

 CORPORATE SAFETY MANUAL	ENVIRONMENTAL, HEALTH AND SAFETY STANDARDS	
TITLE: DRUM HANDLING	Document Number: *	
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1 Purpose

The purpose of this document is to establish the procedures for handling and sampling of drums or containers that contain hazardous substances, contaminated liquids and other residues.

2 Responsibilities

It is the responsibility of the (insert title) to ensure that the procedures are followed as outlined below by all (Insert Company Name) employees and contractors.

It is the responsibility of the Site Health and Safety Officer to assess the conditions of the drums and determine the proper handling precautions in order to safely move, pack and dispose of containers and drums containing hazardous materials.

3 Policy Statement

3.1 GENERAL REQUIREMENTS

If employees on the jobsite are using an airline respirator, the connections to the air supply must be protected from contamination and the unit protected from physical damage.

Employees that are not involved in the opening or sampling of drums should be kept at a safe distance from the drums or containers being opened.

Employees who are working adjacent to drums being opened should be protected from possible explosions by placing a shield between the employee and the drums.

Fire extinguishers, monitoring equipment and operational controls must be located behind an explosion resistant barrier.

Drums that are bulging or are suspected of being pressurized should be opened from a remote location if possible. If it is not possible to open them remotely, then a shield must be placed between the employee and the drum.

Employees should never stand or sit or perform work on drums or containers.

3.2 MATERIAL HANDLING EQUIPMENT

Explosions proof tools and equipment must be used in areas that may contain potentially explosive atmospheres.

Equipment used to move or open containers must be positioned and operated so as not to produce a source of ignition that could ignite vapors being released from ruptured drums or containers.

DO NOT use picks, chisels, or firearms to open drums. The following equipment should be used to move drums and/or containers:

- drum grappler attached to a hydraulic excavator
- small front end loader with a bucket sling
- rough terrain fork lift
- drum cart

3.3 CONTAINER ASSESSMENT

Before attempting to move any drum an initial assessment of the drums must be made. Check the drums for labeling of contents, markings and note the condition of the drums. Of particular concern are those drums that are bulging, deteriorated or leaking. It is important to exercise extreme caution with any drums that are not intact or tightly sealed. If possible do not move drums that are under pressure.

Before moving any drum, plan where and in which order to move and place all of the drums. Overpacks should be placed in close proximity to the drums that require overpacking. This will eliminate the need to move the drums more then they have to be moved.

3.4 SPECIFIC MATERIAL HANDLING PROCUDURES

Radioactive Materials

Drums and containers of radioactive wastes can not be handled until they have been properly assessed.

Shock Sensitive Materials

All non-essential personnel must be removed from the area prior to handling drums or containers that contain shock sensitive material.

Material handling equipment must be provided with explosive containment devices or protective shields to protect equipment operators from exploding containers.

An employee alarm system capable of being perceived above surrounding light and noise conditions should be used to signal the commencement and completion of explosive waste handling activities.

Continuous communication (i.e portable radios, hand signal, telephones, etc) must be maintained between the employee in charge of the immediate handling area and the Site Safety and Health Officer and the command center until the handling operation is completed. Communication equipment must be explosion proof or intrinsically safe so as not to ignite shock sensitive materials.

If crystalline material is found on any container, the contents must be treated as a shock sensitive material until the contents have been verified.

If a pressurized drum has to be moved, handle the drum with a grappler unit constructed for explosive environments. Move the drum only as far as necessary to allow seating on firm ground or carefully overpack the drum.

Shipping of shock sensitive waste may be prohibited under U.S. Department of Transportation regulations. The DOT requirements can be found in 49 CFR 173.21 and 173.50.

Containers under Pressure

Drums and containers under pressure, as evidenced by bulging or swelling may not be moved until the cause of the excess pressure is determined and appropriate containment procedures have been implemented.

In order to relieve excess pressure, use remote devices such as pneumatically operated impact wrenches, hydraulically or pneumatically operated drum piercers or a backhoe equipped with bronze spikes for penetrating the drum top.

If pressure must be relieved manually, place a barrier such as an explosion resistant plastic sheeting between the worker and bung to deflect any gas, liquid or solid that may be expelled as the bung is loosened.

Laboratory Paks

Lab Paks should only be opened when necessary and only by individuals who are knowledgeable in the inspection, clarification and segregation of the containers within the pack according to the hazards of the waste.

Liquid Containing Drums

If a drum containing liquid cannot be moved without rupturing, then immediately transfer the contents to a sound drum using a pump designed to transfer liquid.

3.5 SAMPLING

Sampling personnel should be kept at a safe distance from the drums as they are being opened. Sample only after the opening operations are complete. A sampling plan must be included in the Site Specific Health and Safety Plan.

A plastic sheeting or suitable non-chlorinated material should be placed on the top of the drum to avoid excessive contact with drum tops.

The sample should be taken using either a glass rod or vacuum pump.

3.6 DRUM PREPARATION FOR SHIPPING AND TRANSPORT

All open bungs and drill holes must be resealed using a new bung or plugs to avoid explosions and/or vapor generation. If an open drum cannot be resealed, the drum must be placed in an overpack. Any openings in a pressurized drum must be plugged using a pressure venting cap set to 5 psi.

A drum staging area must be set up in order to identify, classify and prepare drums for shipment. The staging area should have adequate access and egress routes.

The contents of drums can be consolidated as long as a thorough characterization of the materials has been done.

All wastes must be shipped in accordance with DOT and EPA regulations for the shipping of hazardous waste.

4 *References*

OSHA 29 CFR 1910.120

5 *Appendices*

None