

Program of Instruction

Course Syllabus

Course Title: Flammable Liquids by Rail Awareness

Course Duration: 4 hours

Program: Hazardous Materials

Course Prerequisites: None

Course Description:

The Flammable Liquids by Rail Awareness class will introduce students to the recent increase in flammable liquid shipments by rail. This course will cover the basic chemical and physical properties of the types of flammable liquids being transported. In addition, we will discuss basic railcar design features, unit vs. manifest trains, common railroad terminology, and techniques for contacting and working with the railroad. The course will touch on tactics and strategies for handling flammable liquid train derailments, but will not teach the student how to employ these tactics. Lastly, the course will look at case studies of recent flammable liquid train derailments and discuss lessons learned.

Course Requirements and/or Recommendations:

100% attendance is required for course completion.

Course Policies:

Safety Policy: Students shall understand and follow all instructions pertaining to operational safety, as stated by instructors or as written in course materials. Instructors and students shall be mindful of safety at all times. Conduct judged to be unsafe shall be grounds for dismissal from the course.

Academic Integrity Policy: IFSI has the responsibility for maintaining academic integrity so as to protect the quality of the education provided through its courses, and to protect those who depend upon our integrity. It is the responsibility of the student to refrain from infractions of academic integrity, from conduct that may lead to suspicion of such infractions, and from conduct that aids others in such infractions. Any violation of the code of conduct is grounds for immediate dismissal from the course.

American Disabilities Act: As guaranteed in the Vocational Rehabilitation Act and in the American Disabilities Act, if any student needs special accommodations they are to notify their instructor and provide documentation as soon as possible so arrangements can be made to provide for the student's needs.

Course Content:

Module: 1

Title: Crude Oil History

Terminal Learning Objective:

At the conclusion of this module, students will be able to discuss the history of crude oil in the United States.

Module: 2

Title: Chemical and Physical Properties

Terminal Learning Objective:

At the conclusion of this module, students will be able to explain crude oil and other flammable liquid characteristics and properties and the effects that they may have on the human body.

Module: 3

Title: Planning for Crude Oil Emergencies

Terminal Learning Objective:

At the conclusion of this module, students will be able to develop IAPs to mitigate incidents involving crude oil by rail in their jurisdictions.

Module: 4

Title: Site Assessment

Terminal Learning Objective:

At the conclusion of this module, the student will identify actions to be taken by Awareness level personnel at a crude oil or other flammable liquid by rail incident.

Reference List:

Canada and Mexico plays from ARI; Updated: May 9, 2011, U.S. Energy Information Administration

CSX. (Updated 20 May 2014). Health & Safety Aspects of Crude Oil; Bae, Jiwon U.S. Geological Survey; Energy Department

IFSI Hazardous Materials Operations Course.

Security and Emergency Response Training Center. (June 2014). Crude Oil by Rail

Simpson, Jeff. Crude Oil by Rail Information and Hazards. Fire Engineering, July 2014.

TRANSCAER. Crude Oil by Rail, API-AAR Response Safety Course. February 2015.

Transportation Safety Board of Canada. (July 2013). www.bst-tsb.gc.ca/lac-megantic-en.

Train Wreck/Derailment Fire – Lynchburg, Virginia – You Tube – Matt Tyree

U. S. DOE (Department of Energy) and API (American Petroleum Institute)

Course Schedule

DAY ONE

<u>Event</u>	<u>Duration</u>
Module 1: Crude Oil History	30 minutes
Module 2: Chemical & Physical Properties	1 hour
Module 3: Planning for Crude Oil Emergencies	30 minutes
Module 4: Site Assessment	2 hours