

FIRE PROTECTION



Doc. Type: **Program**

Effective Date: **5/1/2017**

Section: **03**

Revision Number: **01**

Status: **Issued**

Last Revised: **2/27/2018**

1. INTRODUCTION

H2 Enterprises, LLC (H2) will ensure that all employees are trained in the proper use of portable fire extinguishers which are provided for incipient (small stage) fire- fighting purposes only. Various fire suppression cylinder types are located at the Main Office and Shop, the Project Office Trailers, at Client job-site trailers and on each Company service vehicle.

The fire extinguishers are identified by their red-colored shell or red-painted background color where they are installed. All employees are expected to comply with the following:

2. GENERAL GUIDELINES

- All fires occurring anywhere on **H2** Projects shall be reported to supervisory personnel immediately. A written incident report will be filed later by the immediate supervisor in charge of that area.
- Good housekeeping and preventative maintenance on all equipment shall be maintained to prevent fire hazards from occurring
- Smoking must be confined to areas specifically designated by **H2** management. Smoking is not permitted while around any active/functioning hydrocarbon cleanup/vacuuming equipment, around the lay-down yard compressed gas cylinder storage location, or at any host-facility's designated "No Smoking" areas.
- Containers of flammable substances will be stored in fire- proof cabinets and no appreciable combustible materials will be stored within 35 feet of any spark producing operation.
- Oily/greasy rags, paper waste and other flammable trash will be removed and disposed of in covered metal containers or appropriately marked safety cans, or in over-pack spill containers, whenever these sources are generated, for the prevention of spontaneous combustion.
- Flammable liquids such as various fuels or solvents will be transported in appropriately marked safety cans with their contents identified. NO glass container use will be allowed.
- Matches or cigarette lighters should not be taken into any area where an explosive atmosphere may be present.
- The use of gasoline as a cleaning agent is strictly forbidden. The only flammable liquid permissible for use in cleaning machinery is ZEP DEGREASER. Hydrocarbon resistant gloves will be worn to prevent skin absorption by the hands
- All compressed gas cylinders will be stored in their appropriately marked and secured (chained) locations, and capped when not in use. If in use, all hook-up hoses and equipment used for hot-work purposes will be inspected prior to use. Defective equipment found shall not be used, but instead, tagged out of service or repaired before being used again.

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- All leaks of flammable liquids will be reported immediately and repaired if practicable. If immediate repair is not possible, all spark-producing operations within the vicinity of the leak or spill will be halted and adequate warning signs or barricade tape will be posted until the hazard is controlled or eliminated.
- All firefighting equipment is for fire use only and will be placed in designated locations when not in use. It must be accessible always to all employees, so items cannot be stored on, near or surrounding it.
- Fire extinguishers that have been partially or completely used will be removed from service and replaced by similar equipment that has been inspected and authorized for service. Spent containers will temporarily be placed at either the Warehouse/Tool Trailer or as designated by the Project Safety Coordinator.

3. FIRE EXTINGUISHING THEORY

Fire is a chemical reaction that occurs when a fuel rapidly unites with oxygen in the presence of a heat source, and a flame is produced.

Four elements are necessary to produce and support a fire, and they are:

- Fuel source (solid - liquid - gas)
- Heat source (a type of energy)
- Oxygen source (gas for ignition and flame support)
- Chemical chain reaction (occurs when fuel, heat & oxygen are united in the proper proportions to create a fire).

If any one of these four elements are eliminated, the fire will go out. There are four ways that a fire can be extinguished:

1. Isolate, contain, separate, cover, or remove the fuel source.
2. Remove the heat source by applying a cooling agent which absorbs the heat. Water is the most common cooling agent used to remove the heat from the reaction.
3. Separate the oxygen from other essentials that make a fire by smothering the fire with a wet blanket, throwing soil or sand on it, or covering it with a chemical foam or water fog.
4. Stop the chemical reaction by applying certain chemical substances that break up this chain reaction, such as sodium bicarbonate (baking soda) or potassium bicarbonate ("purple K") or sodium monophosphate (ABC dry chemical). Application of these chemicals will result in a reduction of the combustion rate and the fire can be extinguished.

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4. FIRE CLASSIFICATIONS

There are 3 basic fire classification types present at **H2** facilities and projects sites and several methods of extinguishing for each:

CLASS “A” fires are those of paper, wood, cardboard, textiles, etc. where water, foam or water-based liquids are used to extinguish the fire.

CLASS “B” fires are those of flammable liquid such as gasoline, diesel, grease, oil, paint, solvents, etc., where dry chemicals, carbon dioxide or water in a spray-fog form are used to extinguish the fire.

CLASS “C” fires are those in electrical equipment, where dry chemical or carbon dioxide is used to extinguish the fire.

NOTE: NEVER USE WATER to extinguish a Class “C” fire due to electrical shock hazards.

5. INCIPIENT STAGE – PORTABLE FIREFIGHTING PROCEDURE

If you discover a fire in its early incipient (small) stage, initiate the following procedure:

- Remain calm.
- Seek out and remove the closest fire extinguisher from its securing location in occurrence.
- Place yourself a safe distance upwind from the fire location.
- Pull the securing pin/break-away seal from the top of the handle which prevents accidental operation of the unit.
- Aim the spray nozzle at the base of the fire (angle 45 degree).
- Squeeze or depress the trigger handle to test performance.
- Sweep from side to side using a steady, controlled motion until the fire is extinguished or extinguisher contents emptied (approximately 8 -25 seconds depending on contents/size).
- Retreat a safe distance from the previous fire location by stepping backwards, never taking your eyes away from a potential re-flash.

If you are unsuccessful at extinguishing the fire and no other portable extinguisher is near for use, notify **H2** management and call 911 immediately, as a fire doubles in size every 10 seconds.

6. TRAINING – DOCUMENTATION – INSPECTION

All employees will be trained in the proper use of portable fire extinguishers by qualified personnel.

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All training will be documented and maintained in the employee's safety/training file. All inspection and maintenance records will be maintained by **H2** management for the serviceable life of this equipment.

All portable fire extinguishers shall be checked annually by a qualified fire extinguisher maintenance service and the Safety Coordinator responsible for each area of operation will perform visual inspections according to the **H2's** monthly inspection requirements.

7. CONCLUSION

Non-compliance by any **H2** employee with any part of this described program will result in disciplinary action as outlined in the Company's Corrective Action and Disciplinary Program found in this manual.