

# Ergonomics For Hazardous Waste



## *Musculoskeletal Risks in the Hazardous Waste Industry*

Hazardous waste work does not involve as much manual lifting as other work within the Laborers organization, but there are still several ergonomic hazards of which hazardous waste workers must be aware. A recent survey given at LIUNA Laborer Training Centers showed about 19 percent of hazardous waste workers injuries were due to “overexertion.”

### HAZARDOUS WASTE WORK INVOLVES:

- Wearing bulky, cumbersome protective clothing.
- Handling heavy drums and exerting manual labor to uncover drums.
- Exposure to emergency spill containment work.
- Confined space situations that require work in awkward positions.
- Ergonomic problems associated with operating equipment.
- Production pressures or rough terrain often create hazards.

Proper planning will ensure that the right equipment is available and used properly to reduce the

risk of ergonomic injuries on hazardous waste jobs.

**WEARING PROTECTIVE EQUIPMENT:** Type A suits can be difficult to work in and are often too large to bend over easily. The Self Contained Breathing Apparatus (SCBA) is heavy to wear for long periods. The respirator mask restricts visibility and can make communication difficult.

Suggestions for making it easier to wear include:

- Select and wear the best fitting hazardous waste suit possible.
- Use bungee cords or duct tape to make the suit fit better.
- If possible, use a lighter-weight SCBA or Supplied Air Respirator (SAR).

**DRUM HANDLING:** Most drum handling is done mechanically, but there are situations where drums may have to be moved or dug out by hand so mechanical equipment can pick them up. There is a considerable amount of equipment available to minimize manual handling. Some examples include:

- Attachments for fork lifts for handling drums.

- Carts and hand trucks specifically designed for handling drums.
- Drum dollies.
- Hooks for lifting drums.
- Drum handlers and lifts.
- Gantry cranes and air powered/electric chain hoists for lifting drums out of a pit.
- Handles for drums that need to be lifted or carried by hand.
- Drum de-headers, which are self-propelled and available for opening drums.
- The “bucket buster,” which opens 5-gallon buckets more easily.

### EMERGENCY/SPILL

**CONTAINMENT:** Emergency/spill containment work is difficult primarily because of the enormous time pressures involved to get the spill or emergency under control as quickly as possible. The work can involve physical labor, such as shoveling to build dikes and clean up absorbents. This work is easier with proper planning and proper equipment set aside and readily available. Staging several emergency practice runs makes work easier because workers become more familiar with procedures.

## CONFINED SPACES:

Hazardous waste work sometimes requires workers to work in confined spaces where they have to maneuver in awkward positions. Some suggestions for making this work easier are:

- Widen entrances to make entry and exit easier.
- Use SARs instead of SCBAs.
- Use/carry lighter tools.
- Limit the time workers are in an area and rotate job duties.
- Confined space rescues also present ergonomic hazards because of the tight space and the possibility of having to remove injured workers. This work is easier with proper use of hoisting equipment, practice runs, and planning.

## EQUIPMENT OPERATION:

Operating equipment such as forklifts, bobcats, and man lifts on a hazardous waste site present a number of ergonomic hazards. Whole body vibration, repetitive motion from operating the controls, and awkward posture from poor visibility are just a few examples of the hazards involved. These risks can be reduced through:

- Better and more adjustable vibration-dampened seating.
- Additional mirrors to increase visibility.
- Bigger and better windows.
- Better controls that are more conveniently located.
- Gauges that are easier to read.
- Newer equipment that is more ergonomically designed or older equipment that has been retrofitted.

## OTHER HAZARDS

Indoor and outdoor temperature is another important ergonomic consideration on hazardous waste sites. You should be aware and take the appropriate steps to minimize the affects of hot or cold temperatures.