



UNIVERSITY *of* NEW HAMPSHIRE

Shipping with the U.S. DOT Small Quantity and De Minimis Exceptions 49 CFR §173.4 and §173.4b

A supplement to the UNH Shipment of Hazardous Materials Manual

Created by Andy Glode

*University of New Hampshire - Office of Environmental Health and Safety
August 4, 2010*

*© 2003-2010. University of New Hampshire Office of Environmental
Health and Safety. All rights reserved.*

I. Introduction

The U.S. Department of Transportation (DOT) regulates shipments of hazardous material and significant penalties can result from failure to comply with these regulations. As a result, specific procedures must be followed when packaging and shipping materials described in this guide and a record of training must be kept.

49 CFR §173.4 and §173.4b excludes small quantities of certain hazardous materials from many of the requirements of the U.S. DOT Hazardous Materials Regulations; these are referred to as “small quantity” and “de minimis” exceptions. This document clarifies applicability of these exceptions and highlights requirements that must be addressed under these provisions. Hereafter, the exceptions are referred to collectively as “small quantity exceptions” and the materials which may be shipped under these exceptions are referred to collectively as “small quantities of hazardous materials.”

This guide provides an overview of the small quantity exceptions but is not meant to instruct a shipper on all provisions required to ship a small quantity of hazardous materials; Office of Environmental Health and Safety (OEHS) will provide assistance required to properly ship small quantities. If you are not sure if the material you are sending is considered hazardous, contact OEHS at 862-5038.

II. Training

Federal rules require that anyone wishing to ship hazardous materials must first have shipping training. If you are going to package small quantities of hazardous materials for shipment or sign any type of shipping documentation (such as a FedEx Airbill) for these shipments, you must follow the training certification requirements outlined below.

1. Read this guide. This guide will explain the general provisions relating to the regulations and detailed training in the requirements applicable to small quantity shipments.
2. Submit to OEHS an Intent to Ship Small Quantities form (Appendix A). OEHS will review this form and, upon approval, will certify you to ship small quantities of hazardous materials identified on the form.

Shipping regulations change frequently, so it is necessary to renew your certification every two years. Training sessions reviewing the material in this manual are available from OEHS. Call 862-5038 to schedule training or to ask questions regarding the shipment of small quantities.

III. Applicability

A. Shipping mode restrictions

Material shipped according to the small quantity exceptions as described in this guide may be shipped **by ground only**. Note that most shipping companies such as FedEx and UPS rely on air transport for routine shipments; customers must specify ground transport only.

The small quantity exceptions also do not apply to materials sent through U.S. mail. The U.S. Postal Service will only ship hazardous materials packaged for retail sale.

B. Materials with exceptions

Types of materials that may be shipped with small quantity exceptions include:

- Flammable liquids;
- Flammable solids;
- Spontaneously combustible materials;
- Dangerous when wet materials;
- Oxidizers;
- Poisonous materials;
- Corrosives; and
- Certain miscellaneous hazardous materials.

OEHS will review the materials you are shipping as listed on the Intent to Ship Small Quantities Form. Shipments may not be made without prior approval and a record of training from OEHS.

C. Materials with no exceptions

Materials for which there are no exceptions to DOT regulations include:

- Explosives;
- Gases; and
- Infectious substances.

Shipments of the following materials require special assistance from OEHS:

- Organic peroxides;
- Materials which are poisonous by inhalation;
- Chemical waste; and
- Radioactive materials.

Contact OEHS if you need to ship a material that cannot be shipped according to small quantity exceptions.

IV. Packaging requirements

Materials covered by the small quantity exceptions are exempt from most other requirements when they are shipped according to ten requirements outlined below.

1. Inner receptacle contains not more than 30 ml or 30 g of hazardous material.
2. Inner receptacle is at least 0.2 mm thick and is not liquid full at 55 °C.
3. Closure of inner receptacle is positively secured with wire, tape or other means.
4. Chemically compatible absorbent, enough to absorb the entire contents of the package.
5. Inner receptacle is secured in outer packaging.
6. Prototype packaging must pass a drop test and compressive load test; see package tests, below.
7. Package must not contain forbidden materials.
8. Package does not exceed 29 kg.
9. Package is not opened or altered during transportation.

10. Package may be required to be labeled with the statement, "This package conforms to 49 CFR 173.4 for domestic highway or rail transport only." This label does not apply to de minimis hazardous materials.

Upon approval of your Intent to Ship Form, OEHS will provide a shipping checklist which outlines packaging requirements specific to your materials.

A. Package tests

1. Drop test

The package must sustain each of the following free drops made from a height of 1.8 m (5.9 feet) directly onto a solid unyielding surface without breakage or leakage from any inner receptacle and without a substantial reduction in the effectiveness of the package:

- (a) One drop flat on bottom;
- (b) One drop flat on top;
- (c) One drop flat on the long side;
- (d) One drop flat on the short side; and
- (e) One drop on a corner at the junction of three intersecting edges.

2. Compressive load test

This test is required when shipping multiple identical packages; contact OEHS for more information if shipping multiple identical packages.

Appendix A. Intent to Ship Small Quantities of Hazardous Materials

After reading this guide, fill out this form and submit for review by OEHS. Upon approval, OEHS will send you a training certificate and instructions for your shipment. Your training certification will expire after two years. Shipments of small quantities of hazardous materials may not be made prior to approval from OEHS.

- 1) Identify and describe the materials(s) you are shipping. Indicate name, CAS (if any), form, formula, chemical group and any other useful information.
- 2) For new chemicals, describe known or suspected hazard characteristics. Do you expect hazard characteristics to be similar to another chemical?
- 3) What is the total quantity of material you will be shipping in one primary container, i.e. vial, tube, bottle, etc.? What is the total quantity you will ship in one box?

I understand I may not ship small quantities of hazardous materials until I have received approval and a record of training from OEHS.

Print Name:			
Signature:			
Department:			
Date:		Phone:	
Please return in campus mail to EHS, 11 Leavitt Lane.			