (or lighter than air as the case may be). However some may indicate a number such as 2. Keep in mind that the Vapor Density Scale is simply 1.0 = Air. Therefore if the number is greater than 1.0, then the vapors are heavier than air. Likewise, if the number is less than 1.0, then the vapors are lighter than air.

h. This is important because if you had a flammable liquid with a Vapor Density heavier than air (such as presswash), then the vapors (once they have been emitted from a container) will fall to the ground (because they are heavier than air), and they will move out and eventually may come into contact with an ignition source (such as a pilot light in a hot water heater).

2. Spill Containment. This area is especially important for flammables, because of the vapor hazard. For example, if a large drum were to leak flammable solvents, the vapors of those solvents can travel relatively long distances to "seek out ignition sources". Therefore, because of these spill or leak hazards, it is important to spill contain flammable/combustible liquids effectively. When considering how much to spill

contain, the regulations stipulate “100% of the largest container or 10% of the total, whichever is greater”. When in doubt ask your supervisor!

3. **Dispensing flammable/combustible liquids.** Besides grounding flammable/combustible liquids, you should pour or mix flammable/combustible liquids (as well as other hazardous liquids in general) in areas with proper ventilation. You do not, for example, want to pour/mix hazardous chemicals in cleaning closets or other closed-in areas. Remember, if the vapors of the chemical you work with exceed the OSHA Permissible Exposure Limit (or PEL), then your body may react to this overexposure in a very adverse way.

4. **Incompatible materials.** Be sure to consult the MSDS for any chemical product you use before mixing them with other chemicals. This is because you may inadvertently mix chemicals that may be incompatible with each other and may produce toxic fumes or other such hazards.

5. **Oxidizers.** One such example of ***incompatible materials*** is storing or mixing flammables with *oxidizers*! Oxidizers are types of chemicals that when they go through a reaction or burn they may produce oxygen. Excessive oxygen creates more of a flammable hazard because obviously oxygen is needed to have a fire. **NOTE**: There are three things that must be present in order for a fire to start. These are Fuel, Heat (or Ignition source) and thirdly Oxygen. If you do not have all three, then you do not have fire.

6. **Burning chemicals.** When chemicals burn they may produce a very toxic fume or smoke. For this reason, it is your company’s policy that in a larger-size chemical fire, you should immediately evacuate the area, even though you may have an extinguisher designed to combat chemical fires such as an ABC-type extinguisher (which we will discuss later in this guide).

7. **Disposal of Flammable/Combustible Liquids.** Obviously you want to dispose of flammable/combustible liquids properly. You should not dispose of these kinds of chemicals in trashcans or pour them down drains. Doing this could lead to explosions and fires. Also, doing this is a felony and may get you and your company in serious trouble.

8. **Container labeling and usage.** Always be sure that all containers you use are properly labeled with *manufacturer’s name*, *product name* and *an appropriate hazard warning*. Also, avoid using old containers. These containers may have old labels on them. Even more importantly, you may pour a chemical into a container that once held an incompatible material. For example, you do not want to pour ammonia into old bleach bottles, because you may produce chlorine gas, which is fatal in large quantities.

C. Housekeeping

1. **Work areas.** Be sure to keep your work areas as clean as possible i.e. clean up any spills/leaks immediately and do not allow trash or debris to build up.

2. **Scrap paper.** Used or shredded paper is an extreme fire hazard. Be sure to keep all possible ignition sources (especially cigarettes) at least 25 feet away. Shredded paper can erupt into a very intense large fire since paper is a perfect combustible solid, and since the paper is surrounded by oxygen (i.e. not tightly stacked or rolled together) it can become nearly explosive. Also, paper dust is a known explosive hazard.

3. **Rag containers.** Rag containers should always be kept shut. This is primarily for two reasons:

   a. One is it violates Air Quality Standards, because rags soaked with solvent will emit Volatile Organic Compounds or VOC's, which are highly regulated by the local Air Quality Management District.

   b. Secondly, rag containers with lids open may allow ignition sources such as sparks to come into contact with solvent soaked rags.

   c. Also, rag containers should always have lids, and obviously self-closing lids are best. Self-closing metal containers are designed to prevent fires.

   d. The bottom of the cans is vented to hopefully dissipate any heat build up. Heat build up could occur due to spontaneous combustion such as is common with rags soaked with linseed oil.

   e. The self-closing lids also help to ensure that the fire, should one break out will be "self-smothered". Rag containers are (according to regulations) to be emptied daily. Empty into larger containers that your "rag supplier" empties for pick up.

