

# Emergency Response To Railroad Incidents

TRANS CAER



Course Manual







# Emergency Response To Railroad Incidents

*“What you need to know before you go!”*

This document has been prepared to provide you, the emergency responder, with information concerning the transportation of hazardous materials by rail. Reading this document should not replace training by qualified and knowledgeable persons in the proper response to rail incidents.

The information contained herein reflects current practices of CSX Transportation. Contact your local railroad company for procedures used by other rail carriers.

Safety must be the cornerstone of any response program, and when in doubt, the safest course of action must be followed.

CSX Transportation provides training materials free of charge to response agencies in the states in which we operate. For more information, please visit our website at <http://csxhazmat.kor-tx.com>.



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This document is published and distributed by CSX Transportation as a public service. This document should be used in conjunction with the appropriate level of training and instruction. This document is not all inclusive of the policies, procedures, and practices necessary to safely mitigate a hazardous materials emergency. It is intended to serve as an adjunct to pre-established training and standard operating practices. No part of this document may be reproduced in part or whole without the expressed written consent of CSX Transportation.



# Introduction

## Dedication To Safety

CSX Transportation has worked hard to improve our safety performance throughout our 21,000 mile system. Each of our employees is provided with copies of the rules and policies that apply to them. All employees are required to attend training programs and are efficiency tested to ensure they understand and comply with our procedures and practices. Nowhere is the need to follow the rules and procedures more evident than in the handling of hazardous materials.

Each year CSX Transportation moves nearly 400,000 shipments of hazardous materials. Each of these shipments represents the potential for a significant impact to the safety and health of our employees, the general public, and the environment. To minimize the potential for accidents, CSXT has developed some of the most effective programs in the rail industry aimed at moving these materials safely from shipper to destination. A look at the number of incidents and their implications illustrates the CSXT commitment to continually improving our service and safety record. As a result of a team effort by all our employees, CSXT is a leader among all major rail carriers in train accident prevention.

While the results of these efforts have been very successful, accidents do sometimes occur. As part of the team that may be called to respond to one of these incidents you need to be aware of the potential hazards that may be present and how to best recognize and avoid them. Common sense should be applied to any response effort and **SAFETY MUST BE THE KEY INGREDIENT** in any action plan.





# CSX Corporation

## Who We Are

CSX Corporation is the parent company of a number of subsidiaries that provide freight transportation services across America. Formed in 1980, CSX Transportation operates the largest rail network in the eastern United States. CSX Intermodal provides transportation services across the United States and into key markets in Canada and Mexico.

CSX Corporation and its railroad subsidiary, CSX Transportation, were formed by the acquisition of the Chessie System Railway and the Seaboard Coast Line Railroad in 1980, but railroads and railroading have been a part of America's history for over 180 years.

Together with a focused management team, the 34,000 dedicated, talented, and extremely hard working people of CSX Corporation and its subsidiaries constantly pull together to consistently and reliably meet customers' needs.

## What We Do

CSX Corporation, through its subsidiaries, is a multimodal freight transportation company serving customers worldwide. CSX Transportation is the largest railroad in the eastern United States. Automakers, steel fabricators, food and grain shippers, concrete makers, and many other industries rely on CSX Corporation and its subsidiaries every day.

- CSX Transportation, based in Jacksonville, Florida, provides rail transportation over more than 21,000 route miles in 23 states, the District of Columbia, and two Canadian provinces. In addition, it provides services to customers outside its network through its strategic partnerships with shortline and Class I railroads in the United States, Canada, and Mexico. CSX Transportation's Industrial Development group assists customers with locating or developing along the rail network.
- CSX Intermodal, based in Jacksonville, Florida, provides multimodal transportation of domestic highway trailers and containers, premium parcel business, and international steamship containers.
- TRANSFLO provides a network of product transfer and warehousing facilities, helping shippers and receivers to position goods closer to their own customers.

From unit trains of coal to truckloads of parcels, CSX Corporation's subsidiary freight transportation options range from coast to coast and ocean to ocean.



CSX Intermodal is the nation's only transcontinental intermodal service provider, with single-line non-stop service between the Midwest and New York/New England. Together with the railroad, it offers the industry's fastest service between the consumer-rich markets of New York/New England and Florida, and provides transcontinental service linking the eastern U.S. with key markets on the West Coast.





## CSX Transportation Highlights

### **Served by CSX Transportation:**

Alabama, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia, District of Columbia, and Ontario and Montreal, Canada

**Route miles operated:** 21,000

**Miles of track operated:** 38,732

**Average employment:** 34,000

**Average trains per day:** 1,200

**Average carloads per day:** 20,000

**Hazardous materials carloads (2007):** 388,000

**Total 2007 carloads:** 7,530,000

### **Other Data:**

- Serves every major population and industrial center east of the Mississippi
- Serves more than 70 ocean, river, and lake ports - more than any other railroad
- Has nearly 4,000 locomotives
- Has more than 100,000 freight cars
- Serves over 35,000 private and public crossings
- Serves more than 165 bulk intermodal distribution terminals and rail-to-truck bulk transload facilities
- Serves over 125 active coal mines, and provides service to 105 coal-fired power plants and cogeneration facilities

## Hazardous Materials Safety

Railroads continue to be the safest mode for transporting hazardous materials. For every billion ton-miles of hazardous materials transported, trucks (which operate over inherently more dangerous public highways) are involved in more than 10 times as many accidents as the railroads.

Virtually all of the country's hazardous material shipments are transported in “privately owned” tank cars - not in “railroad owned” equipment.

### Impressive Record of Hazmat Safety

Rail continues to be the safest way to transport hazardous materials. CSX and the railroad industry have an excellent record for the safe handling of hazardous materials.

- In 2006, the entire rail industry transported 1.6 million carloads of hazardous materials and only 840 cars released any contents. Of the total releases, 68 cars released product due to an accident. The trucking industry had about the same amount of ton-miles as the rail industry, but experienced 16 times more releases.

### Hazmat Safety Partnerships

CSXT is a voluntary partner of the Responsible Care program, a program of the American Chemistry Council (ACC). CSXT joined because the program promotes the competencies that the railroad emphasizes in its hazardous materials program - continuously improving environmental health and safety performance in the handling of chemical products. The program's guiding principles and codes of practice have been adopted by CSXT in the areas of community awareness and emergency response, process safety, pollution prevention, distribution, employee health and safety, and product stewardship.

CSXT provides emergency response agencies with the Community Awareness Emergency Planning Guide to help them understand the steps required to handle railroad-based emergencies, should they occur. In addition, CSXT is a partner with various organizations to conduct emergency preparedness exercises to help protect the safety of the public. For more information about Emergency Planning, contact the Hazmat Field Officer for your area.





## Hazmat Training

Every member of transportation, mechanical, and engineering at CSXT must have a thorough working knowledge of CSXT's operating procedures, including hazardous materials rules, and must be tested regularly on their proficiency.

A highlight of CSXT's hazardous materials training is the Hazmat Sentinel program. Every year, selected employees attend a rigorous week long training program at the Emergency Response Training Center in Pueblo, Colorado. During the week, sentinel candidates learn, under true-to-life conditions, how to work among tank cars and handle product transfers. They also learn to work with emergency response personnel from fire departments and environmental agencies to help ensure the safety of the public, should an incident occur. Once the sentinels are certified, they must attend refresher classes every year.



**Atlanta (REDI) Railroad Education And Development Institute Center**



**Hazardous Materials Sentinel Training**

## Community Outreach

CSXT maintains working partnerships with the fire, police, and emergency response personnel in the communities where it operates. CSXT provides its emergency response partners with the Community Awareness Emergency Planning Guide to aid in preplanning for railroad emergencies. In addition, CSXT is a partner with various organizations to conduct emergency preparedness exercises to help protect the safety of the public.

Additionally, CSXT is proud to be a member of the North Jacksonville Community Advisory Panel (CAP). The CAP provides a forum for the public to get information or give feedback regarding railroad/chemical company activities. The CAP sponsors an event called ChemCamp, which gives high school students an opportunity to find out about science or math-oriented careers in the railroad or chemical industry.

# Section I - Safety

## Basic Safety Practices

Regardless of what products are involved in the incident, there are some general precautions that must be followed. **Before commencing any operation on or near any railroad tracks you must contact the CSX Public Safety Coordination Center (1-800-232-0144) to hold all traffic.**



The placement of lookouts alone on the track is not sufficient to protect responders who are on or near the tracks. A basic railroad safety rule says "expect movement on any track, in any direction, at any time." This is good advice. Never assume that all trains are stopped until you are notified by a responsible railroad official that movements have been halted.



**CSX Transportation** is continually improving the way we do business to ensure a safe working environment for our employees. This sense of responsibility for safety extends to emergency responders. CSXT employees must comply with an extensive set of operating rules and safe practices.



While operating on railroad property, whether it's during a derailment or other emergency, there are some basic rules of safety that all responders must follow to ensure a safe and effective response.

### **BASIC SAFETY RULES**

- Expect movement on any track at any time.
- Avoid walking between the rails.
- Watch where you step at all times.
- Don't step or stand on the rail.
- Head and eye protection must be worn at all times.
- Steel-toed boots or firefighter's boots must be worn.
- Be aware of electrical hazards in and around locomotives.
- Before working on or around any car, make sure the hand brake is set and the car is chocked.
- Make sure blue flags are in place and switches are locked prior to climbing on equipment in a railyard.
- Before opening any door, make sure you know the direction it is intended to open.
- Guard against the door coming off and lading falling out.
- Place hoselines under tracks, by digging out ballast.
- Look in both directions before stepping across or getting close to tracks.
- Keep a safe distance, at least 30 feet, from passing trains and equipment.
- Never place anything on the track unless it is required by a specific task.
- Always leave 25 feet between you and any standing rail car when crossing tracks.
- Always face the direction from which a train is traveling.





## **REMINDERS WHEN WORKING ON TANK CARS**

- Make sure you have positively identified the contents of the car and understand all of the properties and hazards.
- Know and understand the valves, relief devices, and mechanical appliances and how they operate.
- Ensure that there will be no movement on the track on which you are working. (“blueflag” and “lockout”)
- Always use the safety handles, platforms, and ladders provided.
- Never stand, step, or cross on the center sill or coupler.
- Never jump off a car...Use the ladder.
- When climbing a leaking or damaged tank car shell...Use your own ladder.
- Never put your body over or in front of any valve, gauge, or other opening.



## Minimum Required Safety Equipment



- A hardhat or helmet, safety glasses, gloves, and steel-toed boots are the minimum required equipment for personnel operating at the site of a derailment. Those persons without this equipment should not and will not be allowed onto the site.
- Other personal protective equipment may be required depending on the types of hazards present at the site. Items such as respirators or SCBA and chemical protective clothing may be required.
- Only those persons having previous training in the use of specialized protective clothing will be allowed into the site if a chemical hazard exists.

# Railroad Crossing Information

## Important information about handling railroad-crossing emergencies for 911 Communications, Dispatch, and all Police & EMS Personnel

More than 35,000 highway grade crossings intersect CSX Transportation's railroad tracks in 23 eastern states.

At each CSXT mainline road crossing there is a post mounted sign identifying the railroad name, the DOT crossing number, railroad milepost, and the emergency telephone number. The reflective, rectangular sign is the size of a vehicle license plate depicted below:



All CSXT railroad emergencies, including situations that could affect PUBLIC SAFETY or the SAFE MOVEMENT of TRAINS, should be reported to the **CSX Public Safety Coordination Center** located in Jacksonville, FL at **1-800-232-0144**. This could include a stuck or stalled vehicle or truck on a crossing, accidents at or near a crossing, or any event or situation taking place in which close clearance of train traffic may be a safety factor. If a CSXT train needs to be stopped, remain on the line with the CSX Public Safety Coordination Center (CSX PSCC) specialist until you are assured that this is accomplished. This is important for safety. It is important to communicate to the CSX Police the DOT crossing number (lower left of sign) or the railroad milepost (lower right of sign) so that the specific road crossing can be quickly identified. Also, include the city, state, and location of the incident.

## **Section II – Initial Response Procedures**

### **Hazardous Materials Incident Handling**

A hazardous materials incident is, "Any situation that causes or results in a hazardous material container being derailed, damaged, or leaking." This also includes releases of non-regulated but environmentally hazardous substances as well as fixed facility spills on CSXT property.

Incident reporting by employees is encouraged through:

- Making reporting part of both operating and safety rules
- System wide awareness and emergency plans:  
    TERP - Transportation Emergency Response Plans
- Emphasis in all training and rules classes
- Comprehensive environmental awareness training program for employees
- Central reporting through the CSXT Public Safety Coordination Center
- Hazardous material systems personnel provide professional handling to all incidents and coordinates necessary response activities and notifications

### **Hazmat Incident Procedures**

Employees report most incidents from the scene to the CSX PSCC in Jacksonville, Florida. In other cases the CSX PSCC may be notified by CHEMTREC or a local agency.

After gathering pertinent information, the CSX PSCC personnel notify the CSX Hazardous Materials Service Support Officer who will then contact the reporting party to determine what action is necessary and will provide immediate information concerning product hazards and response actions to be taken.

If the incident dictates the need for intervention, the Hazardous Materials Service Support Officer can call upon several sources for assistance including CSX Hazmat Field Officers, emergency response contractors, shipper response teams, and local emergency responders. The shipper will be contacted through CHEMTREC and requested to provide technical assistance or on-scene response.

