

Fire and Explosions in Shipyards Meeting Kit

WHAT'S AT STAKE

In shipyard contexts, fires and explosions can have serious consequences, including injuries or fatalities to workers, damage to vessels or infrastructure, environmental pollution, and disruption to operations. Due to the nature of shipyards and the activities involved, such incidents require immediate attention, evacuation protocols, and appropriate emergency response measures to mitigate the risks and minimize the potential impact.

WHAT'S THE DANGER

KEY HAZARDS ASSOCIATED WITH FIRES AND EXPLOSIONS IN SHIPYARDS

- The most critical hazard is the potential for personal injury and loss of life.
- Fires in shipyards generate intense heat, which can pose a significant thermal hazard. Explosions can release a rapid burst of heat, causing severe thermal injuries.
- Fires involving various materials found in shipyards can release toxic fumes, smoke, and gases.
- Fires and explosions can weaken the structural integrity of buildings, vessels, or equipment. Weakened structures may collapse, endangering workers and emergency responders.
- Explosions can generate flying debris which can cause serious injuries to workers.
- Shipyards store and handle various flammable and hazardous chemicals, including fuels, solvents, paints, and lubricants which ignite, release toxic fumes, or create secondary hazards.
- Initial fires or explosions in a shipyard can trigger secondary explosions if other flammable or explosive materials are present making firefighting and emergency

response more challenging and dangerous.

- Spilled fuels and chemicals, may enter water bodies, causing water pollution and harming marine life.
- Fires and explosions can cause extensive damage to property, equipment, and infrastructure disrupting operations, delay projects, which result in financial losses.
- Failure to adhere to safety regulations can result in legal consequences for shipyard operators.

HOW TO PROTECT YOURSELF

BEST SAFETY MEASURES TO PREVENT FIRES AND EXPLOSIONS IN SHIPYARDS

- Conduct regular safety inspections and risk assessments to identify potential hazards.
- Proper storage, handling, and disposal of flammable materials.
- Implement effective housekeeping practices to minimize the accumulation of combustible substances.
- Ensure that all electrical systems and equipment are maintained, inspected, and grounded correctly.
- Follow proper hot work procedures, including obtaining permits, and implementing fire watch measures.
- Provide adequate ventilation in confined spaces and implementing gas detection systems to monitor the presence of flammable gases or vapors.
- Conduct regular safety training for shipyard workers on hazard recognition and emergency response.
- Establish a comprehensive emergency response plan and conducting drills to ensure workers are prepared to respond effectively in case of an incident.

SHIPYARD WORKER SAFETY PROTOCOLS

- Be aware of the shipyard's emergency response plan and familiarize yourself with the evacuation routes, assembly points, and designated safe areas.
- Wear appropriate PPE as required by your job tasks and safety regulations.

- Be observant of potential fire hazards, flammable materials and report any unsafe conditions.
- Follow guidelines for hot work operations, electrical work, handling flammable materials, and operating equipment. Never take shortcuts or bypass safety measures.
- Practice good housekeeping. Keep work areas clean and free from flammable debris, and properly store flammable materials in designated areas. Report any malfunctioning electrical equipment hazards.
- If a fire or explosion occurs, prioritize your personal safety and evacuate the area immediately following established evacuation procedures.
- If you cannot evacuate the shipyard immediately, seek shelter in safe areas away from the incident site.
- Inform the appropriate personnel, or emergency response team, about the incident and location.
- Do not re-enter the shipyard or the incident area unless instructed to do so by emergency response personnel.

ESSENTIAL TOOLS AND PREVENTIVE STEPS TO MITIGATE RISKS OF FIRE AND EXPLOSIONS

- Install and maintain a reliable fire detection system throughout the shipyard.
- Implement appropriate fire suppression systems, such as fire sprinklers, fire extinguishers, and fire hoses, in critical areas of the shipyard.
- Install and maintain effective ventilation and exhaust systems to minimize the risk of ignitable or hazardous substances reaching flammable levels.
- Use explosion-proof electrical equipment and fittings in areas where flammable materials are present.
- Establish and maintain proper grounding and bonding practices for electrical equipment and pipes.
- Implement a strict permitting process for hot work operations, such as welding, cutting, and grinding.
- Develop proper storage and handling protocols for flammable materials, chemicals, fuels, and gases.
- Implement and maintain good housekeeping practices.

- Provide comprehensive safety training to all shipyard personnel, emphasizing fire prevention, hazard recognition, and emergency response procedures.
- Conduct regular inspections of equipment, machinery, electrical systems, and fire safety systems to identify and address any potential issues or deficiencies.

FINAL WORD

By prioritizing fire and explosion prevention and implementing appropriate safety measures, shipyards can create a safer working environment for employees and ensure the continued success of their operations.