NOTE: ***The following is more detailed information concerning the disposal of rags!***

The proper disposal of rags is an issue that is often brought up. For that reason, the following is an attempt to briefly review some of the requirements. The OSHA regulation addressing this question is CFR 1910.106 (e) (iii). This regulation simply states that:

> (iii) Wastes and Residues. Combustible waste material and residues in a building or unit operating area shall be kept to a minimum, stored in covered metal receptacles and disposed of daily.

OSHA normally interprets the above regulation the following way. That is, rag cans near the equipment should be constructed of metal and have a lid. (The self-closing lid is the best practical solution in order to insure that

the lid is always closed except when depositing rags.) The lid closing is to prevent sparks or other ignition sources from contacting the solvent-soaked rags, as well as insuring if a fire starts that it will self-smother. This is especially important if the materials stored are known to spontaneously combust.

Also, these containers should be emptied daily into another metal container with a lid (preferably a 55 gallon one) and placed in a designated area. This designated area should be a place that would limit any fire hazards and be marked accordingly. (These markings could be a sign over the top of the container or area outlined with tape on the floor.) The 55-gallon metal container itself must be marked as a waste container with a flammable warning affixed. It would also be a good idea to put a sign on top of the can stating that the lid should be replaced each time rags are deposited in it.
Some companies use plastic rag containers. This is fine if the container is designed to be self-smothering, and the plastic will not deteriorate due to exposure to chemical in the rags.

Also, some companies have containers that are designed to close if the rags catch on fire. These containers have a wire that will melt and cause the lid to fall. This does meet fire regulations, however the bad news is that these containers do not meet Air Quality Standard Regulations.

As mentioned above, solvent-soaked rags will emit Volatile Organic Compounds (VOC's). And doing this will violate all air quality rules. It does not matter if your facility is exempt from permitting, you still must not allow VOC's to be emitted by exposing solvent-soaked rags directly to air.

Another issue that arises is whether printers should use disposable wipes instead of rags. Switching to wipes may solve some problems, they however create others. That is, once a disposable rag is soaked with a hazardous material it now becomes a ***hazardous waste***. This being the case you must then do a waste determination to see whether or not these wipes can simply go into the trash. Chances are they will not if they have any EPA *listed material* on them or any EPA defined *Characteristic Hazardous Properties* such as flammability, corrosivity etc.

If they are indeed hazardous, they then must be handled as any other hazardous waste i.e. manifesting etc. Cloth rags that are normally leased to printers (then picked up to be laundered), do not require manifesting. This is one of the advantages that this loophole offers.

Some large companies that use large amounts of rags have invested in solvent-recovery systems in order to save money. The rags are spun in a machine that removes the solvent to be recycled. This option may be cost-effective for your company, if you use a large amount of rags.

Another problem is pressmen like to prop open cans so that they can throw the rags in them without having to get down off the press each time to open the container. Again this is a violation. Pressmen would be better off to use several rags first, and then place them in the rag containers (which should be emptied daily). Do not allow too many rags to pile up outside of the rag containers!

4. **Cigarette materials.** Cigarette butts should always be carefully disposed of. You should always place cigarette butts in proper receptacles. Also, as mentioned previously, smoking should not be done with in 25 feet of flammable/combustible liquids and materials.

D. Smoking

1. **Smoking.** As smoking is one of the major causes of fires, care should be taken to minimize this risk. Smoking should always be done in 'designated areas' only. List exactly where employees are allowed to smoke on company property.

   _____

   (i.e. inside designated areas, outside designated areas etc.)

E. Inspections. One great way to prevent fires is to routinely inspect your facility and particularly your work areas. Areas you should inspect include (but are not limited to) the following:

1. **Housekeeping.** As mentioned, be sure your area is clean and report other unclean hazard areas to your supervisor.

2. **Exits.** Be sure exits and aisles leading to them in your areas are not blocked. OSHA regulations state that pedestrian aisles are to be clear to at least 24 inches wide. Also, the area immediately in front of an exit must have a 36-inch clearance.

3. **Electrical Panels.** Be sure all electrical panels and equipment switches have at least 36 inches clearance. This is especially important in fire prevention because you might have a piece of equipment shorting out, which could cause a fire. Therefore, you should have easy access to de-energize the malfunctioning equipment.