The Hazardous Materials Service Support Officer will also notify the appropriate State and Federal authorities of the incident. The coordination of the response to an incident is continued by the Hazardous Material Systems group to ensure that the incident is handled in a safe and professional manner. This also provides a central point for communication and follow-up actions.

Transportation Emergency Response Plans are in place to mandate how local responders will be notified, customarily by calling the 911 emergency dispatcher. CSX personnel make these calls from the site of the emergency or from the PSCC.

## **Initial Response To Hazardous Materials Incidents**

It's an overused phrase in emergency services, but it's true, PREPLANNING is a crucial element needed for a successful operation. Before an emergency occurs you need to be familiar with the territory and know what you can expect to encounter.

A good first step is to contact railroad officials in your community to identify any railroad locations in your area. Some questions you should ask include:

### **Are there any terminals or yards?**

Yards and terminals will usually have a greater concentration of hazmat cars at any given time.

### **If so, how do you gain access to the yard?**

Many yards have limited road access; you need to know where key entrances are in advance.

### **Are there any bridges or trestles? Is there access for emergency vehicles?**

Bridges and trestles can pose difficulty in gaining access to the tracks and are usually near water, which must be protected from contaminants.

### **Are there any environmentally sensitive areas near the railroad?**

Waterways or wetlands close to the railroad will need to be protected in the event of a spill.

## **Are there any pipelines or communication lines along the railroad right-of-way?**

In many locations, there are one or more pipelines or communication conduits buried in close proximity to the tracks. Prior to initiating any excavation, the area must be surveyed to ensure that no lines are encountered.

## **What company operates a particular section of track?**

In many parts of the country, a town or county may have more than one railroad operating. There may be little indication as to ownership on the tracks. You need to determine beforehand who owns and operates on the track.

After compiling the necessary information, a good response plan is needed. Determine what you'll need and how you'll get it there. Once a plan is written, then it needs to be exercised. A realistic exercise, be it full-scale or tabletop, will help to identify deficiencies in your plan.

This brief discussion of response planning is by no means complete or comprehensive; rather it's a reminder that successful operations begin with successful planning. Your Local Emergency Planning Committee (LEPC) can provide assistance in preplanning and conducting response exercises. For more information on rail incident planning, see the CSX Transportation Community Awareness Planning Guide.





## Bridge And Tunnel Incident Considerations

Railroad bridges and tunnels have the potential to present difficult situations in the event of an emergency. Emergency responders need to be aware of the potential hazards and difficulties they could encounter in either of these environments.



### Tunnels

Fires and emergency situations within the confining areas of a tunnel system are among the most difficult to cope with due to the limited space available for fire and emergency personnel to operate.

Direct liaison between railroad authorities and emergency officials is essential to keep emergency forces informed of current conditions within underground installations.

Prior to entry into a railroad tunnel, emergency personnel must contact the controlling railroad to ensure that all rail traffic has been stopped in the tunnel and on rail lines leading to the tunnel.

In most cases, there is very little side clearance between the rails and the walls of the tunnel. In certain tunnels, there are emergency vestibules that normally only accommodate a single individual. These vestibules may provide limited protection from passing equipment, but should only be used in an emergency. Emergency personnel should confirm that all rail equipment is secured prior to entering the tunnel.

Tunnels used primarily or exclusively for freight trains are not typically equipped with ventilation systems. In the event that entry is required into a tunnel and there is fire, smoke, or exhaust fumes present in the tunnel, emergency responders should use and/or have available self-contained breathing apparatus (SCBA) for respiratory protection. Special consideration needs to be given to the amount of time available when using self-contained breathing apparatus (SCBA), i.e., tunnel length as well as means of ingress and egress.

Tunnels used primarily or exclusively for freight trains will typically have limited means of entry and egress. The only points of entry normally available are the entry portals through which the trains pass. Manholes, access ports, or other mid-length entry points are not normally available. Emergency personnel should consult with local railroad officials to identify points of tunnel entry and egress in their area of responsibility.

Tunnels are not normally equipped with standpipes or other forms of fire-fighting water supply. In the event of a fire, responders may be required to deploy water supply lines a considerable distance inside of the tunnel structure. Pre-fire planning of tunnel structures should be conducted cooperatively between the railroad and the fire department to determine the most effective method to deploy fire hoses and equipment.

Due to the close clearances inside of tunnel structures, the removal of derailed rail equipment can be a complicated and time-consuming procedure. Emergency personnel should be aware of the additional time that may be required to remove damaged and/or derailed equipment.

Vehicle access to tunnels may be accomplished through the use of railroad “hi-rail” equipment. These specially designed vehicles are equipped with wheels that allow them to traverse rail lines. This equipment can be made available to emergency personnel for the transportation of personnel and equipment into a tunnel.

## **Bridges**

Railroad bridges, much like railroad tunnels, can present unique obstacles to emergency response personnel. Prior identification and pre-planning are essential to safe, successful emergency incident response.



Railroad bridges are custom built structures designed specifically to handle train traffic. They are generally narrow and do not provide use by motor vehicles. Railroad bridges can be classified based on the type of deck construction; open deck or ballast deck. Open deck structures utilize timber bridge ties spaced between 12 and 15 inches on center. Ballast deck structures have solid decks that contain the normal track structure (ballast, track ties, and rail). Most railroad bridges do not have walkways. When walkways are provided, they are for use by railroad personnel only, while there are no trains passing over the structure. Clearances do not allow for persons to be on the bridge during train operations.

Proper track protection is needed to occupy or cross railroad bridges and should be done only with the assistance and at the direction of a qualified railroad employee.

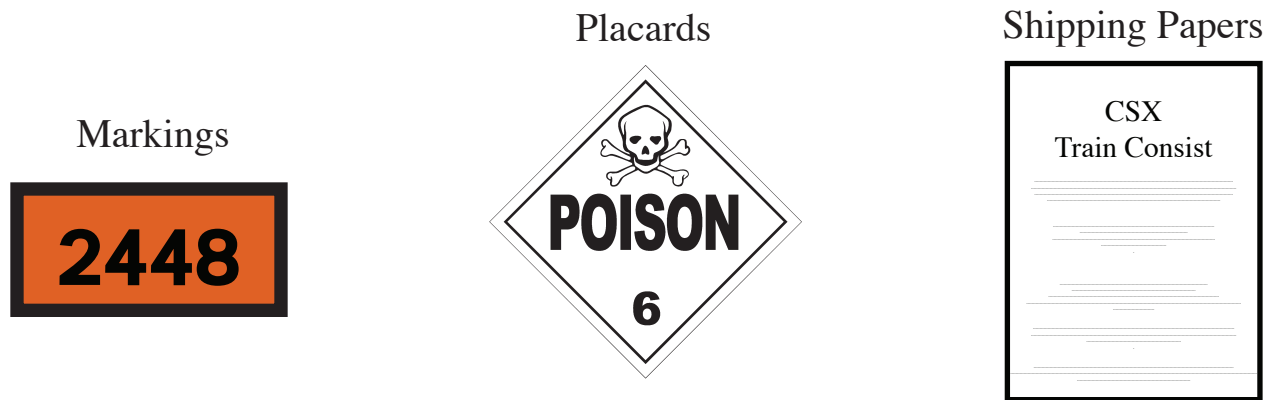
Like tunnels, the limited access associated with bridges may require special techniques for emergency responders to deploy fire-fighting hoses and equipment. In some cases, water supply lines may have to be stretched onto and across the span of a bridge in the event of a fire on or in the bridge structure. In other cases, pumping from watercourses or use of fire fighting vessels could be necessary. In most cases, every effort will be made to pull the cars of a train across a bridge to solid ground. Railroad “hi-rail” equipment can be made available to transport personnel and equipment onto and across bridge structures.

Pre-planning to identify points of access, clearances, and equipment requirements is strongly encouraged. Emergency personnel should coordinate informative inspections with local railroad officials in their area of responsibility. Close coordination with railroad officials is essential in the event of a train emergency on a bridge. Emergency responders should limit their movements onto the bridge structure until it is deemed safe.

## **EXTREME CAUTION MUST BE USED WHEN RESPONDING TO EMERGENCIES IN TUNNELS OR ON BRIDGES**



## Detection Clues



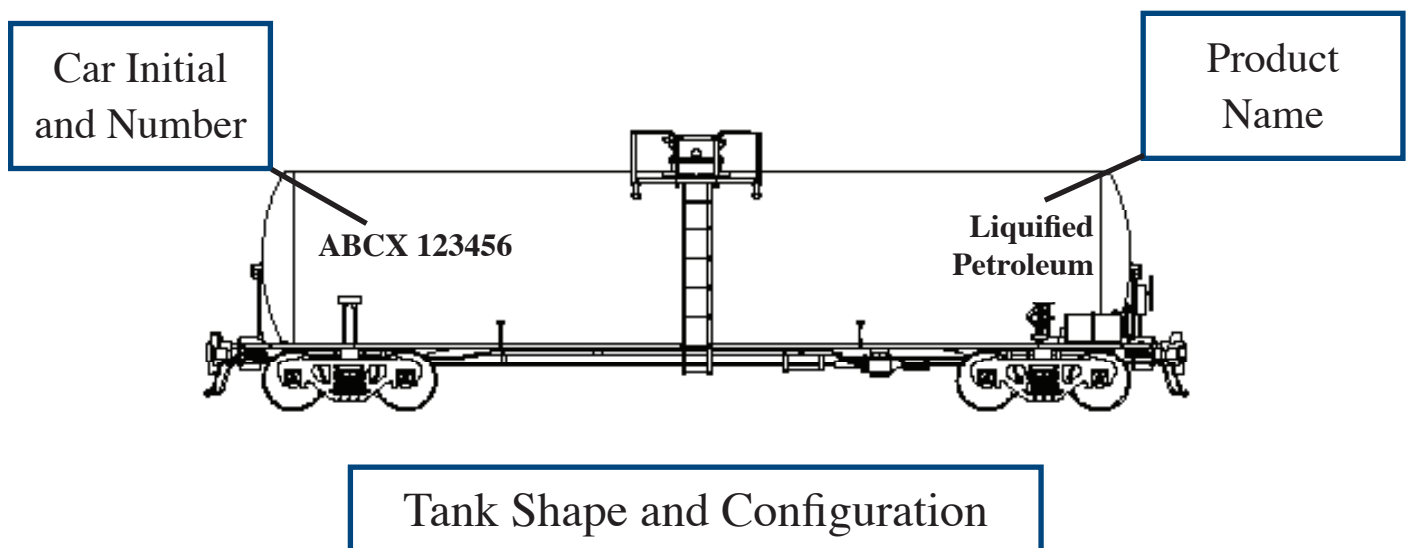
### Detect the Presence of Hazardous Materials

When responding to an emergency involving rail equipment, the responder first on the scene must determine whether or not hazardous materials are involved.

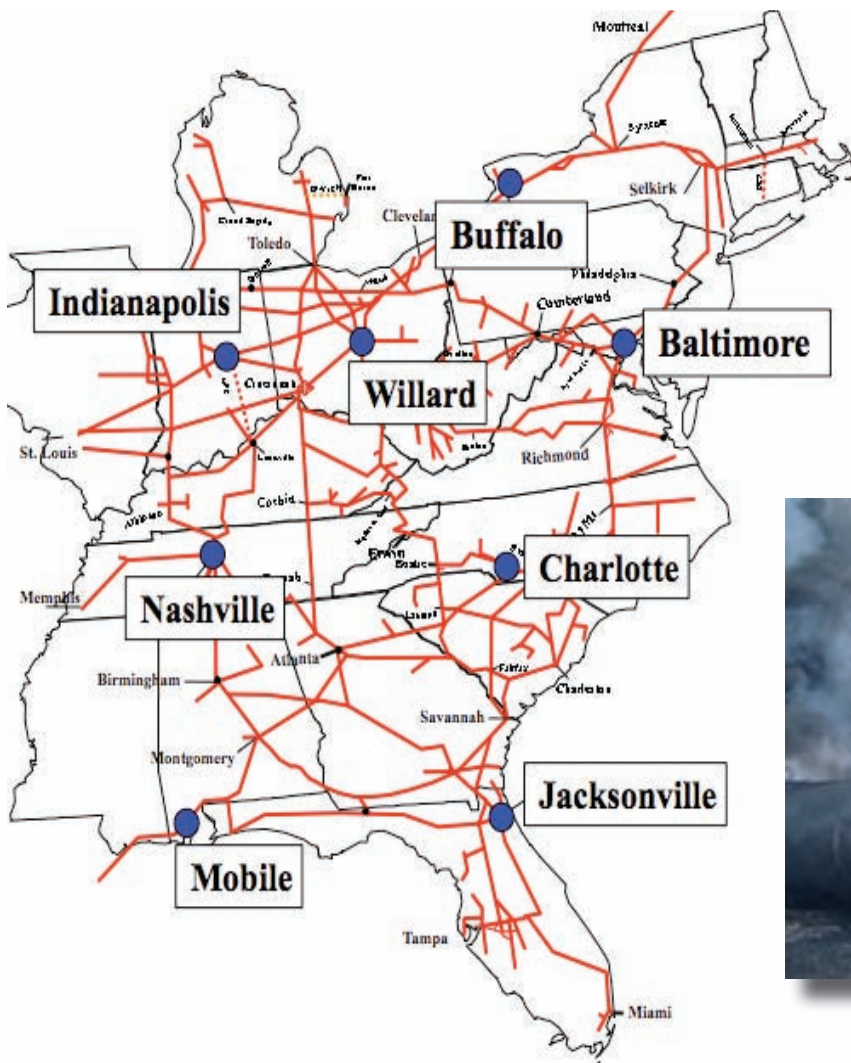
Survey the scene and look for simple detection clues. Placards, shipping papers, and certain container shapes can provide an early warning of the presence of hazardous materials in an emergency. The specifics of each detection clue will be discussed further in this manual.

