Professional Certificate in Chemical Storage Guidelines

Unit 1: Introduction to Chemical Storage Guidelines

Acid: A chemical substance with a pH level of less than 7, capable of donating a hydrogen ion (proton) to another compound. Relates to base and pH scale. Examples include hydrochloric acid (HCl) and sulfuric acid (H2SO4).

Active Ingredient: The main component of a chemical product responsible for its intended effect. For example, in a pesticide, the active ingredient is the substance that kills or repels pests.

Battery Room: A designated area for storing and charging industrial batteries, such as those used in forklifts or other electric vehicles.

Bonding and Grounding: Electrical safety measures used to prevent the buildup and discharge of static electricity or electrical current in chemical storage areas.

Chemical Compatibility: The ability of different chemicals to be stored together without reacting adversely. Factors include chemical properties, storage conditions, and container materials.

Chemical Hygiene Plan (CHP): A written program that outlines procedures, equipment, and personal protective equipment necessary to protect workers from chemical exposures in the workplace.

Chemical Inventory: A comprehensive list of all chemicals present in a facility, including information on storage locations, quantities, and hazards.

Chemical Storage Cabinet: A specially designed, self-contained unit used for storing smaller quantities of chemicals. These cabinets are typically made of steel and equipped with ventilation, spill containment, and fire-resistant properties.

Combustible Liquid: A liquid with a flashpoint between 100°F (37.8°C) and 200°F (93.3°C), as defined by NFPA 30, Flammable and Combustible Liquids Code.

Containment: The ability to prevent the release of chemicals into the environment by using spill control measures, such as drip pans, trays, and secondary containment structures.

Corrosive: A chemical substance that can cause damage or destruction to materials, including metals, due to chemical reactions.

Designated Storage Area: A specific location within a facility set aside for the storage of chemicals, with appropriate safety measures and equipment in place.

Emergency Action Plan (EAP): A written plan outlining procedures for addressing emergencies, such as fires, chemical spills, or natural disasters, in the workplace.

Explosive: A chemical substance or mixture that can undergo a rapid chemical reaction, resulting in a sudden release of gas and heat, potentially causing physical damage or injury.

Fire-Resistant Storage Cabinet: A specially designed chemical storage cabinet that can withstand exposure to fire for a specific period, preventing the release of stored chemicals.

Flammable Liquid: A liquid with a flashpoint below 100°F (37.8°C), as defined by NFPA 30, Flammable and Combustible Liquids Code.

Flashpoint: The lowest temperature at which a liquid gives off vapor in sufficient quantity to form an ignitable mixture with air near the surface of the liquid.

Fume Hood: A ventilated enclosure used for safely handling and containing chemical fumes, vapors, or dust during laboratory operations.

Hazard Communication (HazCom): A set of guidelines and regulations requiring employers to inform employees about the hazards associated with chemicals in the workplace, including proper labeling, safety data sheets (SDS), and employee training.

Hazardous Chemical: A chemical substance or mixture that poses a physical or health hazard to people, animals, or the environment.

Hazardous Materials Identification System (HMIS): A color-coded labeling system used to communicate the hazards of chemicals in the workplace, based on their physical and health hazards.

Health Hazard: A chemical substance or mixture that can cause acute or chronic health effects, such as irritation, sensitization, or organ damage, in humans or animals.

Incompatible Chemicals: Chemical substances that, when mixed, can react adversely, potentially causing harm, fire, or explosion.

Labeling: The process of applying appropriate warning labels, safety data sheets, and other identifying information to chemical containers to ensure safe handling and use.

Material Safety Data Sheet (MSDS): A document that provides detailed information about a chemical's hazards, handling, storage, and disposal, now replaced by the Safety Data Sheet (SDS) format in OSHA's Hazard Communication Standard (HCS).

NFPA 704: The National Fire Protection Association's (NFPA) standard for the labeling of hazardous materials, using a diamond-shaped label with four colored quadrants to indicate the level of health, flammability, reactivity, and special hazards associated with a chemical.

Occupational Safety and Health Administration (OSHA): The U.S. Department of Labor agency responsible for setting and enforcing workplace safety and health regulations, including those related to chemical storage and handling.

Passive Fire Protection: Structural measures, such as fire-resistant materials or barriers, designed to prevent or slow the spread of fire in a facility.

Personal Protective Equipment (PPE): Equipment worn by workers to protect them from chemical hazards, such as gloves, safety goggles, lab coats, and respirators.

Physical Hazard: A chemical substance or mixture that can cause harm due to its physical properties, such as explosiveness, flammability, or reactivity.

Pictogram: A graphical representation of a chemical's hazard, as defined by the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Pipe Marking: The process of labeling pipes in a facility to indicate their contents, pressure, and other important information to ensure safe handling and use.

Reactive Chemical: A chemical substance or mixture that can undergo a chemical reaction, potentially causing harm, fire, or explosion, when exposed to certain conditions or other chemicals.

Safety Data Sheet (SDS): A comprehensive document that provides detailed information about a chemical's hazards, handling, storage, and disposal, as required by OSHA's Hazard Communication Standard (HCS).

Secondary Containment: A structure or system designed to contain spills or leaks from primary chemical storage containers, preventing the release of chemicals into the environment.

Segregation: The practice of separating incompatible chemicals to prevent adverse reactions or ensure safe handling and storage.

Spill Control: Measures taken to prevent or contain chemical spills, including the use of drip pans, absorbent materials, and spill response kits.

Storage Room Ventilation: The practice of providing adequate air circulation and ventilation in chemical storage areas to prevent the buildup of harmful vapors, fumes, or gases.

Toxic Chemical: A chemical substance or mixture that can cause harm, injury, or death when ingested, inhaled, or absorbed through the skin, in small or large quantities.

Ventilation: The process of providing adequate air circulation and exchange in chemical storage areas to prevent the buildup of harmful vapors, fumes, or gases.

Venting: The process of releasing pressure, vapors, or gases from a chemical storage container or area to prevent an explosion or other adverse reaction.

This glossary provides comprehensive definitions and explanations of key terms and concepts related to the safe storage of chemicals, as outlined in the Professional Certificate in Chemical Storage Guidelines. By understanding these terms and their practical applications, learners will be better equipped to implement safe and compliant chemical storage practices in their workplace.