

LAW ENFORCEMENT MANAGEMENT INSTITUTE

**ANNOTATED BIBLIOGRAPHY OF HAZARDOUS MATERIAL
HIGHWAY TRANSPORTATION LITERATURE**

**A LEARNING CONTRACT
SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
MODULE I**

**BY
RUBEN LOPEZ**

**AUSTIN POLICE DEPARTMENT
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PART 1

INTRODUCTION

The purpose of this paper to give the reader a reference guide to written material regarding the transportation of hazardous material over public highways. The annotated bibliography format will provide the reference where the material is found, and a short explanation of what is contained in each reference. The majority of the material is contained in federal regulations and guides. In this paper, the federal regulations, and other publications are listed first, next is the State of Texas material and the last item will be a local regulation from the City of Austin, Texas. Each municipality may enact ordinances or regulations in an effort to conform with federal and state requirements. Therefore, if information is needed from a particular city, an agency within that city must be contacted and information requested. Material in this report has been annotated to December 31, 1989.

PART 2

FEDERAL REFERENCES

Title 49 Code of Federal Regulations Revised October 1, 1988.

Contains federal regulations dealing with all requirements for the transportation of hazardous material. The Title 49 Code of Federal Regulations is composed of seven (7) volumes, organized in Parts 1-1200. For purposes of this report only the parts pertaining to public highway transportation have been referenced.

Title 49 Code of Federal Regulations 171.

Contains general information regulations and definitions. It prescribes the requirements of the Department of Transportation governing the carriers of hazardous waste and hazardous substances.

Title 49 Code of Federal Regulations 172.

List the tables of hazardous materials, their description, proper shipping name, class, label, packaging and other requirements. The tables identify the class of each material and specific requirements dealing with packaging and labeling. Gives specific requirements on labeling; such as format, lettering, color and size.

Title 49 Code of Federal Regulations 173.

Includes definitions of hazardous material for transportation purposes. It also deals with requirements in preparing items for shipment. It contains a section on the responsibilities of persons who recondition, maintain, repair and rebuild containers.

Title 49 Code of Federal Regulations 177.

Covers precautions that must be taken by carriers in handling hazardous material during transit. This regulation applies to all private, common and contract carriers transporting hazardous material, as defined by the Department of Transportation. This part deals with training, shipping papers, loading and unloading, accident requirements and regulations for passenger carrying vehicles.

Title 49 Code of Federal Regulations 383.

Deals with commercial drivers' license standards, requirements and penalties. Outlines specific requirements on types of licenses needed, knowledge and skill requirements to be met, and also tests to be given.

Title 49 Code of Federal Regulations 390.

Contains motor carrier safety regulations. Has some general definitions; such as "motor carrier," "hazardous material," "truck," "business district," "employer," etc. Also has a section dealing with operation of commercial vehicles; covers maximum driving requirements due to emergency relief efforts.

Title 49 Code of Federal Regulations 391.

This section is subdivided into seven (7) sections and deals with the qualifications of drivers, listed as Subpart A through G. Each part deals with a specific area of driver requirements; such as qualifications, testing, background, character, files and exemptions.

Title 49 Code of Federal Regulations 392.

Contains driving requirements regarding equipment usage and specific driver behavior. It is divided into seven (7) sections, listed as Subpart A through G. Covers such areas as railgrade crossings, fueling, precautions, reflectors needed, emergency signals, and the duty of drivers at accidents.

Title 49 Code of Federal Regulations 393.

Deals extensively with all equipment needs. Has nine (9) sections, listed as Subpart A through I. Different areas covered: Lights, windows, brakes, fuel system, towing and emergency equipment.

Title 49 Code of Federal Regulations 394.

Covers the notification and reporting of accidents.

Title 49 Code of Federal Regulations 395.

Contains material pertaining to the hours of service of the drivers. Has record requirements, maximum driving time, rest periods required, and emergency conditions. Also contains detailed information about the types of logs that need to be kept by drivers and employers. Lists the number of hours driven and rest periods required.

Title 49 Code of Federal Regulations 396.

Deals with the repair and maintenance of vehicles and types of records to be kept.

Title 49 United States Code Annotated Sections 1801-1812.