If you discover hazardous materials present at the scene, you then must start to take protective actions. Those actions may include defensive tactics such as product containment or protection of waterways.

A good first step is to **ISOLATE and DENY ENTRY** to the scene until the hazards and conditions have been evaluated. Railroad personnel can assist responders in performing a thorough damage assessment.



## Hazardous Materials Field Officers Locations



The CSXT Hazardous Materials Field Officers are highly trained, duty experts equipped to respond to railroad incidents. They are also available, first hand, to train responders in railroad incidents during controlled classroom and field exercises. They are available to communities as resources and points of contact regarding hazardous materials and emergency response involving releases or potential releases of materials. Field officers are equipped and ready to respond to, and manage emergency incidents.

CSXT also maintains a network of emergency response contractors available for response to hazardous materials incidents. All contractors are pre-qualified and meet all applicable training requirements. Only those companies with proper equipment, training, and experience are used for CSXT emergency response.

## Railroad Officials

The day-to-day field operation of CSXT is the work of three major departments: *Transportation*, *Mechanical*, and *Engineering*. The Transportation department is responsible for the movement of trains. The Mechanical Department is responsible for the maintenance of rolling stock, including freight cars and locomotives. The Engineering Department oversees the maintenance of the track, tunnels, bridges, signals, and the railroad right of way.

In the event of a derailment, representatives from each of the respective departments will be at the scene. The Senior Transportation Officer serves as the railroad "Incident Commander". He is responsible for the overall management of derailment response operations.

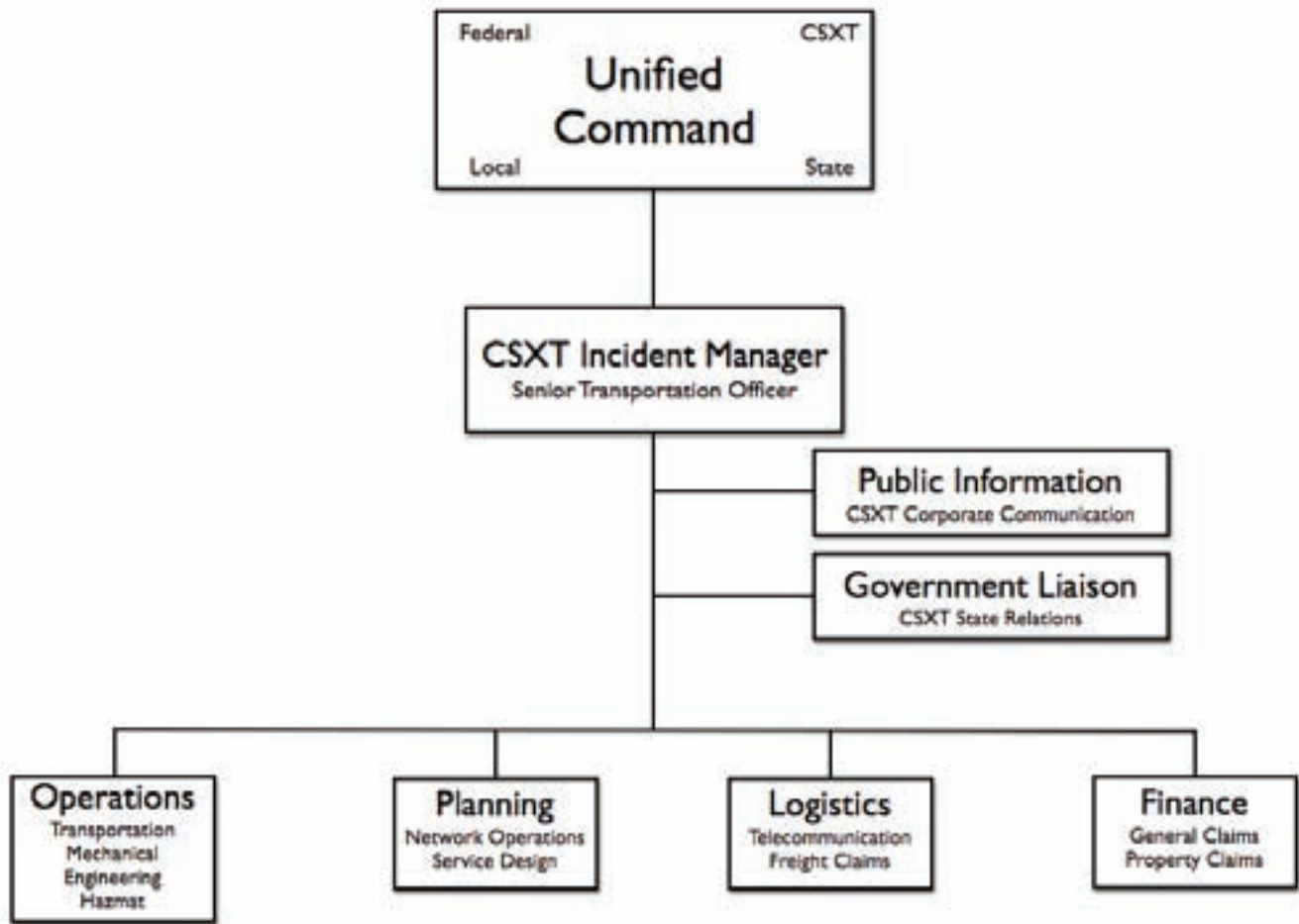
In much the same way that emergency responders use an incident command system to "sector" roles and responsibilities, the railroad uses different departments to accomplish the mission.

A mechanical officer or general foreman will be responsible for the uprighting and removal of derailed equipment. The division engineer or roadmaster will handle the reconstruction of any damaged track and signal equipment.

While the complement of railroad officials and personnel will vary depending on the severity of the situation, you will almost always encounter three major players. The local Trainmaster (Transportation), General Foreman (Mechanical), and Roadmaster (Engineering), will be on the scene to restore rail service and to assist emergency responders with their mission.



# CSXT Incident Management System





## Shipping Papers

This section shows examples of the documents and shipping papers carried on CSXT trains. The examples are excerpts and compilations from actual train documents.

The Department of Transportation (DOT) 49 CFR prescribes the documentation and descriptions for shipments of hazardous materials. Emergency responders should familiarize themselves with the basic documents/description requirements for shipments of hazardous materials. All modes of transportation, including railroads, are required to supply and have readily available shipping documentation for hazardous materials.

Shipping documents on a CSXT train are maintained and carried by the train conductor. The conductor will make these documents available to emergency response officials in the event of an emergency.

CSXT can also transmit the shipping documents by various means to emergency responders in the field. Train consists, freight car waybills, and emergency-handling instructions can be relayed via facsimile or verbally.

Condensed information can be relayed quickly from the CSX Public Safety Coordination Center via CSXT's Network Operations Workstation (NOW) System. To obtain shipping documents or other emergency information, responders can contact the **CSX Public Safety Coordination Center** at **1-800-232-0144**. The center operates 24 hours a day, 7 days a week with multiple operators.

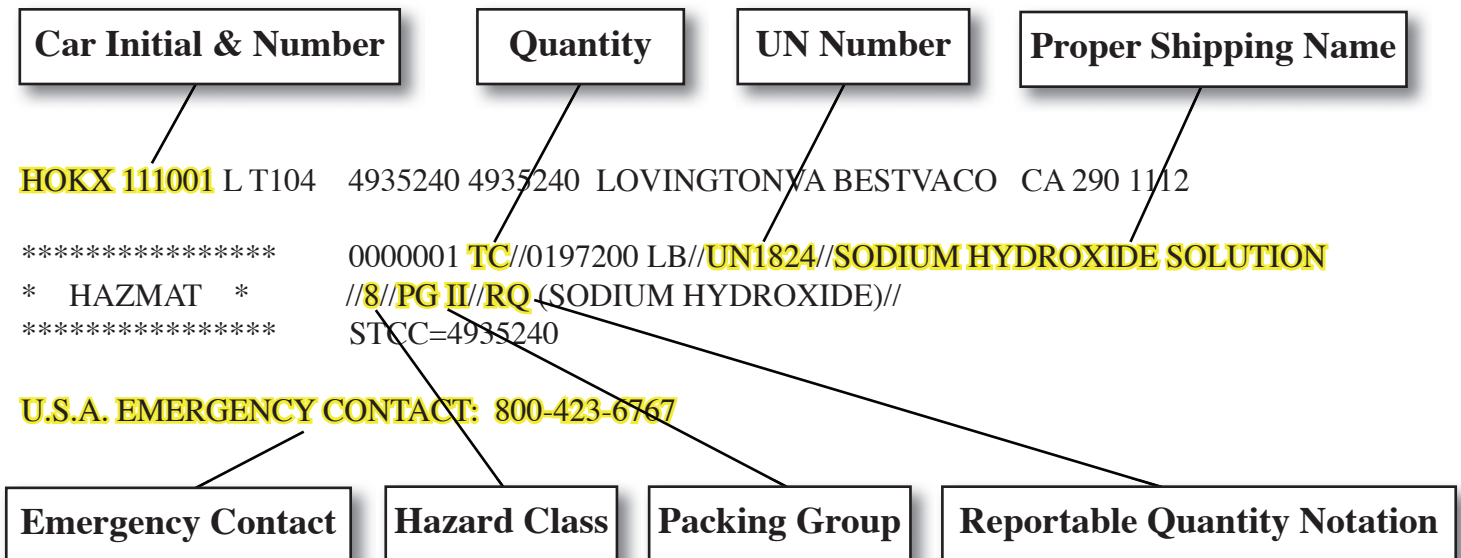


**CSX Public Safety Coordination Center**

**CSX Operations Center  
Jacksonville, FL**



## Example of a Hazmat Shipping Description



## Hazardous Materials Shipping Documents

The paperwork carried by a CSXT train crew is a multi-page document made up of four basic sections.

### Section I

Tonnage Graph

### Section II

CT-168  
Position-In-Train  
Document

### Section III

Train Listing and  
Hazardous  
Material  
Description

### Section IV

Hazardous  
Special Handling  
Instructions

A ***Train Consist*** is the primary shipping paper used by CSXT in railroad operations. When hazardous materials are present in a train, a train consist contains the following four basic sections:

1. A “***Tonnage Graph***” listing each car in the train by initial and number beginning with the first car and showing each car’s numerical position in the train; marking all cars containing hazardous materials with a series of capital “H’s.” (**Figure 1**)
2. A “***Position-In-Train***” document bearing a “Notice of Rail Cars/Units Containing Hazardous Materials,” the product’s “four-digit ID number” with car initials and numbers repeated, whether or not the car is loaded (L) or empty (E) and, what the car last contained (Residue). (**Figure 2**)
3. A “***Train Listing and Hazardous Material Descriptions***” list again showing car initial and number, its position in train, name of the shipper and receiver, emergency telephone number, the product’s hazard class, proper shipping name, and Standard Transportation Commodity Code (STCC) Number. The STCC structure is a system of assigning specific numbers to a specific article/commodity or a group of articles/commodities when offered for transportation by rail. (**Figure 3**)
4. A “***Hazardous Special Handling Instructions***” section describing Emergency Handling Precautions. (**Figure 4**)

A “***Waybill***” is a shipping document used by railroads for a particular rail car describing its contents and Shipper and Consignee information. In hazardous material shipments, this document contains all DOT required information. A waybill is used when a car is not associated with a train (**Figure 5**).

## Hazardous Material Special Handling Instructions

Hazardous material special handling instructions contain valuable information on dealing with specific commodities on board a train in the event of a spill or fire. Conductors are trained to provide this information to emergency responders in the event of an accident. These instructions conform to DOT requirements for providing emergency response information during transportation and are used widely throughout the rail industry. The documents contain the car initial and number, its position in the train, and the following detailed information:

- General product information and physical description
- Instructions if the material is, or is not, involved in a fire
- Personnel protection
- Land spill instructions
- Water spill instructions
- Vapor spill instructions
- First aid exposure response

\*\*\*\*\*  
START OF TRAIN DOCUMENTS

THIS DOCUMENT IS REQUIRED BEFORE DEPARTURE FROM ALL ORIGINATING TERMINALS

\*\*\*\*\*

=====

C= SHIPMENT GOVERNED BY CLEARANCE BUREAU INSTRUCTION  
R= POTENTIAL RESTRICTED EQUIPMENT-SEE "RESTRICTED AND SPECIAL HANDLING LIST". REFERENCE TIME TABLES, OPERATING RULES AND MECHANICAL INSTRUCTIONS FOR HANDLING IN YOUR TRAIN.  
L= LONG CAR  
S= SHORT CAR  
\*= EMPTY TOFC CAR

CAR INITIAL/ NUMBER
------------------------

**CAR INITIAL/  
NUMBER**

GRAND														
TOTAL		MERCHAN		PIGFLAT		COAL		PERISH		AUTORAK		TOTAL	TOTAL	TOTAL
L	E	L	E	L	E	L	E	L	E	L	E	TONS	LENGTH	AXLE
10	5	10	5									1,322	892	60

RESTRICTION KEYS\*\*\*\*\*

9250 = HAZARDOUS-SEE HAZ MATERIAL DESCRIPTION

9040 = RE RULE 7 - HIGH CUBE CAR

ENGINEER IS TO BE PROVIDED WITH TONNAGE GRAPH OR A LEGIBLE COPY OF THE TONNAGE GRAPH. THE UNNA NUMBER COLUMN CAN BE USED TO REFERENCE THE PRODUCT NAME OF THE HAZARDOUS MATERIAL IN THE EMERGENCY RESPONSE GUIDEBOOK.



