ANDERSON COUNTY

HAZARDOUS SUPPLIES AND PROTECTION

WHITE PAPER

Hazardous material accidents or spills can disrupt business and cause harm to people. In addition, hazmat accidents can have long-lasting effects and damage to your facility. In the event of a hazardous material incident, have an emergency response plan ready, including an evacuation plan. Proper PPE is essential when working with hazardous materials and potentially harmful objects.

Eye and Face Protection:

Employees can be exposed to a large number of hazards that pose danger to their eyes and face. OSHA requires employers to ensure that employees have appropriate eye or face protection if they are exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, potentially infected material or potentially harmful light radiation.

Many occupational eye injuries occur because employees are not wearing any eye protection while others result from wearing improper or poorly fitting eye protection. Employers must be sure that their employees wear appropriate eye and face protection and that the selected form of protection is appropriate to the work being performed and properly fits each employee exposed to the hazard.

Requirements of Eye Protection:

- Ability to protect against specific workplace hazards.
- Should fit properly and be reasonably comfortable to wear.
- Should provide unrestricted vision and movement.
- Should be durable and cleanable.
- Should allow unrestricted functioning of any other required PPE.

Types of Eye/Face Protection:

- Safety Spectacles: These protective eyeglasses have safety frames constructed of metal or plastic and impact-resistant lenses. Side shields are available on some models.
- Goggles: These are tight-fitting eye protection that completely cover the eyes, eye sockets and the facial area immediately surrounding the eyes and provide protection from impact, dust and splashes. Some goggles will fit over corrective lenses.

- Welding shields: Constructed of vulcanized fiber or fiberglass and fitted with a filtered lens, welding shields protect eyes from burns caused by infrared or intense radiant light; they also protect both the eyes and face from flying sparks, metal spatter and slag chips produced during welding, brazing, soldering and 12 cutting operations. OSHA requires filter lenses to have a shade number appropriate to protect against the specific hazards of the work being performed in order to protect against harmful light radiation.
- Laser safety goggles: These specialty goggles protect against intense concentrations of light produced by lasers. The type of laser safety goggles an employer chooses will depend upon the equipment and operating conditions in the workplace.
- Face shields: These transparent sheets of plastic extend from the eyebrows to below the chin and across the entire width of the employee's head. Some are polarized for glare protection. Face shields protect against nuisance dusts and potential splashes or sprays of hazardous liquids but will not provide adequate protection against impact hazards. Face shields used in combination with goggles or safety spectacles will provide additional protection against impact hazards.

Foot and Leg Protection:

Employees who face possible foot or leg injuries from falling or rolling objects or from crushing or penetrating materials should 20 wear protective footwear. Also, employees whose work involves exposure to hot substances or corrosive or poisonous materials must have protective gear to cover exposed body parts, including legs and feet. If an employee's feet may be exposed to electrical hazards, non-conductive footwear should be worn. On the other hand, workplace exposure to static electricity may necessitate the use of conductive footwear.

Types of Foot and Leg Protection:

- Leggings: protect the lower legs and feet from heat hazards such as molten metal or welding sparks. Safety snaps allow leggings to be removed quickly
- Metatarsal guards: protect the instep area from impact and compression. Made of aluminum, steel, fiber or plastic, these guards may be strapped to the outside of shoes.
- Toe guards: fit over the toes of regular shoes to protect the toes from impact and compression hazards. They may be made of steel, aluminum or plastic.
- Combination of foot and shin guards: protect the lower legs and feet, and may be used in combination with toe guards when greater protection is needed.
- Safety shoes: have impact-resistant toes and heat-resistant soles that protect the feet against hot work surfaces common in roofing, paving and hot metal industries. The metal insoles of some safety shoes protect against puncture wounds. Safety shoes may also be designed to be electrically conductive to prevent the buildup of static electricity in areas with the potential for explosive

atmospheres or nonconductive to protect employees from workplace electrical hazards.

Hand and Arm Protection:

If a workplace hazard assessment reveals that employees face potential injury to hands and arms that cannot be eliminated through engineering and work practice controls, employers must ensure that employees wear appropriate protection. Potential hazards include skin absorption of harmful substances, chemical or thermal burns, electrical dangers, bruises, abrasions, cuts, punctures, fractures and amputations. Protective equipment includes gloves, finger guards and arm coverings or elbow-length gloves.

Gloves made from a wide variety of materials are designed for many types of workplace hazards. In general, gloves fall into four groups:

- Gloves made of leather, canvas or metal mesh
- Fabric and coated fabric gloves
- Chemical and liquid resistant gloves
- Insulating rubber gloves

Hazardous Waste Disposal:

Many businesses generate wastes that are considered hazardous or harmful to human health or the environment because they are flammable, corrosive, reactive, or toxic. Due to the harmful potential of hazardous materials, workers must remain aware of the safety hazards and proper handling and disposal procedures in order to protect the environment, themselves, and comply with state and federal regulations.

Hazardous materials should never be disposed of down the drain or in regular trash receptacles. They should be put into proper and compatible containers that can be securely sealed. Compatible container materials ensure that wastes will not react with or corrode them. The containers should not be completely full; a “head space” allows for waste expansion. The sealed containers should be labeled with the name and hazard class of the waste along with the words ‘Hazardous Waste’ and the date it was generated.

Waste containers should be stored in a secure manner and protected from extreme environments. They should be segregated and stored in compatible hazard classes (flammable, corrosive, oxidizers, etc.) to prevent hazardous reactions if the wastes combine. The containers should remain closed during storage, except when adding or removing waste.

Proper handling and storage of waste containers can prevent ruptures, overturns, or other failures. They should not be stacked or handled in a manner that could cause them to fail. Some flammable material containers may require grounding and containers should be seismically secured, if possible, to prevent spills in an earthquake. Waste storage time limits vary depending

on the facility or material; workers should be familiar with the requirements for their worksite and wastes.

Storage areas for hazardous wastes should be inspected at least weekly. Secondary containment can prevent spills, but if a leak or spill occurs, workers should follow facility spill and emergency response procedures. Spill kits should be available for such emergencies; all cleanup materials should be handled as hazardous waste.

Proper waste documentation is important to track and maintain accountability for hazardous waste prior to shipment. Workers should be familiar with the documents required for their facility and waste types including EPA Identification numbers issued by the Environmental Protection Agency and Uniform Hazardous Waste Manifests. Workers must receive training before they can sign waste manifest documentation. Transportation of hazardous wastes should be done according to regulation requirements and by dedicated hazardous waste haulers.

https://www.osha.gov/hazardous-waste

https://www.osha.gov/Publications/osha3151.pdf