Hazardous materials transportation. Title 49 of the United States Code contains laws relating to transportation. Chapter 27 deals with the transportation of hazardous material. The twelve (12) sections cover federal regulations pertaining to transportation, handling and packaging of hazardous material. It also contains penalties and exemptions.

U.S. Department of Transportation A Guide for Inspection of Radioactive Material Shipment by Motor Vehicle or at Freight Facilities. Prepared by Science Applications International Corporation, Oak Ridge, Tennessee, 1988.

This is a general purpose guide designed to provide a uniform procedure to apply the Federal Hazardous Material Regulations contained in Parts 171-179 of Title 49 Code of Federal Regulations. It can be used for training purposes or as a guide during actual inspections. This is a seventeen-page guide that is designed in a six-step format containing specifics in each of six (6) areas and is color coded for easy reference.

Step 1 deals with shipping papers, including where they should be stored, information required, certification needed and specific language required by federal regulations.

Step 2 deals with packaging requirements. It includes specifics, such as type of container, packaging material and mixing of material during shipping.

Step 3 deals with marking on the outside of containers, such as proper shipping name, identification number, weight and the size of markings.

Step 4 deals with labeling required to identify contents, activity and transport index.

Step 5 deals with placarding to be displayed on the transport vehicles.

Step 6 has highway requirements; including routing, training, securing the load, and separation of hazardous material.

U. S. Department of Transportation A Guide for the Inspection of Spent Nuclear Fuel Shipments by Motor Vehicle. Prepared by Science Applications International Corporation, Oak Ridge, Tennessee, 1988.

This guide has been designed to provide a uniform procedure for applying the Federal Hazardous Materials Regulations found in Parts 171-179 of Title 49 Code of Federal Regulations and the Federal Motor Carrier Safety Regulations found in Parts 390-397 of Title 49 Code of Federal Regulations. It is set up in a color coded six-step format and may be used as a training guide or as reference when doing on site inspections.

Step 1 deals with shipping papers, where they can be stored and information that should be contained on the papers as to material being transported.

Step 2 deals with packaging requirements. Packaging must be evaluated, approved and certified by the U. S. Department of Energy.

Step 3 contains both general and specific requirements on markings needed, including weight and size of lettering.

Step 4 deals with labeling packages. Requires radiation level on surface of package, activity level of shipment and radiation level at one (1) meter from package surface.

Step 5 deals with placarding to be used on vehicles carrying radioactive material. Placards are selected based on hazard present and the quantity on the transport vehicle. Gives specific area to display placards.

Step 6 contains highway requirements, including routing, training and certification of drivers. All motor carriers must comply with the provisions of Title 49 Code of Federal Regulations, Parts 390-397. The driver is required to have a route plan and operate the vehicle in compliance with that plan.

- U. S. Department of Transportation A Guide for the Inspection of Hazardous Material Shipments (Other than Radioactive Material and Bulk) by Motor Vehicle or at Freight Facilities. Prepared by Science Applications International Corporation, Oak Ridge, Tennessee, 1988.

Similar in content and format to the previously mentioned publications. It deals with regulations contained in Parts 171-179 of Title 49 Code of Federal Regulations. It is designed to serve as a basis for inspection on nonbulk hazardous material other than radioactive. The document is top bounded and indexed for easy reference. It can be carried on a clipboard. Discusses in detail the following items: Shipping papers, packaging, outer markings, labeling, placarding and highway requirements.

- U. S. Department of Transportation A Guide for the Inspection of Hazardous Waste Shipments (Other than Radioactive Material) by Motor Vehicle or at Freight Facilities. Prepared by Science Applications International Corporation, Oak Ridge, Tennessee, 1988.

This document provides a guideline for the inspection of hazardous waste shipments and it relates to regulations contained in Parts 171-179 of Title 49 Code of Federal Regulations. It is designed in the six-step format and color coded for easy reference. Contains the Environmental Protection Agency's definitions of hazardous material and hazardous substance. The six (6) steps are identical to those in the previous guide, but deal with hazardous waste shipments (other than radioactive material).

U. S. Department of Transportation Hazardous Materials Transportation Guide for Hazardous Materials Shipping Papers. Prepared by Science Applications International Corporation, Oak Ridge, Tennessee, 1988.