## Figure 2 -CSXT Train Consist (Section 2) “CT-168 Position-In-Train Document”

CT 168 REPORT - **NOTICE OF RAIL CARS/UNITS CONTAINING HAZARDOUS MATERIALS**

TRAIN#: Q30321 CR TRN#: ORIG: ACCA TIME: 03202359 CONSIST#: 381771

THE FOLLOWING RAIL CARS/UNITS CONTAINING HAZARDOUS MATERIALS ARE LOCATED IN YOUR TRAIN. THEY MUST BE POSITIONED IN YOUR TRAIN IN ACCORDANCE WITH FEDERAL REGULATIONS. WHENEVER THERE IS A CHANGE IN THE POSITION OF ANY HAZARDOUS MATERIAL CAR IN THE TRAIN, THE CONDUCTOR (OR DESIGNEE) MUST IMMEDIATELY UPDATE THIS DOCUMENT TO SHOW THE NEW POSITION OF ALL HAZARDOUS MATERIALS CARS.

KEY FIELD CODES;

P = POISON INHALATION HAZARD ZONE A OR B  
E = ENVIRONMENTALLY SENSITIVE CHEMICALS

F = FLAMMABLE GAS 2.1  
X = EXPLOSIVES 1.1 OR 1.2

<u>INIT</u>	<u>NUMBER</u>	<u>L CONTAINER L</u>		<u>I.D.</u>	<u>KEY</u>	<u>TRN</u>	<u>REVISION</u>		
		<u>E</u>	<u>INIT</u> <u>NUMBER</u> <u>E</u>			<u>POS</u>	<u>1ST</u>	<u>2ND</u>	<u>3RD</u>
DUPX	29181	E		2265	-	006			
<b>HOKX</b>	<b>111001</b>	<b>L</b>		1824	-	<b>007</b>			
GATX	44130	L		1824	-	008			
GATX	44125	L		1824	-	009			
HOKX	111729	L		1824	-	010			
GACX	8213	L		1824	-	012			

**Figure 3 -CSXT Train Consist (Section 1) “Train Listing and Hazardous Material Descriptions”**

**TRAIN LISTING AND HAZARDOUS MATERIAL DESCRIPTIONS**

PAGE:001

=====

TRAIN#: Q30321 CR TRN#: ORIG: ACCA TIME: 03202359 CONSIST#: 381771

CARS IN THIS CONSIST COUNT FROM FRONT TO REAR

CAR NUMBER	CAR TYPE	COMMODITY CODE STCC	ALPHA	DESTINATION	CONSIGNEE	MP	YZCN
1	RBOX	31625	L B314	4024117	4024117	RICHMOND VA GEOPAC	CAB165 4332
2	CSXT	129824	E A302	2631117	EMPTY	DENTON VA SFLOW	AACA
3	CSXT	130211	E A302	2631117	EMPTY	RICHMOND VA SFLOW	CAB165
4	LXOH	7267	L A302	4024115	SCPAPER	RICHMOND VA GEOPAC	CAB165 4332
5	CSXT	142909	E A402		EMPTY	LOVINGTONVA BESTVACO	CA 290 4332
6	DUPX	29181	E T108	4914135	EMPTY	BELLE WV ACME	CGYNS

\*\*\*\*\* 0000001 TC//0000000//RESIDUE: LAST CONTAINED//UN2265//  
\* HAZMAT \* N-DIMETHYLFORMAMIDE//COMBUSTIBLE LIQUID//  
\*\*\*\*\* PG III//RQ (DIMETHYLFORMAMIDE)//STCC=4914135  
U.S.A. EMERGENCY CONTACT: 800-234-9000  
FROM SHIPPER: BUT-OIL RAIL CAR SVC SMITHINGTON VA  
TO CONSIGNEE: ACME BELLE WV

**7 HOKX 111001** L T104 4935240 4935240 LOVINGTONVA BESTVACO CA 290 1112

\*\*\*\*\* 0000001 TC//0199100 LB//UN1824//SODIUM HYDROXIDE  
\* HAZMAT \* SOLUTION//8//PG II//RQ (SODIUM HYDROXIDE)//  
\*\*\*\*\* STCC=4935240  
**U.S.A. EMERGENCY CONTACT: 800-423-6767**  
**FROM SHIPPER: SOLUTIONS CHEMICAL CORP ALBANY NY**  
**TO CONSIGNEE: BESTVACO CORP LOVINGTON VA**

8 GATX 44130 L T104 4935240 4935240 LOVINGTONVA BESTVACO CA 290 1112

\*\*\*\*\* 0000001 TC//0194350 LB//UN1824//SODIUM HYDROXIDE  
\* HAZMAT \* SOLUTION//8//PG II//RQ (SODIUM HYDROXIDE)//  
\*\*\*\*\* STCC=4935240  
U.S.A. EMERGENCY CONTACT: 800-423-6767  
FROM SHIPPER: SOLUTIONS CHEMICAL CORP ALBANY NY  
TO CONSIGNEE: BESTVACO CORP LOVINGTON VA

9 GATX 44125 L T104 4935240 4935240 LOVINGTONVA BESTVACO CA 290 1112

\*\*\*\*\* 0000001 TC//0194050 LB//UN1824//SODIUM HYDROXIDE  
\* HAZMAT \* SOLUTION//8//PG II//RQ (SODIUM HYDROXIDE)//  
\*\*\*\*\* STCC=4935240  
U.S.A. EMERGENCY CONTACT: 800-423-6767  
FROM SHIPPER: SOLUTIONS CHEMICAL CORP ALBANY NY  
TO CONSIGNEE: BESTVACO CORP LOVINGTON VA

10 HOKX 111279 L T104 4935240 4935240 LOVINGTONVA BESTVACO CA 290 1112

\*\*\*\*\*  
\* HAZMAT \* 0000001 TC//0197200 LB//UN1824//SODIUM HYDROXIDE  
\*\*\*\*\* SOLUTION//8//PG II//RQ (SODIUM HYDROXIDE)//  
\*\*\*\*\* STCC=4935240  
U.S.A. EMERGENCY CONTACT: 800-423-6767  
FROM SHIPPER: SOLUTIONS CHEMICAL CORP ALBANY NY  
TO CONSIGNEE: BESTVACO CORP LOVINGTON VA

11 UTLX 24617 L T104 3295956 LIMESTO LOVINGTONVA BESTVACO CA 290 1113

12 GACX 8213 L C712 4918723 4918723 LOVINGTONVA BESTVACO CA 290 1112

\*\*\*\*\*  
\* HAZMAT \* 0000001 C4//0200180 LB//UN1495//SODIUM CHLORATE//CLASS  
\*\*\*\*\* 5.1//PG II//ERP : 2-1209//ERP PHONE: (8198438771)//  
\*\*\*\*\* STCC=4935240  
U.S.A. EMERGENCY CONTACT: 800-966-1240  
FROM SHIPPER: EKAN VALLEY FORGE PA  
TO CONSIGNEE: BESTVACO CORP LOVINGTON VA

13 ECUX 882386 L C214 2821144 PLASTIC FREEMONT VA REXRO CA 221 5653

14 VAPX 91079 E H350 1121290 EMPTY CLIFTON VA CCOAL CA 278

15 BB 7068 L A302 1051410 BAUXITE BEECHER VA OILTEMIL LESUP

GRAND

TOTAL		MERCHAN		PIGFLAT		COAL		PERISH		AUTORAK		TOTAL	TOTAL	TOTAL
L	E	L	E	L	E	L	E	L	E	L	E	TONS	LENGTH	AXLE
10	5	10	5									1,322	892	60

-EOT-0116LINES-F3M#000011

**Figure 4 -CSXT Train Consist (Section 4) “Hazardous Special Handling Instructions”**

**HAZARDOUS SPECIAL HANDLING INSTRUCTIONS**

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-----  
IN CASE OF ACCIDENT PROVIDE THIS LIST TO RESPONSE TEAM  
-----

TRAIN#: Q30321 CR TRN#: ORIG: AACA TIME: 03202359 CONSIST#: 381771

**EMERGENCY HANDLING PRECAUTIONS**

HAZARDOUS COMMODITY 4935240

HOKX	111001	CAR 007 FROM ENGINE
GATX	44130	CAR 008 FROM ENGINE
GATX	44125	CAR 009 FROM ENGINE
HOKX	111729	CAR 010 FROM ENGINE

**SODIUM HYDROXIDE SOLUTION**

493524

CLASS 8 (CORROSIVE MATERIAL)

UN1824

ENVIRONMENTALLY HAZARDOUS SUBSTANCE

(RQ-1000/454)

SODIUM HYDROXIDE IS A DARK COLORED, THICK LIQUID. IT IS SOLUBLE IN WATER AND WEIGHS MORE THAN WATER. CONTACT WITH THE MATERIAL MAY CAUSE SEVERE IRRITATION TO SKIN, EYES, AND MUCOUS MEMBRANES. IT MAY BE TOXIC BY INGESTION. IT IS CORROSIVE TO METALS AND TISSUE. IT WEIGHS 13 LBS./GAL.

**IF MATERIAL INVOLVED IN FIRE**

EXTINGUISH FIRE USING AGENT SUITABLE FOR TYPE OF SURROUNDING FIRE

(MATERIAL ITSELF DOES NOT BURN OR BURNS WITH DIFFICULTY.)

USE WATER IN FLOODING QUANTITIES AS FOG

APPLY WATER FROM AS FAR A DISTANCE AS POSSIBLE

**IF MATERIAL NOT INVOLVED IN FIRE**

KEEP MATERIAL OUT OF WATER SOURCES AND SEWERS

BUILD DIKES TO CONTAIN FLOW AS NECESSARY

**PERSONNEL PROTECTION**

AVOID BREATHING VAPORS OR DUSTS

AVOID BODILY CONTACT WITH THE MATERIAL

WEAR APPROPRIATE CHEMICAL PROTECTIVE GLOVES, BOOTS AND GOGGLES

DO NOT HANDLE BROKEN PACKAGES UNLESS WEARING APPROPRIATE

PERSONAL PROTECTIVE EQUIPMENT

WASH AWAY ANY MATERIAL WHICH MAY HAVE CONTACTED THE BODY

WITH COPIOUS AMOUNTS OF WATER OR SOAP AND WATER

IF CONTACT WITH THE MATERIAL ANTICIPATED,

WEAR APPROPRIATE CHEMICAL PROTECTIVE CLOTHING

**ENVIRONMENTAL CONSIDERATIONS - LAND SPILL**

DIG A PIT, POND, LAGOON, HOLDING AREA TO CONTAIN LIQUID OR SOLID MATERIAL

DIKE SURFACE FLOW USING SOIL, SAND BAGS, FOAMED POLYURETHANE, OR FOAMED CONCRETE

ABSORB BULK LIQUID WITH FLY ASH OR CEMENT POWDER

NEUTRALIZE WITH VINEGAR OR OTHER DILUTE ACID

**FIRST AID RESPONSES**

MOVE VICTIM TO FRESH AIR; CALL EMERGENCY MEDICAL CARE.

REMOVE AND ISOLATE CONTAMINATED CLOTHING AND SHOES AT THE SITE.

