AMERICAN COMPLIANCE SYSTEMS, INC.

In association with Safeguard Scientifics, Inc.

Emergency Response And Fire Extinguisher Training

Presented By:

American Compliance Systems, Inc.
996 Old Eagle School Road
Suite 1116
Wayne, PA 19087-1806

Under the OSHA standards 1910.157, the **Portable Fire Extinguisher Standard** and 1910.38, the **Employee Emergency and Fire Prevention Plans,** all employees should be trained on the proper use of a fire extinguisher and be educated on the Emergency Response and Evacuation Procedures for their facility.

The purpose of this training is to help prepare employees in the event of an emergency.

The following topics will be reviewed in this training booklet:

- **Principles of fire**
- **Classes of fire**
- **Types of fire extinguishers**
- **The P.A.S.S. Method**
- **Safe steps to operating a fire extinguisher**
- **Review of your facility's Emergency Response Worksheet**
- **Being prepared for an emergency**
- **Areas to avoid in an evacuation**
- **Safe steps for evacuating a facility**
- **The job of the emergency coordinator**
- **Emergency Assistance/911**

Principles of Fire:

Fire is a by-product of **combustion.**

In order to produce combustion, you need three basic elements: **FUEL, OXYGEN, and HEAT.** When all three elements are combined under the right environmental conditions, a chemical reaction will occur, causing combustion.

FUEL + OXYGEN + HEAT = FIRE

FUEL = Any solid, liquid or gas material. Only the gas or vapor form of a substance actually burns. Therefore, solids and liquids must be heated in order to produce vapor so it will in turn burn and support combustion.

OXYGEN = Only 16% oxygen is needed to support fire. The air we breathe is 21% oxygen.

HEAT = Any open flame, spark, or other ignition source which initiates combustion. Heat also assists the continuation of vapor production.

To prevent this process from occurring, remove one or more of the basic elements.

Smoke is another product of combustion and is comprised of toxic gases, ashes, and dust particles. Smoke and heat will rise, then mushroom out and eventually fall to the ground. For this reason, if you find yourself in a smoke-filled room: **Stay low to the ground and work your way to an exit.** Cover your nose and mouth with a cloth or bandana to help you breath easier. Work your way to the nearest and safest exit.

If you come across a closed door that you must go through, check the door first with the **back of your hand** for heat. If the door feels hot, **do not open it!** Look for an alternate route of escape.

When you are in a burning building, attempt to exit through the nearest and safest exit. If you are trapped in a room that is surrounded by fire and you cannot escape the room, go to the nearest window and open it to help ventilate the room. Break it if you must. If there is a phone in the room, call 911 and let them know your location.

Remember, if you catch on fire,

STOP—DROP—AND ROLL!!!

Classes of Fire:

To select the proper extinguisher for each type of fire, you need to know what class of fire it is.

The four classes of fire are:

- **A - Ordinary Combustibles** – wood, paper, plastics
- **B - Flammable Liquids/Gases** – propane, paints, alcohol
- **C - Energized Electrical Equipment** – lights, appliances, cords, etc.
- **D - Combustible Metals** – potassium, sodium, magnesium

Types of Fire Extinguishers:

ABC	• **ABC Dry Chemical extinguishers** are the most common fire extinguishers and are designed to fight class A, class B and class C fires. They contain products that are corrosive and could harm equipment if not cleaned off.
A	• **Water fire extinguishers** should only be used on class A fires. If used on any other class of fire could result in spreading the fire and making it worse (even possible death to the person using it).
AB	• **AFFF fire extinguishers** (Aqueous Film Forming Foam) are a mixture of water and foam and are to be used for class A and B fires only.
BC	• **CO^2 fire extinguishers** are designed for extinguishing class B and C fires and can be used on class A fires but it will not fully extinguish them.
D	• **Metal-X fire extinguishers** are not common and can only be used on burning metal fires.
BC	• **Halon** is designed for extinguishing class B and C fires it can be used on class A fires but it will not fully extinguish them.

WARNING: The United States Government has banned Halon. Halon is an ozone-depleting chemical. Halon displaces oxygen and if inhaled could displace the oxygen in the blood. The result of this displacement will cause suffocation and could result in death. Currently, Halon fire extinguishers are and can still be used; however, these extinguishers will not be recharged once they are used.

