



APPLYING SILVER SERVICE TO SAFETY
BLOODBORNE PATHOGENS AND INFECTIOUS WASTE

EXPOSURE CONTROL PLAN

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A. Introduction

This exposure control plan is designed to comply with the OSHA bloodborne pathogen standard found in 29 CFR 1910.1030. Arnold Machinery Co. has established this exposure control plan to protect all persons who have a potential exposure to blood, blood-products or any potentially infectious waste. This exposure control plan specifies how associates will be protected and trained in safe work procedures. The exposure determination is made without regard to personal protective equipment.

This exposure control plan must be reviewed and updated at least annually and whenever any new or modified tasks might affect associate exposure. A copy of this plan must be accessible to Arnold Machinery Co. associates and the plan will be made available to OSHA upon request for examination and copying.

B. Background Information

The Occupational Safety and Health Administration's standard for occupational exposure to bloodborne pathogens (29 CFR 1910.1030) was published December 6, 1991, and became effective March 6, 1992.

The standard is designed to protect all employees who, in the course of their work, could reasonably be expected to come into contact with human blood or other potentially infectious material (OPIM). OPIM includes blood products, semen, vaginal secretions, cerebrospinal fluid, synovial fluid, saliva in dental procedures, any unfixed tissue or organ, and concentrated human immunodeficiency virus (HIV).

The standard defines bloodborne pathogens as pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, the hepatitis B virus (HBV) and the human immunodeficiency virus (HIV), which causes acquired immune deficiency syndrome (AIDS).

According to OSHA, the standard will provide legal force to the Centers for Disease Control's universal precautions, which advises employers and health care workers to treat blood and certain body fluids as potentially infectious.

Under the provisions of the standard, employers must complete exposure control plans and must begin an information and training program for all persons exposed to infectious waste.

Additional provisions cover engineering and work practice controls; personal protective equipment; housekeeping; special measures covering HIV and HBV research laboratories and production facilities; hepatitis B vaccination; and post-exposure follow-up.

C. Coverage and Exposure Determination

Arnold's exposure control plan covers all associates (contractors, part-timers, etc.) participating in the management/handling of any biological material.

An exposure determination will be conducted for all persons potentially exposed to infectious waste, blood or blood products. This exposure determination shall contain the following:

- A list of all job classifications in which all employees in those job classifications have occupational exposure;



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- A list of job classifications in which some employees have occupational exposure, and
- A list of all tasks and procedures or groups of closely related task and procedures in which occupational exposure may occur.

D. Definitions

Blood means human blood, human blood components, and products made from human blood.

Bloodborne Pathogens means pathogenic microorganisms that are present in human blood and can cause disease in humans. Bloodborne pathogens are defined as any pathogenic microorganisms that are present in human blood and that can infect and cause disease in persons exposed to blood containing the pathogens. This includes not only HIV and HBV but also pathogens such as hepatitis C, malaria, syphilis, babesiosis, brucellosis, leptospirosis, arboviral infections, relapsing fever, Creutzfeld-Jakob disease, Human T-lymphotrophic Virus Type 1, and viral hemorrhagic fever.

Contaminated means the presence or the reasonably anticipated presence of blood or other potentially infectious materials on any item or surface.

Contaminated Laundry means laundry which has been soiled with blood or other potentially infectious materials or may contain sharps.

Contaminated Sharps means any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

Decontamination means the use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

Engineering Controls means controls (e.g., sharps disposal containers, self-sheathing needles) that isolate or remove the bloodborne pathogens hazard from the workplace.

Exposure Incident means a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

Handwashing Facilities means a location/project providing an adequate supply of running potable water, soap and single use towels or hot air drying machines.

Occupational Exposure means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

Other Potentially Infectious Materials means:

- (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids;
- (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and



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- (3) HIV-containing cell or tissue cultures, organ cultures, and HIV-or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

Personal Protective Equipment is specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.

Regulated Waste means liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

Sterilize means the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

Universal Precautions is an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

Work Practice Controls means controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

E. Engineering And Work Practice Controls

Engineering and work practice controls must be used to eliminate or minimize employee exposure. Whenever occupational exposure potential remains after these controls have been instituted, personal protective equipment also must be used.

Handwashing facilities must be available where feasible. When this is not feasible, either an appropriate antiseptic hand cleanser along with clean cloth or paper towels, or antiseptic towelettes must be available until it is possible to wash hands with soap and running water.

Associates will wash their hands immediately, or as soon as possible, after removal of gloves or other protective equipment.

If mucous membranes have come into contact with blood, the person will flush those areas with water immediately or as soon as possible.

Contaminated needles and other contaminated sharps must not be bent, recapped, or removed from syringes. Shearing or breaking of contaminated needles is prohibited.