712-

CSX TRANSPORTATION

-712

**HOKX 111001**

T104

03/31/09

81896

10001 LOVINGTON

VA

15225

ALBANY

NY

SOLUTIONS CHEMICAL CORP  
1 COUNTY HWY  
ALBANY NY 19412

03/31/09

BESTVACO CORP  
1800 WATER STREET  
LOVINGTON VA 36392

03/31/09

49 352 40

**1 T/C SODIUM HYDROXIDE SOLUTION**

8

UN1824//PG II

RQ (SODIUM HYDROXIDE)

**U.S.A. EMERGENCY CONTACT :**

**8004236767**

SHIPPER CONTACT :

CHEMTREC

HAZMAT STCC=4935240

\*\*\*\*\*END OF HAZMAT DATA \*\*\*\*\*

## Section III – Hazardous Materials

### UN/D.O.T. Hazard Class Description

<i>Class</i>	<i>Division</i>	<i>Definition</i>
<b>Explosives (1)</b>		
	1.1	Substances and articles, which have a mass explosion hazard
	1.2	Substances and articles, which have a projection hazard but not a mass explosion hazard
	1.3	Substances and articles that have a fire hazard and either minor blast hazard or both, but not a mass explosion hazard
	1.4-1.6	Other materials with explosive potential
<b>Compressed Gases (2)</b> Flammable Gas Non-Flammable Gas Poison (Toxic) Gas	2.1 2.2 2.3	Gases which ignite and burn easily Gases that may asphyxiate or can cause frostbite Gases which are poisonous by inhalation (PIH) [Subdivided by Hazard Zones]
<b>Flammable Liquids (3)</b> Flammable Liquid Combustible Liquid	3 3	Liquids with flash points below 141F Liquids with flash points above 141F
<b>Flammable Solids (4)</b> Flammable Solids Spontaneously Combustible Dangerous When Wet	4.1 4.2 4.3	Substances which are easily ignitable or burn readily Substances that can self-ignite on exposure to air Substances that upon contact with water can either become spontaneously combustible, or can give off flammable or toxic gas
<b>Oxidizers (5)</b> Oxidizer Organic Peroxide	5.1 5.2	Substances that will react to support combustion even in the absence of air Substances sensitive to heat, shock, and friction or may decompose and self-ignite
<b>Poisons (6)</b> Poison (Liquid or Solid) Poison (Inhalation Hazard) Keep Away From Foodstuffs Infectious Substances	6.1 6.1 6.1 6.2	Materials toxic enough to create a health hazard (Other than Zone A) Poison liquids or solids, PIH, Hazard Zone A Materials that give off dangerous or irritating fumes Infectious substances and regulated medical waste

<b>Radioactive Materials (7)</b>	7	Substances which emit ionizing radiation
<b>Corrosive Materials (8)</b>	8	Substances which corrode steel and damage tissue
<b>Miscellaneous Hazardous Materials (9)</b>	9	Hazardous substances that do not meet the definition of any other hazard class

<p><b>Class 1 (Explosives)</b></p> <p>Division 1.1 (Explosive with Mass Explosion Hazard) Division 1.2 (Explosive with Projection Hazard) Division 1.3 (Explosive with Pre-dominantly a Fire Hazard) Division 1.4 (Explosive with no Significant Blast Hazard) Division 1.5 (Very Insensitive Explosive) Division 1.6 (Extremely Insensitive Explosive)</p>	<p><b>Class 4 (Flammable Solids &amp; Reactive Solids/Liquids)</b></p> <p>Division 4.1 (Flammable Solid) Division 4.2 (Spontaneously Combustible) Division 4.3 (Dangerous When Wet Material)</p>
<p><b>Class 2 (Gases)</b></p> <p>Division 2.1 (Flammable Gas) Division 2.1 (Flammable Gas in cryogenic form in DOT 113 Tank Car) Division 2.2 (Nonflammable Gas) Division 2.3 Zone A (Poison Gas) Division 2.3 Other than Zone A (Poison Gas) Anhydrous Ammonia Canadian Only International Placard Note: The word "TOXIC" can be used in place of the word "POISON". May appear in conjunction with U.S. "POISON" GAS Placard (INHALATION HAZARD CLASS 2) on Canadian or International Shipments.</p>	<p><b>Class 5 (Oxidizers &amp; Organic Peroxides)</b></p> <p>Division 5.1 (Oxidizer) Division 5.2 (Organic Peroxide) Division 5.2 Valid through 2010 (U.S. and Canada Only)</p> <p><b>Class 6 (Poisonous Materials)</b></p> <p>Division 6.1 Zone A (Poison or Toxic Inhalation Hazard (PIH or TIH)) Division 6.1 Zone B (Poison or Toxic Inhalation Hazard (PIH or TIH)) Division 6.1 PGI (Other than Poison or Toxic Inhalation Hazard (PIH or TIH), PGI (POISON), or PGII) Division 6.1 PG II Note: The word "TOXIC" can be used in place of the word "POISON"</p>
<p><b>Class 3 (Flammable Liquids)</b></p> <p>Class 3 (Flammable Liquid)</p> <p><b>Combustible Liquids</b></p> <p>Combustible Liquid</p>	<p><b>Class 7</b></p> <p>Class 7 (Radioactive Material)</p> <p><b>Class 8</b></p> <p>Class 8 (Corrosive Material)</p> <p><b>Class 9 (Miscellaneous Hazardous Materials)</b></p> <p>Class 9 (Miscellaneous Hazardous Material)</p> <p><b>Mixed Load</b></p> <p>U.S. Canadian</p>



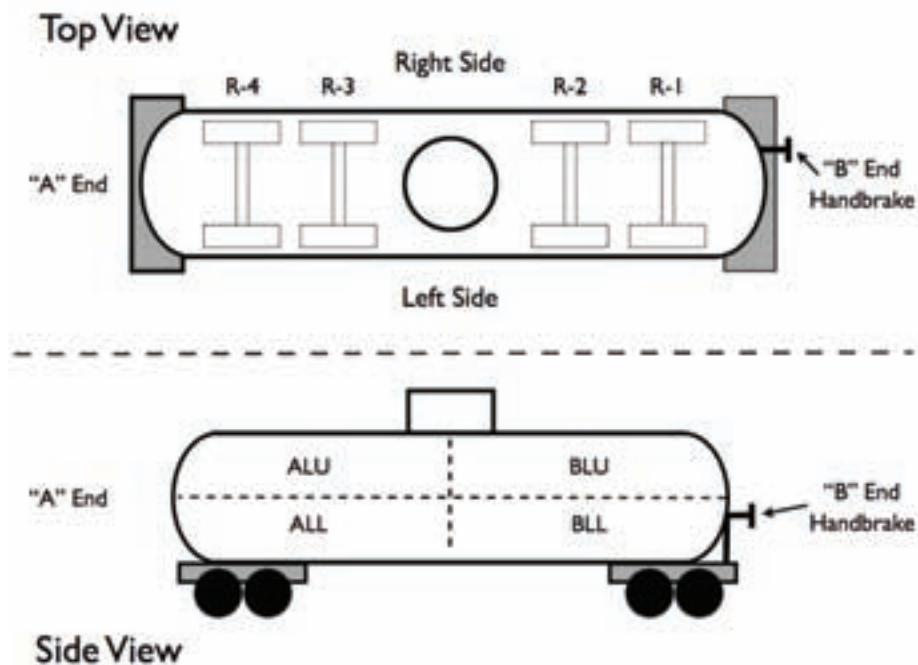
## Section IV - Tank Cars

### Tank Cars

Tank cars are the primary containers used to transport hazardous materials by rail. However, they are not the only type of car used to transport hazardous materials. We will review some of the other types of freight cars later in this book.

*A basic skill in incident damage assessment is the correct dissemination of information concerning the location and position of damage to containers. A system has been established to identify the left and right side for rail tank cars, regardless of the position of the car. All orientation begins with the "B" end of the car. The "B" end is that end of the car that has the handbrake. The end opposite the brake end is called the "A" end. To determine which side of the car is left and which is right, one would stand facing the "B" end. To the right is right, to the left is left.*

The figure below shows the **orientation scheme for rail cars**.





## Tank Car Markings and Stenciling

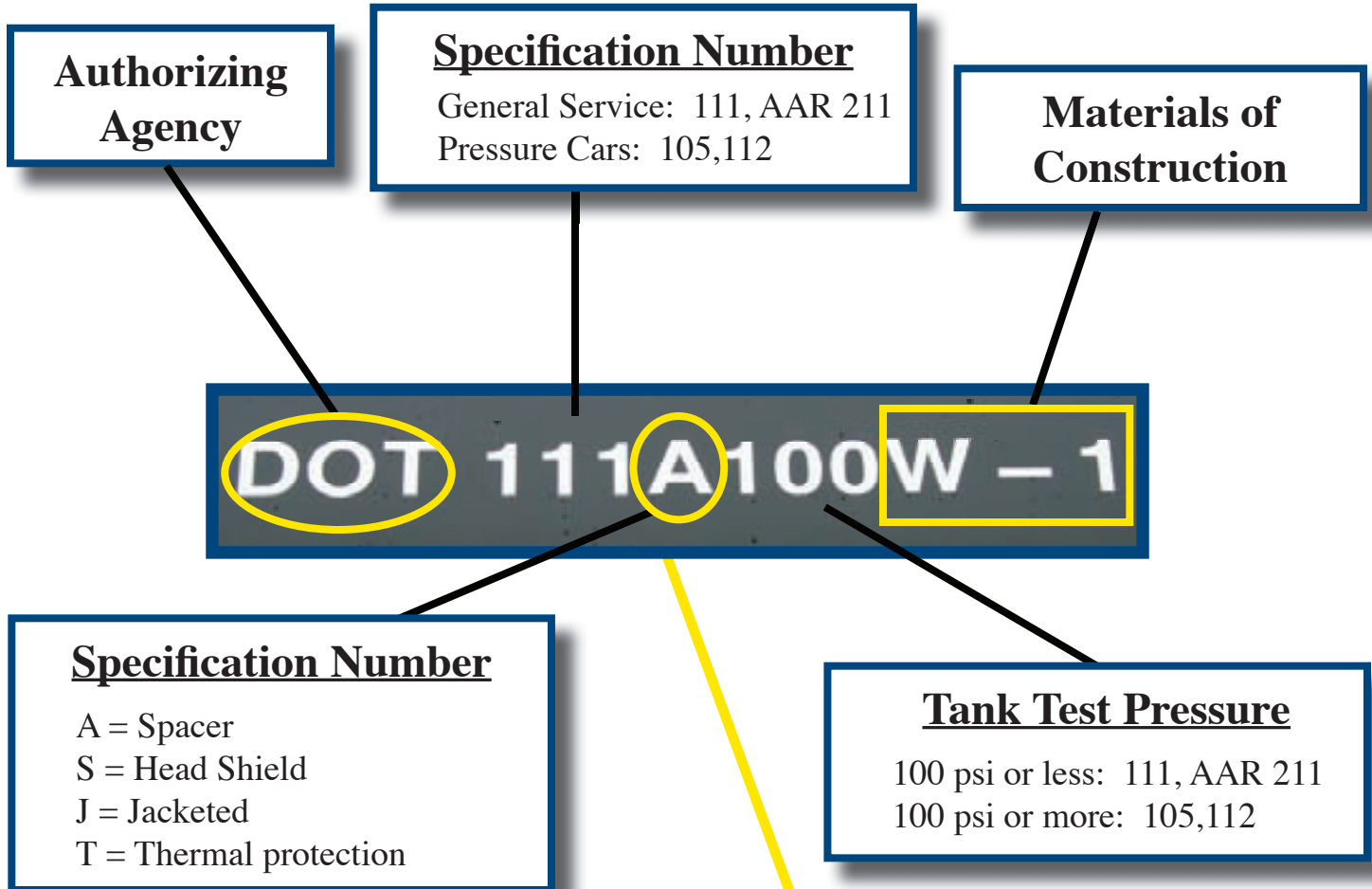
The diagram below shows some of the most important required stencils for rail tank cars. Of particular interest to emergency responders are the “DOT specification stencils”, which appear to the right hand side on both sides of the car. Additionally, stencils showing the liquid capacity of the car in gallons and liters are shown on both ends of the car.

On the left hand side of the car are the “reporting marks”. The reporting marks contain the car’s initial and number, which indicate the owner and serial number of the car. In the figure below, the reporting marks are: **SUJX 281003**. The car’s initial and number are vital to retrieving information concerning the car’s lading, shipper, and consignee. In the event of an emergency involving a rail car, every attempt should be made to determine the car’s initial and number, so that information concerning that specific car can be obtained.



- *Rail car initials and numbers are one of the most important pieces of information that emergency responders can obtain at the scene of a railroad emergency. All information related to the rail car is referenced by using the car initials and number.*
- *Responders should attempt to accurately record and report the initials and numbers of any cars involved in a derailment or other emergency situation.*
- *Remember the rail car’s initials and number is stenciled on both sides of the car (to the left) and on both ends of the rail car; sometimes it may also be located on top of the car closest to the B end.*

## Tank Car Specification Stencil



## Tank Car Specifications

Railroad tank cars can be divided into two major categories, general service and high pressure cars. Each type of tank car has distinctive characteristics that can provide valuable information to emergency responders.

General service tank cars are those characterized by their fittings and test pressures. General service cars will have tank test pressures at or below 100 psi and will also have exposed valves and fittings at the top and bottom of the car.

High pressure cars on the other hand, have tank test pressures of 100 psi to 600 psi and will have no exposed valves or fittings on the car. All of the loading/unloading valves and fittings are located within a protective housing at the top of the car.

The figure below illustrates how you might be able to identify what type of tank car is involved by looking at the car silhouette.



**General Service (Low Pressure) Tank Car** (Note the exposed fittings at the top and underneath the car)



**High Pressure Tank Car** (Note the single protective housing at the top of the car)

## General Service (Low Pressure) Tank Cars

DOT car type 111 and AAR car 211 are low pressure cars used to transport both hazardous and non-hazardous materials. Tank test pressures for this classification will be 100 psi or less. The majority of the cars in this class in transportation today are of the DOT 111 and AAR 211 variety. These are the two car types, which will be covered in this manual.

Safety features common to tank cars carrying hazardous materials include double shelf couplers and head shields. Also present in both low and high pressure cars may be thermal insulation, which can be either sprayed on or integral to the insulation under jacketing on cars. Thermal insulation is present when flammable liquids or gases are carried.