4. **Emergency Lights.** Be sure these lights work in case of power failure. You can test these lights by depressing the test button that most new emergency light devices have. If bulbs are burned out, report it to your supervisor.

5. **Fire extinguishers.** Be sure fire extinguishers in your work areas (and elsewhere) are not blocked and are accessible. Also do not use a fire extinguisher if you have not been trained to do so (to be discussed latter in this guide). To help you ensure the functionality and accessibility of the extinguisher nearest you, it should be checked no less than monthly (per OSHA regulation). This monthly inspection includes ensuring accessibility, sign over top, checking gauge to see if charged, and that the extinguisher is mounted.

Section III Evacuation Procedures

A. Evacuation Preparation.

1. **Drills.** Drills may be conducted by your company on a periodic basis. Drills will help you to be prepared (be sure that you are familiar with your company's evacuation procedures and that you know the nearest exit and assembly areas). In fact, our assembly area is located _____ . You should participate in these drills as if they were the **real** thing, because in a real evacuation it **is** the law that you must evacuate to your assigned assembly area and stay there until given the **"all clear"** by your supervisor (who will be released by the fire authority). If you are a supervisor, it is especially important that you inform those employees you supervise of the company's evacuation procedures (as well you must ensure their safe evacuation in a real emergency).

2. **Fire Coordinators.** The following individuals are the fire coordinators for your company. Be sure to inform them as soon as possible in the event of an evident or suspected fire emergency (or any emergency for that matter).

First Shift

Primary Supervisor	**Home Number**	**Cell Number**	**Beeper Number**
_____	(___) _____	(___) _____	(___) _____
Secondary Supervisor	**Home Number**	**Cell Number**	**Beeper Number**
_____	(___) _____	(___) _____	(___) _____

Second Shift

Primary Supervisor	**Home Number**	**Cell Number**	**Beeper Number**
_____	(___) _____	(___) _____	(___) _____
Secondary Supervisor	**Home Number**	**Cell Number**	**Beeper Number**
_____	(___) _____	(___) _____	(___) _____

3. **Local Emergency Contacts.** In the event the fire coordinator is not available or you are designated to notify local authorities etc. the following entities should be notified.

NOTE: Be sure you know the actual phone numbers not just 911. This is because in a major emergency the 911 operator may be inundated with calls and not able to respond!

Fire Department Name/Co. Designation	**Actual Local Fire Department Phone Number**
_____	(___) _____
Hospital/ER	**Actual Hospital Phone Number**
_____	(___) _____

4. **Know the location of emergency equipment.** Emergency equipment includes (but is not limited to) the following:
   - **a.** Fire extinguishers
   - **b.** First Aid Kits/Emergency Blankets/Stretchers
   - **c.** Eye washes
   - **d.** Alarms/Intercoms
   - **e.** Radios
   - **f.** Spill Kits
   - **g.** Personal Protective Equipment (PPE)

B. Actual Evacuation Procedures

1. **If you see a fire:**
   a. Shut down operations and evacuate the immediate area.
   b. Advise the Fire Prevention Supervisor of the emergency.
   c. If supervisor is not available, sound alarm and notify fellow employees.

2. **If you hear the fire alarm sound:**
   a. Shut down operations.
   b. Evacuate the building following the emergency procedures and designated escape routes.
   c. Immediately report to the designated evacuation meeting area (see assembly area on facility drawing).

3. **Fire prevention supervisor responsibilities:**
   A. Evaluate characteristic of burning material, such as, explosive, toxic fumes, etc.
   B. Remove all potential sources of ignition.
   C. Extinguish fire with proper equipment.
   D. Cool any nearby containers or materials with water.
   E. Set-up containment area to prevent fire from spreading (remove ignition sources, close doors, etc.).
   F. If the Fire Prevention Supervisor finds that he is unable to control the fire, he will then give the signal to evacuate the facility as described in the evacuation section.

