



CALIFORNIA STATE UNIVERSITY, DOMINGUEZ HILLS

Intra and Inter-Building Laboratory
Hazardous Substances Transportation
Program

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Definitions

Hazard material – are products that are capable of posing a significant risk to health, safety or property when transported by air, rail, ground, or sea.

Hazardous waste – a waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment.

Hazard substance – Includes hazardous material and/or waste.

The movement of waste and materials on campus is defined in two ways:

Intra-building – Transportation which take place inside the same building. When hazardous substances can be transported between adjacent buildings without going outside, it is considered intra-building transport. This is usually accomplished using a cart or up to two hand-held safety totes as shown.

Inter-building – Transportation that requires movement between two, non-connected University buildings. These moves generally require a university-owned golf cart vehicle

Abbreviations

SOP – Standard Operating Procedure

P.I. – Principal Investigator

CHO – Chemical Hygiene Officer

Scope

Daily campus laboratory operations often require the movement of hazardous materials and waste through public access ways. Strict policy governs anyone moving laboratory hazardous materials and waste through spaces such as corridors, elevators, and public campus streets and sidewalks.

Hazardous materials include chemical, biological, radioactive and physical materials which present a risk to people or property from their inherent nature. Materials presenting a physical hazard are primarily comprised of compressed gas cylinders that have contents under pressure or extreme temperatures. Explosives and pyrophoric chemicals also present physical hazards.

In general, hazardous waste is similar to hazardous material, except that it is no longer serves a useful purpose on campus and it is ready to be properly disposed.

Purpose

This program provides guidance regarding as to who may transport hazardous substances between labs, buildings, and the overall campus. The following guidelines are the minimum acceptable practices for transporting these materials in a safe manner.

This is to prevent hazardous substances entering the environment and causing any damage to the surrounding ecosystem. Also, it is to ensure that anyone on campus, in a public area, does not have an exposure to any hazardous substances. Transporting hazardous substances is one of the riskiest procedures you may perform because at no other time is accidental release and exposure more likely.

Individuals who transport hazardous substances on campus should know the following:

- Emergency contact Information
- Knowledge of the hazards of the material (s) being transported
- Knowledge of how to clean up a spill of the hazardous material
- Packaging requirements for the hazardous materials being transported

High-Risk Chemicals

Some hazardous materials and waste present very high levels of risk. The following classes of chemicals may not be transported outside of laboratories by anyone except the campus Chemical Hygiene Officer (CHO), Environmental Health Safety (EHS), or authorized contractor.

- Explosives
- Pyrophoric Chemicals
- Water Reactive Chemicals
- Shock Sensitive Material
- Radioactive Material

Contact the CHO or EHS if you discover any potentially explosive or unstable materials. These include but are not limited to:

- Expired peroxide formers with visible signs of peroxide formation (needle like structures or crystals around lid or inside the container)
- Explosives or flammable solids that are explosive when dry including picric acid and 2, -4 dinitrophenyl hydrazine
- Nitrocellulose
- Any compound that is considered reactive or explosive due to exposure to air, light, shock, friction, or heat
- Leaking containers of any hazardous material

Permissions to Transport

EHS, Approved Contractors/Vendors

Only the campus EHS staff, approved contractors, and vendors are allowed to transport hazardous materials and waste between buildings (inter-building) and around campus.

Shipping & Receiving

The Shipping & Receiving department are allowed to transport hazardous materials within/between buildings and around campus.

Staff, Faculty & Lab Technicians

Staff, faculty, and lab technicians are allowed to transport hazardous materials and waste within buildings.

Authorized P.I.s, Lab Technicians, & Students (Research & Students Students)

Authorized P.I.s, lab technicians, students are allowed to transport hazardous material and waste between buildings. Approval by the EHS is required before any transport b/w buildings begins, steps below:

1. The P.I. submits an application along with an SOP of the transport process of the hazard material/waste (s)
2. EHS will review the SOP and make any amendments or suggestions if necessary
3. P.I. will make the necessary changes if need be; resubmit to EHS
4. Once final approval is achieved, SOP will have to be sign off by the P.I., any other personnel, and any students transporting the hazardous materials/waste

The following table describes permissions to transport by job classification.

Permissions to Transport Hazardous Materials and Hazardous Waste

Class of Material/Waste	*Authorized Individuals	Staff/Faculty /Lab Techs	S&R	EHS/Vendors /Contractors
Hazardous materials intra-building	X	X	X	X
Hazardous materials inter-building	X		X	X
Hazardous waste intra-building		X		X
Hazardous waste inter-building				X

X = indicates that transport may be performed

Required Training

Select staff, faculty, and lab technicians handling hazardous substances are required to complete and remain current with all required laboratory safety training through CSULearn. This includes completion of initial training and all required refresher courses. Although, certain staff fulfill this required training through in person training provided by EHS on annual basis.