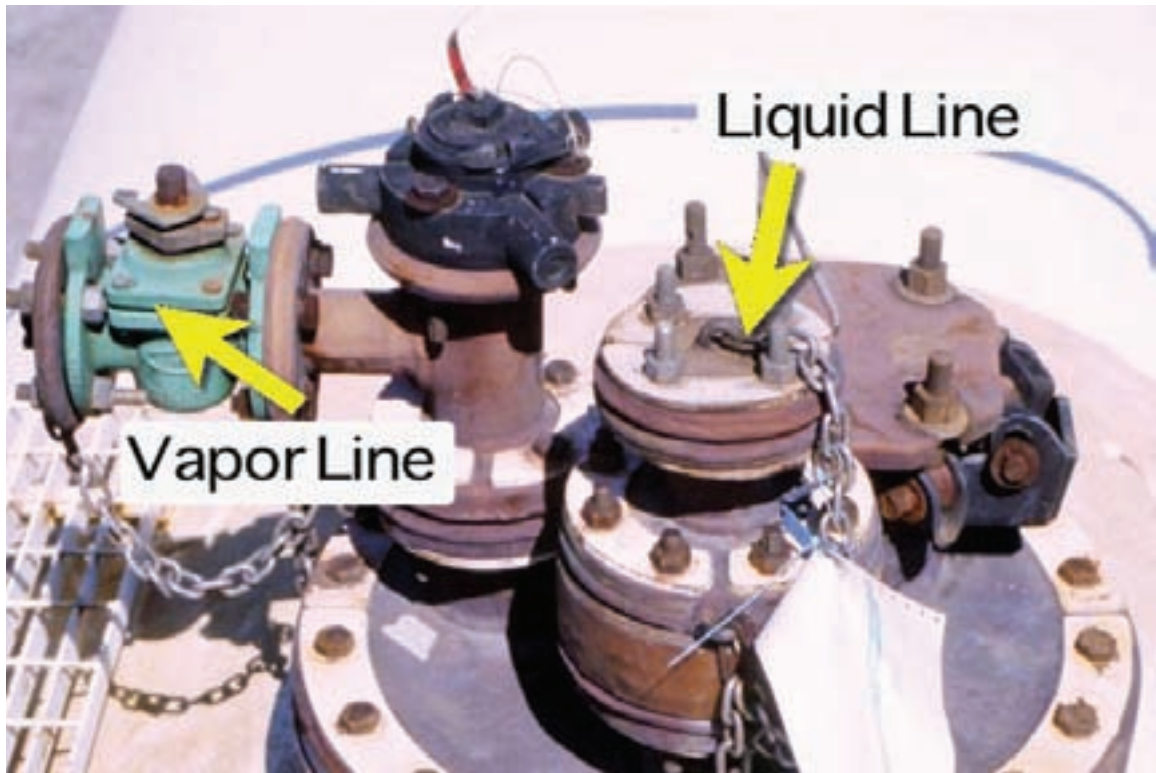
Knowing whether cars are jacketed is an important step in damage assessment. A dent in a jacketed car may be separated from the main body of the tank by up to twelve inches of insulation. Tank jackets are 1/8 inch steel panels. Under the jacket there may be external steam coils as well as the insulation. By identifying that a car is jacketed, a responder will know the next step in emergency activities.

DOT 111 and AAR 211 type cars are used to transport both hazardous and non-hazardous materials and make up over 70% of the tank car fleet. The typical shell thickness of these cars is 7/16 inches. They usually have a low profile manway on the top of the car. Most of the loading and unloading fittings are found in the general area of the manway. They may also be equipped with a bottom outlet for loading and unloading. The safety relief device may be a safety vent equipped with a frangible (rupture) disc, which will function only once and then remain open, or a spring loaded safety valve which will function to relieve pressure and re-close to enable it to function again, if necessary. Some tank cars may be equipped with a safety valve/safety vent combination device. Non-pressure cars may or may not be jacketed or insulated and may have exterior or interior heater coils. Steam lines may be connected to these heater coils at unloading racks because some products require the application of heat to be unloaded. Molten Sulfur and asphalt are examples of these products.

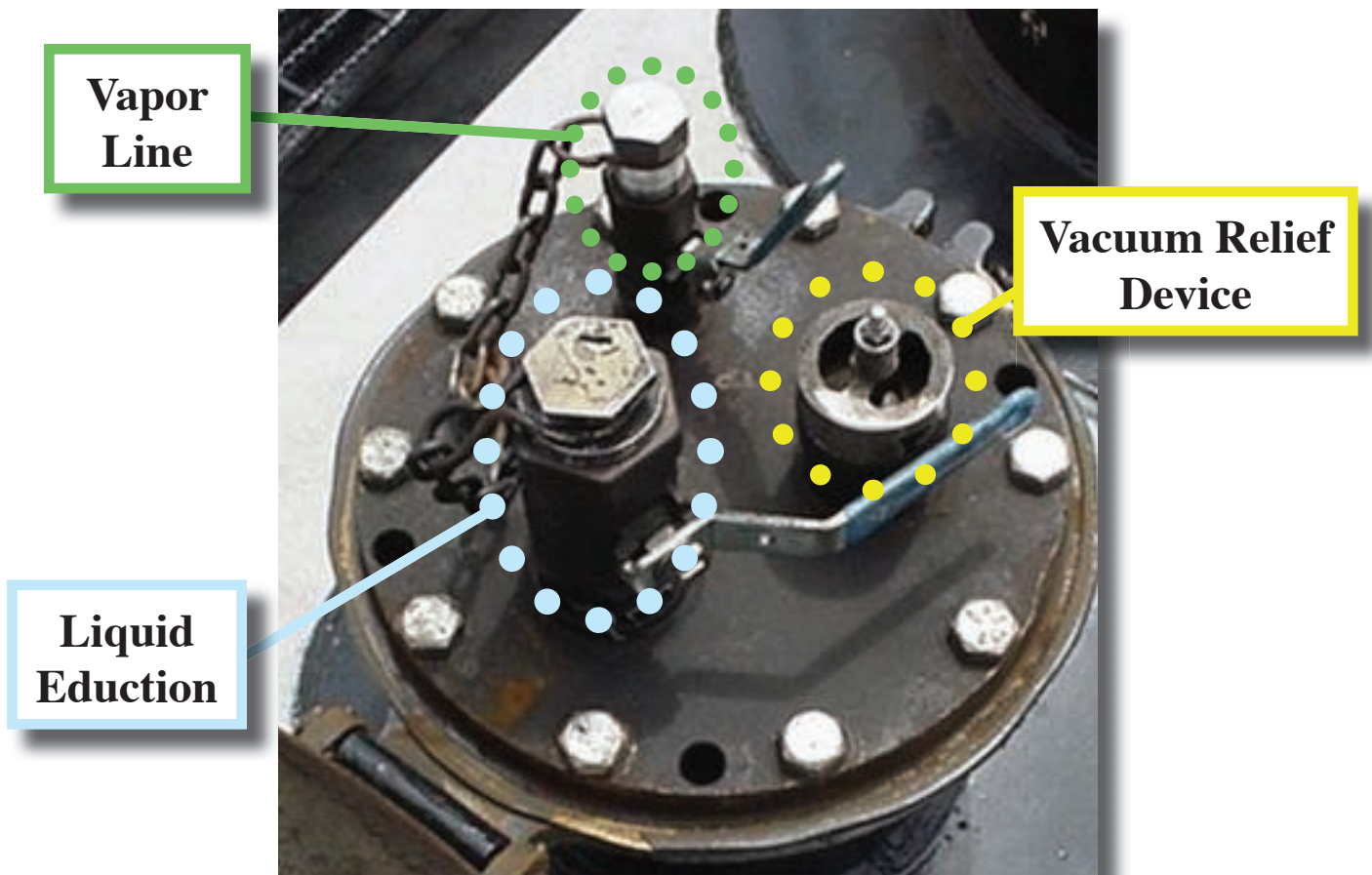
Cars equipped with a safety vent (rupture disc) may not be used to transport flammable/poison liquids. While both the 111 and 211 type cars are considered low pressure cars, it is important to remember that either of the cars, while in service, can have significant internal pressures. When initially opened, fittings and valves will have considerable backpressure and can spray product if not properly operated.







**Typical Top Fitting Arrangement-General Service Car in Acid Service**



**Typical Top Fitting Arrangement-General Service Car**



## High Pressure Tank Cars

DOT car types 105 and 112 are high pressure cars used to transport hazardous materials under pressure or those hazardous materials for which the DOT or the shipper require the additional protection of a safer car. DOT 106 and 110 multi-unit tank car tanks are actually one-ton containers, which may be transported by rail or highway. The most common of these car types used in rail transportation are DOT 105 and 112. These are the car types covered by this manual.

DOT 105 cars are used to transport liquefied gases and high hazard or environmentally sensitive materials. They are insulated with foam, fiberglass, ceramic fiber, or cork and have an exterior metal jacket to protect the insulation. They can be distinguished from the low pressure cars by the fact that all of the loading and unloading fittings are in one location on the top of the car and are covered by a protective housing. These cars are equipped with a spring-loaded safety relief valve or combination device (incorporating a valve and a frangible disc or breaking pin), which is set to function at 75% of the test pressure of the tank. The liquid and vapor valves may be equipped with excess flow valves to stop product flow if they are sheared off in a derailment. Bottom outlets are not permitted nor are any fittings outside of the protective housing. These cars are typically used to transport such commodities as chlorine, carbon dioxide, sulfur dioxide, anhydrous ammonia, and LPG's.



NOTE: Tank cars used to transport carbon dioxide and certain other liquefied atmospheric gases are also equipped with pressure regulators that are designed to relieve internal pressure during transportation. Venting product to atmosphere is normal for these cars.

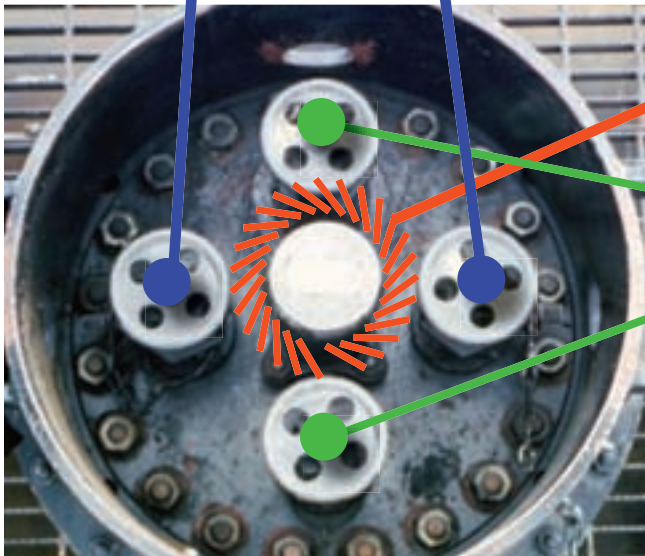
DOT 112 cars are used to transport liquefied gases and high hazard or environmentally sensitive materials. They usually have all of their loading and unloading fittings contained within the protective housing on the top of the car. Bottom outlets are not permitted on DOT 112s. If either of these types of cars is used to transport flammable gases, they will have head shields and thermal protection. Thermal protection means that the tank car can be subjected to a pool fire for 90 minutes without a rise in temperature of the commodity by 1 degree. The liquid and vapor valves may be equipped with excess flow valves to stop product flow if they are sheared off in a derailment. They are equipped with a spring-loaded safety relief valve or combination valve/vent usually set to function at 75% of the test pressure of the car. They may have a steel jacket to protect the thermal protection system. These cars are typically used to transport liquefied petroleum gas and anhydrous ammonia.