4. General Evacuation Procedures:

In the event of an emergency in the facility, the Fire Prevention Supervisor will determine if an evacuation will be necessary. It is the responsibility of every manager and department head in the company to insure that the employees under their supervision know how to get out of the building in the event of a fire emergency. An orderly evacuation depends on both an early warning and employee awareness of the proper procedures to follow. While the procedures below apply to all companies, managers must use their own judgment in implementing them. If an evacuation is necessary the following steps will be taken:

A. If an order is given for evacuation, it will be made by the Fire Prevention Supervisor via the Paging System or by personal contact, if paging system is out of order.
B. Any customers or visitors will immediately proceed to the nearest safe exit.
C. All personnel will shut down their present work operation (if time allows and it is safe to do so), and proceed to the nearest safe exit.
D. The Fire Prevention Supervisor will notify the Fire Department, Police Department, and other agencies that are appropriate and inform them that an evacuation is in progress.
E. All personnel shall meet at the designated area for further instructions, and a head count will be taken by the Fire Prevention Supervisor.
F. The Fire Prevention Supervisor will make sure that no one enters the facility until the fire authority has given the clearance.

The above procedures shall be explained to new employees prior to the first workday! Our official Signal for evacuation is _____ (**ALARM OR INTERCOM OR BOTH)**

5. How to evacuate a burning building:

a. The last one out of the room should not lock the door, just close it. Locking the door hinders the fire department's search and rescue efforts.

b. Proceed to the exit as outlined in this Contingency Plan.

c. Do not use elevators under any circumstances.

d. Stay low to avoid smoke and toxic gases. The best air is close to the floor, so crawl if you have to.

e. If possible, cover your mouth and nose with a damp cloth to help you breathe. (Not a dirty shop rag!)

6. **What to do if trapped in a burning building:**

Rarely do people get trapped in a fire because they can usually evacuate the area. **In a case where you are trapped, here are guidelines for your safety:**

a. If you are trying to escape a fire, never open a closed door without feeling it first. Use the back of your hand to prevent burning your palm. If the door is hot, try another exit. If none exists, seal the cracks around the doors and vents with anything available.

b. If trapped, look for a nearby phone and call the fire department, giving them your exact location.

c. If breathing is difficult, try to ventilate the room, but do not wait for an emergency to discover that windows cannot be opened. **Also, breathe the air along or near the floor because the smoke will tend to rise!**

d. DO NOT PANIC - Panic only causes us to make errors in judgment and could result in harming others and ourselves unnecessarily.

e. "Know which rooms have windows" (ascertain which rooms in your facility have windows.)

f. EVACUATE TO A ROOM WITH A WINDOW - Keep the door shut and if available, stuff rags or clothing under the door to keep out smoke and/or toxic gases.

g. OPEN THE WINDOW - At the top to allow the smoke in the room to escape.

h. OPEN THE WINDOW - At the bottom to allow fresh air into the room and to signal for help.

CAUTION - DO NOT OPEN THE WINDOW IF THERE IS SMOKE RISING FROM THE FLOORS BELOW YOU.

("Why?" Because it will draw the smoke into the window from the floors below. Therefore, this would not allow low areas in which to breath.)

i. REMEMBER: Never use an elevator in a fire. Rather always use the stairs! **Go down stairs never up!**

7. What to do if clothes catch on fire:

The basic rule for fire prevention if your clothes are on fire is: STOP, DROP and ROLL.

STOP -stop moving or running.

DROP -drop to the ground with your arms on your chest.

ROLL -roll on the ground or floor and if available use a rug or carpet to roll up in.

COOL -if you are burned, the immediate care for first and second degree burns is to cool them with water. If you have sustained third degree burns, consult with medical personnel.

"If you see someone on fire, force them to the ground if you have to and use a blanket or jacket to smother the fire."

8. First aid procedures:
Treatment of Burns

The following information details the three degrees of burns and how to treat them. Remember, it is extremely important to get burned individuals immediate medical attention. Minutes are critical!

First Degree Burns

SIGNS: Redness of the skin, pain and minor swelling.

TREATMENT: Apply cool water or submerse in cool, fresh water. Do not use ice water or salt water. You can continue this treatment until the pain is relieved. Leave the burned area uncovered.

Second Degree Burns

SIGNS: Deep red skin. Shiny, glossy appearance with leaking fluid. Loss of skin and blisters.

TREATMENT: Immerse in fresh, cool water, not ice water or salt water. Continue for 10-15 minutes. Dry with a clean cloth and cover with sterile gauze. Do not break blisters. Further medical treatment is required.

Third Degree Burns

SIGNS: Loss of skin layers. Painless. Skin is dry and leathery. Possible charring of skin edges. Third degree burns are often surrounded by patches of first and second degree burns.

TREATMENT: Cover the burned area with gauze or a soft cloth. Do not use a material that will leave lint on the burned area. If the face is burned, have the person sit up to insure ease of breathing. If at all possible, the burned area should be elevated higher than the head. Keep the person warm and comfortable and be aware for signs of possible shock. Medical attention is required immediately.