Authorized students (Research Students & Students Assistant) are required to take General Laboratory Safety Training and other specific training that may be necessary. Furthermore, students need to review all SOPs by their P.I. and sign off.

Select employees and those authorized individuals must be fully aware of the hazards of the materials they are transporting. This includes reviewing Safety Data Sheets (SDSs), if necessary, prior to transport.

Selection of Appropriate Secondary Containment for Transfer

When transporting substances through public spaces it is critical that secondary containment is used. The purpose of the secondary containment is to prevent spills and exposures during transport.

The selected container should meet all the following criteria:

- Easily cleanable
- Can be closed (if biohazardous)
- Chemically compatible
- Volume is equal to 110% or greater of the hazardous material or waste transported

Utilize an engineering control, such as a pushcart, when possible. This will allow someone to reduce the chances of dropping the material. Pushcarts need to have a surrounding lip, so as, to prevent containers from falling over.

Electrical carts used for inter-building transport should also be shock resistant to road surfaces.

Note: An electrical cart use does not negate the requirement for use of a secondary container.

Moving Hazardous Substances

The following requirements apply to the movement of hazardous materials and waste inter-building and intra-building:

- Secondary containment is required.
- Never leave materials unattended at any time.
- Gloved hands are not to contact any surface outside of the lab.
- Secondary containers should be decontaminated by laboratory personnel as necessary prior to movement to pre-empt the need for gloves.
- When using an elevator, advise other passengers of the presence of hazardous substances prior to their entering the elevator.

Note: Prior to moving material choose a route that minimizes risk to others.

Considerations to make, include, not passing through break areas or where students are present.

Moving Hazardous Substances by Electrical Cart

Transport by electrical cart, on campus, is limited to a total of 15 gallons of liquid and 50 pounds of solid materials.

Note: Leaking, damaged, or open containers are not permitted for transport.

Only EHS or an approved hazardous waste contractor may pick these containers up from the source location.

All loose containers of hazardous materials for vehicle transport must be segregated and packed upright into boxes, in one layer, with cushioning. Incompatibles must be separated. Buckets and other sturdy individual containers may be transported, as-is, as long as the containers are in sound condition. Material must be loaded in the vehicle away from incompatible materials, upright, and in a manner that prevents them from tipping over.

Requirements for Compressed and Liquefied Gas

When transporting compressed gas cylinders, the cylinder must be chained to a suitable gas cylinder hand truck and the valve must be protected with a cover cap. Gas cylinders must never be left unattended.

Note: When transporting cylinders or tanks in an elevator, additional passengers are prohibited.

Elevators & Transporting Hazardous Substances

When moving between floors, use a freight elevator whenever possible. If a freight elevator is not available, **DO NOT** transport materials in an elevator that is already occupied by others. If people attempt to enter the elevator, inform them that you are carrying hazardous substances and that they should take the next one available.

Note: Never transport more than 1 liter of cryogenic materials in an elevator.

Requirements for Biohazardous Waste

Biohazardous waste must be transported in double red bags held in rigid, closed, leak-proof containers with biohazard labels on the top and side. Biohazardous waste must be under direct control of the responsible laboratory until it is removed by CSUDH biohazardous waste vendor. For more information on biohazardous waste refer to CSUDH Medical Waste Management Plan.

Note: Hand carrying bags or transporting bags on an open cart are strictly prohibited.

PPE during Transport

PPE Use during transport:

- A lab coat should be worn to transfer chemicals between labs or buildings.
- Transport must be made directly from one lab to another without any stops
 - Including a restroom stop
- Safety glasses are recommended
- Glove use is discouraged during transport
 - If gloves must be worn for safety, then gloves must be removed before touching door handles or elevator buttons
 - After use, gloves must be disposed of in a laboratory trash receptacle
- When transporting hazardous substances between buildings, be sure to be on a paved surface with low pedestrian traffic whenever possible.
- **DO NOT** transport hazardous substances up or down steep slopes

Contact Information

CSUDH EHS
Address: 1000 E Victoria St. Carson, CA 90747
Location: Physical Plant
Phone: (310) 243-3000
Email: ehs@csudh.edu

Chemical Hygiene Officer
Name: Ricardo Magallanes
Phone: (310) 243 3171
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