## Liquid Lines

## Pressure Relief Device

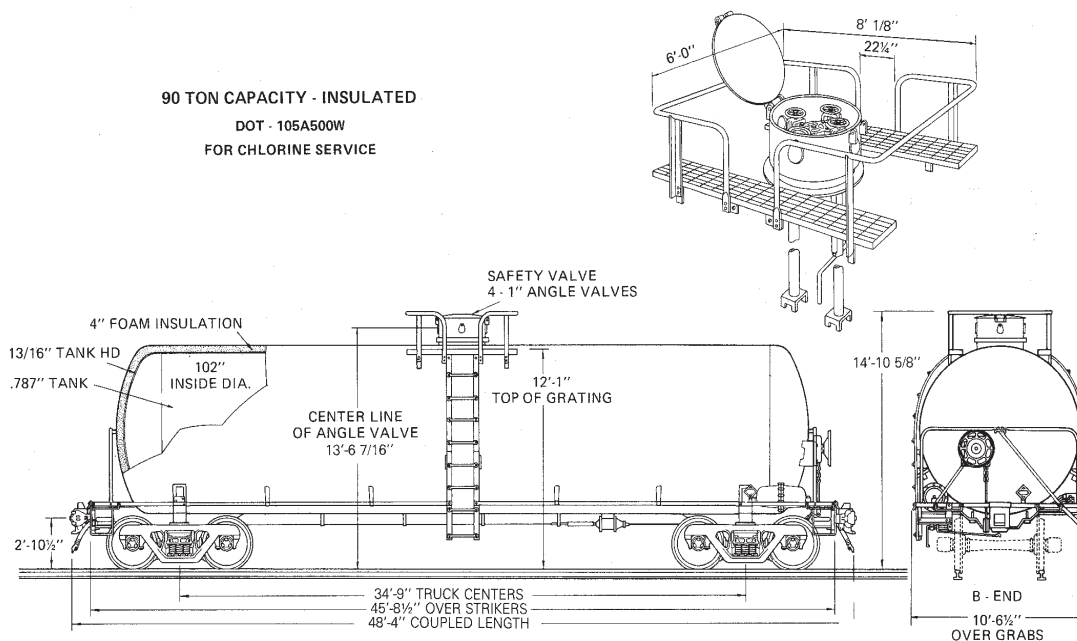
## Vapor Lines



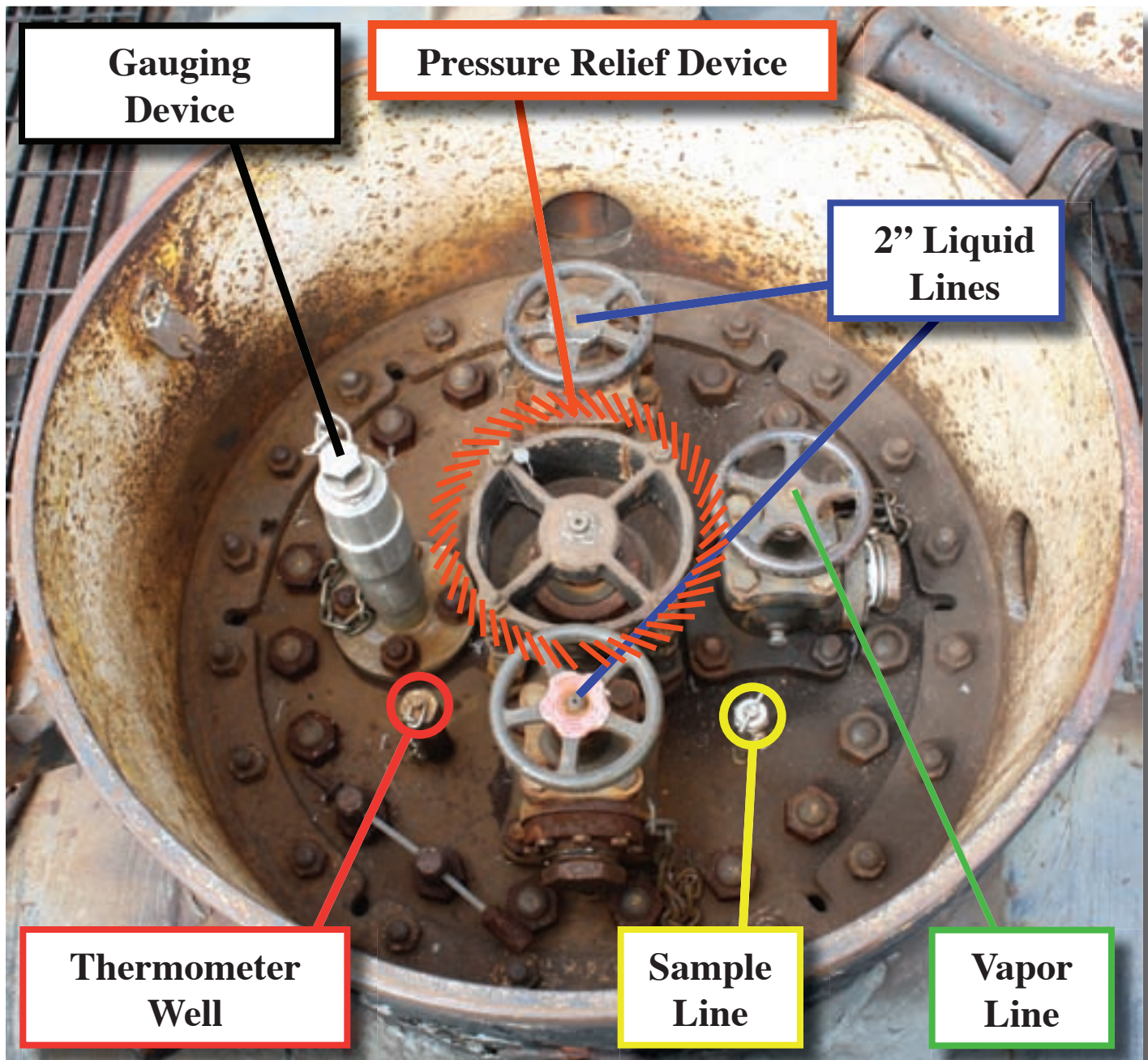
Typical Chlorine  
Tank Car



90 TON CAPACITY - INSULATED  
DOT - 105A500W  
FOR CHLORINE SERVICE



## High Pressure Tank Car Valve Arrangement





## Section V – Other Rail Equipment

### Freight Cars

In addition to tank cars, hazardous materials may be transported in other types of rail freight cars. Each type of car presents individual hazards and handling issues. You will want to be able to identify individual freight cars by type in the event of a response to a derailment.

#### Boxcar

The primary function of the boxcar is to transport commodities and products requiring protection from the weather. In addition to the boxcars used for general freight, cars have been designed for shipping such freight as automobile parts, lumber, grocery products, appliances, and some bulk materials. Hazardous materials may be transported in boxcars in bottles, boxes, drums, or intermediate bulk containers. The major hazard from boxcars is the shifting of lading during a derailment. Large, unstable loads, as well as hazardous materials, may be encountered.



#### Refrigerator Car

The refrigerator car, similar in appearance to the boxcar, is essentially an insulated car that has been designed to transport commodities that require low or specific temperatures. An additional potential hazard from a refrigerator car is the possibility of a fuel spill. The generator that runs the cooling plant may have a diesel fuel tank with capacities as high as 500 gallons. Typical refrigerator cars can be satellite controlled and may turn on or off at any given moment.



## Flatcar

The flatcar is a general purpose car built without sides. Flatcars are manufactured in various shapes and sizes to meet the specific requirements of shippers.



The movement of highway trailers on flatcars (TOFC) and intermodal containers (COFC) is the most likely way hazardous materials will be encountered on flatcars. TOFC shipments will usually involve non-bulk containers, such as drums and bottles. COFC shipments can either be bulk shipments as in the case of tank containers or non-bulk as in box containers.

## Gondola Car



Gondola cars are built in various sizes and capacities to meet shipper requirements. Cars with lengths and capacities as much as 60 feet and 100 tons are available. Cars have been designed to accommodate oversize loads, both as to length and overhead clearance, and to permit side or bottom dumping. They may be equipped with racks for special commodities or covered to provide weather protection. A common use for gondola cars is the transportation of contaminated soils and hazardous wastes.



## Hopper Car

Due to the emphasis of bulk movement of freight by rail, hopper cars constitute the largest number of freight cars among railroad equipment. Hopper cars have been designed with powered door operating devices, some of which are completely automatic thus making them self-unloading.

Hopper cars can be divided into two categories: open-top hoppers and covered hoppers. A subgroup of covered hoppers is the pneumatic hopper, which can be pressurized to a level that allows the lading to be pushed out or flow. Covered hoppers should not be under pressure during shipment or movement.

Oxidizers in powder or granular form are commonly transported in covered hoppers. Fertilizers, pigment powders, and other solid materials represent potentially environmentally sensitive materials that may be transported in hopper cars.

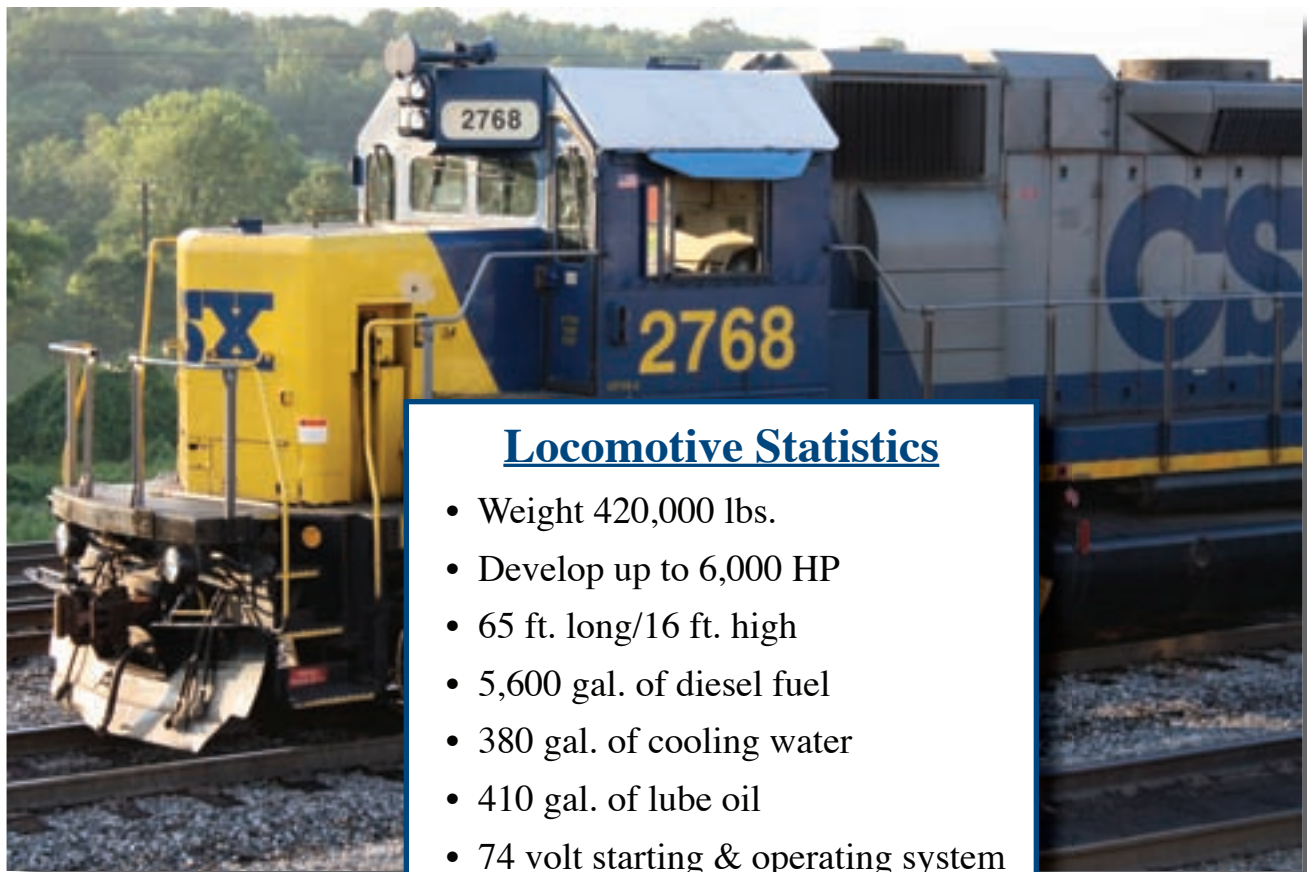


## Locomotives

Locomotives represent an ever-present source of potential hazards for responders. The modern diesel-electric locomotive can carry up to 5,600 gallons of fuel. This in itself can pose significant problems if the tank is ruptured in an accident. In addition to the potential for a fuel spill, locomotives can pose an electrocution hazard if they are not properly shut down.

Diesel-electric locomotives use large diesel generators to provide electric power to traction motors. These traction motors provide the motive power to move the locomotive and in turn the train. These generators can develop upwards of 600 volts of DC power or 23,000 volts of AC power at 800 amps. Clearly coming into contact with an energized circuit of this magnitude would cause serious injury.

Because a locomotive is a complicated piece of machinery, emergency responders should only attempt to shut down the locomotive using the fuel cut-offs. Any other measures should only be attempted by trained personnel.



### Locomotive Statistics

- Weight 420,000 lbs.
- Develop up to 6,000 HP
- 65 ft. long/16 ft. high
- 5,600 gal. of diesel fuel
- 380 gal. of cooling water
- 410 gal. of lube oil
- 74 volt starting & operating system
- Up to 600 volts DC power
- Up to 23,000 volts AC power

## Locomotive Emergency Fuel Cut-Offs

There are three emergency fuel cut-off switches on all locomotives. Two of these switches are located on the outside of the unit, directly above the fuel tanks.

The figures below show typical locations for the emergency fuel cut-off.

These switches are activated by pressing the button. This causes a solenoid valve at the top of the fuel tank to close. Once this valve is closed, all fuel flow to the diesel engines will cease. The engines will then shut down within one minute. Keep in mind that the locomotive may remain energized after the diesel engine is shut down.



**EMERGENCY  
FUEL  
CUT-OFF**

The internal emergency fuel cutoff shown here is located in the engine cab directly behind the engineer's control stand. It serves the same function as the cutoffs located on the exterior of the locomotive.



## Passenger-Commuter Train Incident Considerations

At many locations, passenger rail entities operate commuter and passenger trains on CSXT owned and operated tracks. When operating on CSXT tracks, these trains are under the operational control of a CSXT train dispatcher. In the event of an emergency involving a passenger train, CSXT officials will coordinate with the passenger rail entity officials to manage the evacuation of passengers and mitigation of the emergency. Notification of the incident to emergency responders will be essentially the same as outlined in Section 3 of this guide. CSXT, in conjunction with officials from the passenger railroad, will respond to an incident to provide needed services and resources.

For emergency responders, the concept of Unified Incident Command is essential to safe and effective emergency operations. CSXT and passenger train officials will work with the public safety incident commander to bring the incident to a safe conclusion.

In the event of a passenger train emergency, the timeliness of the response is paramount since medical treatment and evacuation of passengers will sometimes be required. Many passenger rail entities produce detailed guidance and information for emergency responders. Localities having passenger rail traffic are encouraged to contact the local passenger rail operator for further emergency planning information.

Identifying access points for emergency equipment and routes for emergency medical evacuation is an important preplanning aspect of emergency preparedness. Emergency management officials should be aware of the location and type of operations conducted on rail lines in their area of responsibility and whether it involves freight, passenger, or both types of rail operations. Local CSXT personnel can assist emergency responders by providing information on points of vehicular access to railroad property.