The signs of shock and treatment are:

1) **Early Stages**
   a) Skin is pale (or bluish) and cold to the touch.
   b) Skin may be moist and clammy if perspiration has occurred.
   c) Victim is weak.
   d) Pulse may be rapid (over 100) and may be too faint to be read at the wrist.
   e) Breathing rate is normally increased; also it may be shallow, perhaps deep and even irregular.
   f) If burn is in chest or abdomen (especially if these areas also were exposed to blows or other injury), breathing will most certainly be shallow because of difficulty in breathing due to pain.
   g) A victim hemorrhaging may be going into shock if they appear restless, anxious, thrashing about, and complain of severe thirst. (Indications of oxygen deprivation due to blood loss.)
   h) Vomiting or retching due to nausea.

2) **Late Stages**
   a) Victim may become apathetic and unresponsive.
   b) Victim's eyes may appear sunken with pupils dilated significantly. They may also appear to have a blank stare and be expressionless.
   c) Skin may appear mottled due to blood vessels being congested indicating low blood pressure.
   d) Victim will ultimately lose consciousness if not treated. Body temperature will fall, resulting in possible death.

3) **First Aid (until emergency help arrives)**
   a) The overall objectives are to improve the circulation of blood, ensure an unrestricted access to oxygen and keep victim as close to normal body temperature by either keeping them warm by covering them with blankets or cooling them using cool wet rags/clothes, etc.
   b) The position of the victim's body would always depend on the type of injuries (besides burns). However, the ideal position is lying flat in order to promote a proper blood circulation.
   c) Raise victim's feet 8-12 inches off the floor to improve blood flow. However, observe whether or not breathing becomes difficult once feet are raised. Obviously, if breathing difficulties increase due to raising the feet, then lower them.
   d) Keep victim warm by using dry blankets, etc. Avoid overheating as this may cause other problems.
   e) <u>Fluids should only be given if medical help is more than an hour away</u>. This is because fluids could complicate the victim's condition. <u>If fluids must be given, do so in small amounts</u> (i.e. 4 oz. Every 15

minutes…less for smaller children and infants) ensuring that the water is neither hot or cold! Also, closely observe to see if victim is becoming nauseated, etc.

f) Do not administer fluids if victims are unconscious.

9. Fire extinguisher procedures:

a. Do not attempt to fight a fire if:

1) "If you are not trained or do not know how to use a fire extinguisher then do not attempt to fight the fire at all!" Also:

a) If the fire is spreading beyond the spot where it started.

b) If you can't fight the fire with your back to an escape exit.

c) If the fire can block your only escape route.

d) If you don't have adequate fire fighting equipment or training.

e) If there is a possibility that the substance burning could be producing toxic vapors.

b. Types of extinguishers:

1) Fire extinguishers are classified on the basis of what types of fires they are most effective in handling:

NOTE: Some extinguishers are marked with multiple ratings such as AB, BC, and ABC. These extinguishers are capable of putting out more than one class of fire.

- CLASS A: Should be used for fires involving ordinary combustible materials such as paper, wood, and textiles.

- CLASS B: Should be used for fires in flammable materials such as film cleaner, press wash, gasoline, oils, lacquer thinner, paints, and greases.

- CLASS C: Should be used for fires in electrical equipment. (Do not use water extinguishers on energized electrical equipment)

- CLASS D: Should be used for fires involving metals.

c. Training:

1) First of all, if you have not been trained on how to use extinguishers, then you are not authorized to use them.

2) Secondly, fire extinguisher training will be conducted for a select group of employees.

3) The fire department, a fire extinguisher charging/servicing company or a knowledgeable employee may do this training.

d. Tips on how to use a fire extinguisher:

1) Pull safety pin and twist to break plastic cord seal.

2) Aim nozzle, horn or hose <u>at the base of the fire</u>.

3) Squeeze trigger handle gently with finger.

4) Sweep nozzle side to side at base of flame.

5) Carry in upright position.

6) Have a back up fire extinguisher ready.

7) Fight with back to exit.

8) Set a "Re-flash Watch" on a fire you just put out to ensure that it does not re-ignite.

~~~~~~

Assured Compliance Solution, Inc.
P.O. Box 24815
Tempe, AZ 85282
(480) 829-9051
~~~~~~