This is a nine-page handout designed as a training aid for shippers and carriers of hazardous materials.

Contains a section dealing with definitions of shipping papers and the required description of hazardous materials on those papers. The style is in outline form with sample papers making it easy for the reader to use. In addition to the general requirements, it has a separate section to cover specific areas of transporting by rail, air, water and highway.

The section on transportation by highway covers shippers certification, shipping paper accessibility in case of an accident or inspection. They must be readily available and recognizable by authorities in the event of accident or inspection.

U. S. Department of Transportation 1987 Emergency Response Guide Book.

The guidebook was developed for fire, police and other emergency personnel who may be the first responders to an accident involving hazardous materials. It is intended to provide them with quick access information about the chemical they are coming in contact with and how to deal with it.

There are two (2) references. One is by chemical identification number, which is the four-digit number on the outside placard. The second section is an alphabetical listing by chemical name.

Once you have located the chemical through the identification number or name, the reference table gives a guide number, located in a different section of the same manual. The guide then provides the reader with emergency information, such as fire, explosion or health hazards. Gives instruction in emergency action, such as perimeter needed, protective clothing and type of pollution. It also gives first aid information in case of explosion.

One section of the guide is devoted to isolation and evacuation distances in table form, and there is also a placard table section, in cases where an identification number is not available. The guide number is provided allowing the reader to still look up the information needed.

Bureau of Explosives Association of American Railroad,
Emergency Handling of Hazardous Materials in Surface
Transportation 1981.

This guide was also prepared for emergency response. It is divided into two (2) primary sections. The first deals with general recommendations and rules, such as who to notify, making the initial survey, procedure on moving materials and approaching the scene. The first section also defines terms used in specific commodity information. The general categories are divided into gases, liquids, solids, oxidizers, organic peroxides and radioactive materials. There are general instructions for each of these categories.

The second section gives specific emergency information on each individual hazardous material regulated by the U. S. Department of Transportation and listed in Title 49 of the Code of Federal Regulations. The materials are listed alphabetically and there are cross reference indexes by Department of Transportation I D Numbers. Information provided includes a description of the material, fire hazards, personnel protection and environmental considerations.

PART 3
STATE REFERENCES

Vernon's Annotated Civil Statutes Article 6701 D Section 139
Motor Carrier Safety Standards.

The Texas traffic laws pertaining to the transportation of hazardous materials on public highways are contained in this section. It specifies that the Director of Public Safety is responsible for adopting the regulations required by federal statutes for the regulation of hazardous material transportation. The regulations must include provisions to insure the vehicle is safely maintained, equipped, loaded and operated.

Violation of this statute is a Class C misdemeanor. There is also a section which states a person convicted of a violation is subject to a civil penalty of an amount not to exceed one hundred dollars (\$100) for each day of noncompliance. The regulations adopted are consistent with federal regulations found in Hazardous Materials Regulations (Title 49 Code of Federal Regulations Parts 101-199), and the Federal Carrier Safety Regulations (Title 49 Code of Federal Regulations Parts 386 and 388-399).

Texas Motor Carrier Safety Regulations Published by the Oil
Field Haulers Association, 1989.

This publication provides fairly accurate information on the commercial motor vehicle regulations adopted by the Texas Legislature in 1989. The adoption included Parts 340 through 397 of Title 49 Code of Federal Regulations. It starts with Part 390 and covers each section in detail, including footnotes that clarify and explain the Texas applications. This is a very informative manual for both companies involved in the transportation of hazardous material and law enforcement officials that deal directly with this type of violation.

In addition to the adopted regulations, this manual contains two (2) sections titled Appendix I and II.

Appendix I is a digest of the regulations governing the transportation of hazardous materials, waste and substances. It includes definitions, shipping paper requirements, labeling, placarding, loading, unloading and emergency procedures.

Appendix II is a list of the schedule of controlled substances.

PART 4
LOCAL REFERENCE

City of Austin, Texas Ordinance, Section 11-2-19. Special Provisions for Transportation of Hazardous Materials.

In 1989, the City of Austin passed an ordinance which requires the driver of a vehicle transporting hazardous materials to operate the vehicle with its headlights on at all times. It also requires the driver to report any accident on a roadway or public place in the city to the Austin Fire Department.