Contaminated reusable sharps must be placed in appropriate containers that are puncture-resistant, labeled or color-coded, and leakproof on sides and bottom. Sharps must not be stored or processed in a way that requires employees to reach by hand into the containers where these sharps have been placed.

Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in areas where there is a reasonable likelihood of occupational exposure. Food and drink must not be kept in refrigerators, freezers, shelves, cabinets, or on countertops or benchtops where blood or other potentially infectious materials are present.



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All waste collection procedures involving blood or other potentially infectious waste materials must be performed in a manner that minimizes splashing, spraying, spattering, and generation of droplets.

Specimens of blood or other potentially infectious waste materials must be placed in a container that prevents leakage during collection, handling, processing, storage, transport, or shipping. The waste container must be labeled or color-coded and closed prior to being stored, transported, or shipped.

If outside contamination of the primary container occurs, the primary container must be placed within a secondary container that prevents leakage and is labeled or color-coded.

If the specimen could puncture the primary container, the primary container must be placed in a puncture-resistant secondary container with the above characteristics.

Any equipment that may become contaminated with blood or other potentially infectious materials must be examined prior to shipping and must be decontaminated if possible. A label must be attached to the equipment stating which portions remain contaminated and this information is conveyed to all affected employees.

F. Personal Protective Equipment (Job Sites)

When there is potential for occupational exposure, associates must wear personal protective equipment. Appropriate equipment includes, but is not limited to, gloves, gowns, laboratory coats, face shields or masks, and eye protection.

Personal protective equipment is appropriate if it does not permit blood or other potentially infectious materials to pass through to or reach the employee's work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions and for the duration of time during which the protective equipment will be used.

Cleaning, laundering, and disposal of personal protective equipment shall be provided at no cost to the associate.

Garments penetrated by blood or other potentially infectious materials must be removed immediately or as soon as feasible. All personal protective equipment must be removed before leaving the work area.

Protective equipment must be used under the following conditions:

Gloves

Gloves must be worn when the associate may potentially have hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin; and when handling or touching contaminated items or surfaces. Disposable gloves such as surgical gloves or examination gloves must be replaced as soon as practical when contaminated, or immediately if they are torn, punctured, or when their ability to provide an effective barrier is lost. These gloves will not be washed or decontaminated for re-use.

Masks, Eye Protection, and Face Shields

Whenever there is the possibility that splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated that could contaminate eye, nose, or mouth, the employees



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shall wear (single use dust) masks in combination with eye protection devices, such as goggles or glasses with solid side shields, and chin-length face shields.

Gowns, Aprons, and Other Protective Clothing

Depending on the task and degree of occupational exposure anticipated, employees are required to wear protective clothing such as, but not limited to, tyvek outer garments, gowns, aprons, lab coats, clinic jackets.

G. Housekeeping

The work site must be maintained in a clean and sanitary condition and an appropriate schedule for cleaning and disinfecting contaminated surfaces shall be implemented. All equipment and working surfaces must be cleaned and disinfected after contact with blood or other potentially infectious materials.

All bins, pails, cans, and similar receptacles intended for reuse must be inspected and decontaminated on a regularly scheduled basis (documented), or cleaned and decontaminated immediately if there is visible contamination.

Mechanical means, such as a brush and dust pan, tongs, or forceps, must be used to pick up potentially contaminated broken glassware.

Contaminated sharps must be discarded in containers that can be closed, are puncture-resistant, are leakproof on sides and bottom, and are labeled or color-coded. Containers for contaminated sharps must be easily accessible to personnel. These containers must be upright throughout use, replaced routinely, and not be allowed to overfill.

When moving containers of contaminated sharps from the area of use, containers must be closed and care must be taken to prevent spills or protrusion of contents.

Reusable containers must not be opened, emptied, or cleaned by hand or by any other manner that could expose employees to the risk of injuring their skin.

Regulated waste must be placed in containers that can be closed, constructed to contain all contents without protrusion, leakproof, and labeled or color-coded. Containers must be closed prior to removal to prevent spillage during handling, storage, transport, or shipping.

All regulated waste disposal must comply with applicable federal and state regulations.

H. Laundry

Contaminated laundry must be handled as little as possible. It must be bagged or put in containers at the location where it was used but cannot be sorted or rinsed in that location. Bags or containers in which the laundry is placed and transported must be labeled or color-coded, sufficient to permit all employees to recognize the containers as having contaminated contents.

When contaminated laundry is wet, it must be placed and transported in bags or containers that prevent soak-through or leakage to the exterior.

Employees who have contact with contaminated laundry must wear protective gloves and other appropriate personal protective equipment.

I. Regulated Waste



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All regulated waste shall either be decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens. ARNOLD MACHINERY ASSOCIATES WILL SHIP NO CONTAMINATED BIOLOGICAL WASTE OFF SITE. A DESIGNATED HAZARDOUS WASTE CONTRACTOR WILL BE THE RESPONSIBLE PARTY.