*****It is very important that all employees know the location and type of all fire extinguishers in the facility.*****

The P.A.S.S. Method

PULL the trigger pin out from the trigger. (This will unlock the extinguisher's trigger). Some fire extinguishers use CO^2 to propel the product. This CO^2 is contained in a cartridge on the side of the extinguisher. On top of the cartridge is a plunger that must be pushed in order to activate the extinguisher.

AIM the nozzle at the base of the fire. This is where the fire originates. Remember, the pressure of the extinguisher can spread the fire out if you aim at the top of the flames. Make sure no one or nothing flammable is in the direction where you will be aiming. Stand five to ten feet away and push it away from you.

SQUEEZE the trigger handle.

SWEEP the nozzle back and forth across the base of the flames. Start from the smallest section and work your way to the largest section. Also try to push the flames away from other combustible material. This should thoroughly extinguish the fire.

Safe Steps to Operating a Fire Extinguisher:

1. Sound the alarm and/or call 911.
2. Make sure you have at least two safe exits out of the building.
3. Decide whether or not the fire is too big for you to handle.
4. Determine the class of fire that is burning.
5. Make sure the fire extinguisher you choose is designated for the class of fire you want to extinguish.
6. Check that the fire extinguisher is charged and full of extinguishing agent.
7. Inspect the extinguisher's nozzle to make sure it is clear of obstructions.
8. Use the P.A.S.S. method to operate the extinguisher.

NOTE: If you cannot extinguish the fire on the first try by using only one fire extinguisher, leave the building immediately!

REMEMBER THE MOST IMPORTANT THING IS THAT YOU AND YOUR CO-WORKERS GET SAFELY OUT OF THE BUILDING!

Know Your Company's Emergency Response Worksheet:

1. Emergency Coordinator(s) and Back-up/Assistant Coordinator(s)
2. Local Fire Company and Ambulance/First Aid Squad
3. Designated outside meeting location
4. Type of "alarm" to signal evacuation/Back-up alarm system
5. Type of fire extinguishers

Be prepared for an emergency:

Become familiar with your company's Emergency Action Plan.

*****Know what type of alarm will signal a facility evacuation.*****

It is important to know the quickest and safest way to evacuate your facility. Know as many exits as possible. If your facility has more than one building, become familiar with exits in all the buildings, not just the one from which you primarily work.

All exits should be labeled as exits and those that are not, and can be mistaken for exits, should be labeled "Not an Exit."

Make sure that all emergency exits remain **unlocked and unblocked** at all times during hours when people are in the facility. Avoid parking vehicles (cars, trucks, or forklifts) in front of any exit.

All aisles should be kept clear of debris so as not to impede the path of evacuating personnel.

Areas that should be avoided during an evacuation:

- Areas with dense smoke or extreme heat
- Rooms with moderate to heavy flames
- Rooms with halon extinguishing systems
- Flammable storage areas
- Burnt out rooms
- Confined spaces
- Elevators

Steps to be taken to ensure a safe evacuation:

1. Sound the **alarm.** Let people know there is an emergency.
2. **Notify the emergency coordinator.**
3. In the event you need to shut down a piece of machinery (due to the nature of the equipment), do this **if and only if it is safe to do so.**
4. **Leave the building.** Use the safest exit possible.
5. **Meet at the pre-determined meeting area.**

Job of the Emergency Coordinator:

The Emergency Coordinator(s) and Back-up/Assistant Coordinator(s) have three main responsibilities:

1. To ensure that the Emergency Action Plan is properly implemented.

   Assess the situation and oversee the evacuation process.

2. Conduct a head count of all personnel assembled at the pre-determined meeting area to determine if anyone is missing.

   Supervisors and team leaders need to keep track of who is "in" and "out" throughout the day so that everyone can be accounted for during the head count.

3. To be the main emergency contact for the Emergency Response Team.

   Fire Company, EMS, Police, etc...

If Emergency Assistance/911 is needed:

Be prepared to answer questions and give the 911 operator as much information as possible by assessing the situation:

- **If a fire emergency exists:**

What class of fire is it? Has anyone tried to extinguish the fire? Is there other flammable or combustible materials or chemicals nearby that could potentially explode? Are there aboveground fuel tanks nearby? Is the fire contained in one area or spreading rapidly?

- **If a medical emergency exists:**

Is the person unconscious? Does this person have a known, pre-existing medical condition? Was the person possibly exposed to some type of gas or chemical release that could have caused their condition? Is there any evidence of machinery or equipment that could have caused their condition?