Contaminated materials that are to be decontaminated at a site away from the work area must be placed in a durable, leakproof, labeled or color-coded container that is closed before being removed from the immediate work area.

Access to the work area is limited to authorized persons who have been advised of the potential biohazard, who meet specific entry requirements, and who comply with entry and exit procedures.

When other potentially infectious materials or infected animals are present in the work area or containment module, a hazard warning sign incorporating the universal biohazard symbol must be posted on all access doors.

Appropriate protective clothing must be worn in the work area. This may include laboratory coats, gowns, smocks, or uniforms. Protective clothing must not be worn outside of the work area and must be decontaminated before laundering.

Gloves must be worn when handling infected animals and when making hand contact with other potentially infectious materials. Special care must be taken to avoid skin contact.

Before disposal all waste from work areas must either be incinerated or decontaminated by a method such as autoclaving.

J. Spills

All spills must be immediately contained and cleaned by properly trained persons. A spill or accident that results in an exposure incident must be immediately reported to the supervisor.

K. Hepatitis B Vaccination

The hepatitis B vaccines are required for all employees who are exposed to blood on the job. The vaccination will be free of charge to the associate. Associates who choose not to receive the prophylactic vaccination must sign a declination form (Appendix A); but they may later opt to receive the vaccine at no cost.

The hepatitis B vaccination shall be made available within 10 working days of initial assignment to all employees who have potential occupational exposure.

Participation in a prescreening program is not a prerequisite for receiving the hepatitis B vaccination.

Following a report of an exposure incident the employer must make immediately available to the exposed employee a confidential medical evaluation and follow-up. This will include laboratory tests at no cost to the worker, including testing the worker's blood upon consent, post-exposure preventive treatment, and counseling.

The health care professional responsible for the employee's hepatitis B vaccination will be provided a copy of the bloodborne pathogen standard. In addition, a health care professional evaluating an employee after an exposure incident must be given a copy of the regulation; a description of the exposed employee's duties as they relate to the exposure incident; documentation of the routes of exposure and the circumstances under which the exposure occurred; results of the source



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individual's blood testing, if available; and all medical records relevant to the appropriate treatment of the employee including vaccination status.

Associates will be provided with a copy of the evaluating health care professional's written opinion within 15 days of the completion of the evaluation.

L. Labels And Signs

Labels must be attached to equipment stating which portions of the equipment remain contaminated in order to inform downstream servicing/repair employees of the hazard and precautions they need to take.

Warning labels must be affixed to all containers of regulated waste, potentially infectious material; and any other containers used to store, transport, or ship blood or other potentially infectious materials except for the following exemptions:

- Red bags or red containers may be substituted for labels.
- Individual containers of blood or other potentially infectious materials that are placed in a labeled container during storage, transport, shipment or disposal. Labels required under the standard must include the BIOHAZARD legend. They must be fluorescent orange or orange-red, or predominantly so, with lettering and symbols in a contrasting color.

Required labels should be affixed as close as possible to the container by string, wire, adhesive, or another method that prevents their loss or unintentional removal.

Labels required for contaminated equipment must be the same as above, but also must state which portions of the equipment remain contaminated.

M. Information And Training

N. Training Records

Training records will include the following information: dates of training sessions; contents and summary of the training sessions; names and qualifications of persons conducting the training; and names and job titles of all persons attending the training sessions.

Training records shall be maintained for three years past employment.

All required records must be made available to OSHA if the agency requests, and training records must be provided upon request for examination and copying to employees, their representatives, and OSHA.

O. Medical Records

An accurate medical record must be maintained for each associate with occupational exposure. Among the items the record must contain is a copy of the associate's hepatitis B status, including the dates of all hepatitis B vaccinations and any medical records relative to the employee's ability to receive vaccination. The record also must contain: a copy of all results of any post-exposure evaluation and the follow-up procedures; and a copy of the information provided to the health care professional, if applicable.



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Medical records must be kept confidential and not disclosed or reported without the associate's written consent to any person within or outside the workplace except as required by law. The records must be maintained for at least the duration of employment plus 30 years.

For OSHA 300 recordkeeping purposes, an occupational bloodborne pathogens exposure incident (needlestick, splash, etc.) must be classified as an injury if: 1) the incident is a work-related injury that involves loss of consciousness, transfer to another job, or restriction of work or motion; 2) the incident results in the recommendation of medical treatment beyond first aid (e.g. gamma globulin, hepatitis B vaccine, etc.); or 3) the incident results in a diagnosis of seroconversion. The serological status of the associate will not be recorded on the OSHA 300, but if a case of seroconversion is known, it must be recorded on the OSHA 300 as an injury.