In the event of a derailment of a passenger train, special consideration needs to be given to the issue of passenger evacuation. For safety reasons, passengers on the train should not be evacuated unless it is absolutely necessary to do so. If the rail cars are upright and there is no danger to the passengers inside the car, it is recommended that they stay in the cars until such time that adequate shelter and transportation is available. The areas in and around railroad tracks, especially immediately following a train derailment, can be very hazardous. Keeping passengers in the cars helps to maintain site safety and passenger accountability.

Operation Respond Emergency Information System (OREIS)® software contains schematics of virtually all passenger rail cars in use in the eastern United States. This software can aid the emergency responders in locating emergency exit windows, electrical cutoffs, and seating capacities of various cars. For more information on the OREIS software see the Operation Respond Internet address.



CSX Transportation has prepared a Passenger Train Emergency Preparedness Plan in order to ensure the safety of National Railroad Passenger Corporation (Amtrak) passenger trains during a security event while operating on our network. As part of this plan, CSXT is designating certain locations on passenger routes where Amtrak operates as “Safe Havens.” These Safe Havens were selected based on geographic spacing throughout our network and having an accessible discharge point should the need to evacuate a train arises. There are 149 locations on CSXT’s network that have been identified Safe Havens. Of these selected locations, 87 are at Amtrak stations or facilities and the remaining 62 are at road crossings. These crossings have been identified by street name and the corresponding railroad milepost location.

***If emergency response personnel need to communicate with a passenger train operating on CSXT tracks, they should contact the CSX Public Safety Coordination Center at 1-800-232-0144.***



It is also important to recognize that if an incident involving a passenger, commuter, or freight train occurs on a track adjacent to CSXT’s trackage, or in the close proximity thereto, that CSXT should be promptly contacted through the CSX Public Safety Coordination Center.



## Passenger Rail Contact Information

Below is a list of passenger rail entities that operate on or in the very close proximity to, i.e., parallel to, over, under, or across CSXT rail lines:

Passenger-Commuter Entity	Location of Operation	Non-Emergency Telephone Number
Amtrak	Various	202-906-3000
BSDA	St. Louis, MO/E. St. Louis, IL area	314-982-1400
CTA	Chicago, IL area	312-664-7200
CTA (Shaker Heights Rapid Transit)	Cleveland, OH area	216-621-9500
HART	Tampa, FL area	813-254-4278
Long Island Rail Road, Co., The	Long Island, NY area	718-558-7400
MARC Train Service	Maryland/Washington DC area	410-539-5000
MARTA	Atlanta, GA area	404-848-5000
Metra	Chicago, IL area	312-322-6900
Metro North Railroad	Metropolitan NYC area	212-340-3000
MBTA	Boston, MA area	617-222-3200
MTA	Baltimore, MD area	410-539-5000
NCDOT [1]	Raleigh, NC area	919-733-7245
NICTD	Chesterton/Michigan City, IN area	219-926-5744
NJT	North New Jersey	201-714-2811
PATH	New Jersey area	201-216-6199
SEPTA	Philadelphia, PA area	215-580-7852
Tri-Rail [2]	Miami – Ft. Lauderdale, FL area	954-942-7245
VRE	Virginia/Washington DC area	703-684-1001
WMATA	Washington DC/Maryland area	202-962-1234

[1] Trains owned by North Carolina Department of Transportation (NCDOT); operated by Amtrak on and adjacent to CSXT trackage.

[2] Trackage owned by the State of Florida; train dispatching conducted by CSXT

Emergency responders and planners desiring additional information on passenger train emergencies may contact Amtrak's Manager-Emergency Preparedness at [perryjo@amtrak.com](mailto:perryjo@amtrak.com).

**To contact Amtrak directly in the event of an emergency, call the Amtrak Operations Center at 1-800-424-0217.**

# Appendix A – Railroad Hazardous Materials Transportation Safety

## Transportation of Hazardous Materials by Rail: The Safe Way to Ship

Association of American Railroads

August 2006

### Summary

Tank cars have been used on railroads since 1865. Originally, they were made of wood and used to transport crude and refined oil products – even pickles in brine and oysters on ice – but their use has grown substantially. Today, tank cars made of steel, stainless steel, and aluminum safely carry many of the chemicals, liquefied gases, and foodstuffs used by industry and consumers to improve the quality of life.

Thanks to massive infrastructure and equipment investments, safer operating procedures, freight car design improvements, and other factors, railroads have an excellent overall hazmat safety record. In fact, railroads are the safest way to transport hazardous materials.

### Most Tank Cars Are Not Owned by Railroads

- Tanks cars – about 300,000 of them at the end of 2007 – comprise 22 percent of the nation’s freight car fleet. Only covered hoppers comprise a larger percentage of the fleet.
- Railroads own very few tank cars: 99.6 percent are owned by leasing companies or shippers. Railroads transport tank cars at the direction of shippers.
- There are two general categories of tank cars – those that carry their contents under pressure (pressurized cars) and those that carry their contents at normal atmospheric pressure (non-pressurized cars). Beyond these broad categories are a wide variety of designations that address specific design features such as tank material or tank strength.
- The U.S. Department of Transportation (DOT) establishes regulations for the specifications of tank cars intended for the movement of hazardous materials. To protect the tank in the event of fire, all tank cars are equipped with pressure relief devices. All tank cars that carry hazardous materials must be equipped with double shelf couplers, designed to prevent tank punctures by a coupler in the event of an accident or derailment.

- Tank cars transporting higher hazard materials warrant the use of extra safety features. Among these are steel shields at each end of the car: these “head shields” are intended as further protection against puncture of a tank. Some cars are also required to have thermal shields and some cars have added protection from jacketed insulation systems and protected top and bottom fittings. Other safety features in tank cars include steel (which performs better at low temperature), improved standards for cars carrying hazmat above 263,000 pounds gross rail load and cars carrying environmentally sensitive chemicals, surge suppression devices, and more robust rupture disks.

## **The Railroad Hazmat Safety Record is Impressive**

- Each year, approximately 1.7 million carloads of hazardous materials (hazmat) are transported by rail in the United States and 99.996 percent of these shipments reach their final destination without a release caused by an accident. Moreover, railroads have reduced overall hazmat accident rates by 87 percent since 1980 and by 34 percent since 1990.
- Materials that present a “Toxic Inhalation Hazard” (TIH) - gases or liquids (such as chlorine and anhydrous ammonia) that are especially hazardous if released - amount to about 100,000 of these carloads. Under the common carrier obligation, the federal government mandates that railroads are required to transport hazmat. Trucks and barges don’t have this same obligation and may refuse to carry hazmat at their discretion.
- According to the Research and Special Programs Administration of the U.S. DOT, the number of hazardous materials incidents per thousand carloads - unintentional releases of hazardous materials (of which the vast majority are minor leaks from valves and fittings) - has declined 72 percent since 1980 and 58 percent since 1990.
- Railroads are a safer way to transport hazardous materials than by highway. Railroads and trucks generate roughly equal hazmat ton-mileage, but trucks have close to 17 times more hazmat releases than railroads. Based on DOT data, it appears that 17 persons died from 1998-2007 because of exposure to hazmat in rail accidents, compared to 124 in highway accidents. Railroads now have less than 5% of the hazmat incidents and 21% of the serious hazmat incidents that trucks have, despite the roughly equal hazmat ton-mileage.
- To address losses of hazardous lading that are not the result of accidents, the AAR spearheaded the launch of the North American Non-Accident Release (NAR) Prevention Task Force in 1995. NAR’s are usually small (less than 10 gallon) spills, but which have the potential to cause injury. Since its inception, NAR’s have declined by over 43 percent.

## Cooperative Efforts Target Safety Gains

- The Association of American Railroads (AAR) and its members are involved in many cooperative efforts to further improve the rail industry's safety record. For example, AAR has been a member of the Dangerous Goods Advisory Council (DGAC) for over 27 years. DGAC is an international, nonprofit, educational organization devoted to promoting safety in domestic and international transportation of dangerous goods. Incorporated in 1978, DGAC fulfills its mission by providing education, technical assistance, and information to the private and public sectors.
- AAR audits the quality assurance programs and technical capabilities of suppliers who manufacture and repair tank cars.
- AAR, in conjunction with the Railway Supply Institute (RSI), the Federal Railroad Administration, and Transport Canada are conducting field-testing of tank cars in rail transportation to measure the forces tank cars see in the rail operating environment to ensure that tank cars are properly designed and built to withstand the rail transportation environment.
- The RSI-AAR Tank Car Safety Research and Test Project (the "Project") sponsored by the two associations maintain a database that has grown to over 40,000 tank cars, which have been involved in derailments since 1970. The Project carefully analyzes these accidents involving tank cars and continually updates the comprehensive database on the precise nature of the damage. Analysis of these data improves safety by improving researchers' ability to identify the causes of tank car releases and helps prevent future occurrences. The database is often cited by the DOT as a role model for other modes of transportation. The Project is currently evaluating the use of better steels for tank cars; determining the effects of thermal protection degradation of rail tank cars in service; and providing validation and input data for a model used to evaluate the effects of fire on tank cars. Beyond the Project, the rail industry and rail suppliers are constantly investigating other ways to enhance tank car safety. For example, the Project is cooperating with FRA to investigate the forces generated in accidents to better understand ways to further improve tank car damage resistance. AAR's Tank Car Committee adopted a standard for tank cars carrying toxic inhalation hazard materials which improves the conditional probability of release of those tank cars by between 63-73%. Those standards are currently in effect for all cars constructed after March 30, 2008. Finally, chemical corporations, railroad companies, and tank car builders are working on a joint project called the Next Generation Tank Car Project to improve TIH tank car safety by utilizing new technologies.

- Railroads provide comprehensive training for hazmat emergency responders in many of the communities they serve and already have well-established, effective procedures in place to assist local authorities in the event of hazmat incidents. In fact, through the American Chemistry Council's (ACC's) Transportation Community Awareness and Emergency Response (TRANSCAER®) Program, railroads help train more than 20,000 local emergency responders per year.
- In the unlikely event a tank car carrying hazardous materials is involved in an accident or somehow spills or leaks some of its cargo, specially trained AAR inspectors provide assistance or advice on how to handle the incident in the safest manner. Railroads and chemical companies also employ experts who are on call around the clock. These experts, including CSX Hazardous Material Systems Officers, also provide public training to firefighters and other emergency responders, and work with municipal governments to develop emergency plans.
- Railroads assist communities in developing and evaluating emergency response plans; provide training for emergency responders; and support Operation Respond, a nonprofit institute that develops technological tools and training for emergency response professionals.
- Trains containing specific amounts of the most hazardous materials are subject to special speed limits, passing restrictions, and inspection requirements. Railroads increase track inspections, training, and installations of wheel defect detectors on routes over which these trains operate.
- Upon written request, AAR members will provide bona fide emergency response agencies or planning groups with specific commodity flow information covering at a minimum the top 25 hazardous commodities transported through the community in rank order.
- In addition, AAR operates a Hazardous Materials Emergency Response Training Program at its Transportation Technology Center near Pueblo, Colorado. Since 1985, more than 40,000 emergency responders from municipal fire departments, the rail industry, chemical shippers, contractors, and even trucking companies have been trained to deal safely with hazardous materials emergencies.



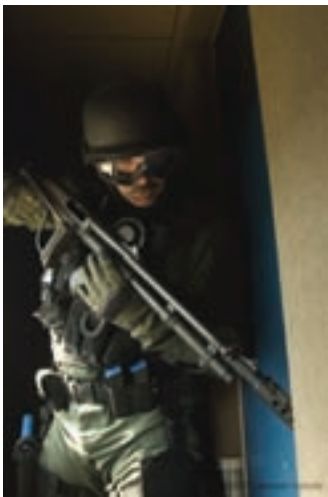
## Hazmat Security

- The industry's comprehensive Terrorism Risk Analysis and Security Management Plan, which was developed in December 2001 and is continually being evaluated to ensure continued effectiveness, is a comprehensive, priority-based blueprint of actions designed to enhance freight rail security. Railroad personnel also work literally side-by-side with government security personnel to evaluate intelligence and to serve as subject matter experts.
- Railroads comply with DOT regulations requiring the implementation of approved hazardous materials security plans (HM-232 plans).
- To address the transportation security of chemicals, railroads are working closely with the chemical industry, DOT, the Department of Homeland Security, and others to address potential vulnerabilities and recommend appropriate safeguards in an analytical and comprehensive fashion.

[Reprinted with permission of the Association of American Railroads: Safety & Operations Department]

## Rapid Response Team

CSXT has developed an in house Rapid Response Team comprised of Special Agents employed throughout the CSX system. These team members are trained in Special Weapons and Tactics including terrorism, chemical, biological and nuclear threats to our critical infrastructure. The team also consists of Hazmat officers that provide additional technical guidance, training, and proficiency regarding hazardous materials.



For questions or comments concerning this document please contact:

CSX Transportation  
Director-Hazardous Material Systems  
500 Water Street J-275  
Jacksonville, FL 32202

**Local CSXT Contacts**

Name	Title/Position	Phone

# Emergency Response Guide Quiz Instructions

The following quiz is open book. This quiz may be taken using all supplied media for assistance, including, the Emergency Response To Railroad Incidents Handbook along with the movie provided. Feel free to reference all subject matter in the handbook, as well as, any notes that may have been recorded throughout the course. The movie may be revisited to extract information that may be useful at any time during the quiz.

Keep in mind there is no time limit for this quiz.

Detach the answer key from the handbook. Fill out each boxed section with your contact information by printing clearly inside the boxed areas provided.

Clearly circle the correct answer that corresponds to the questions provided. If an error is made you must “X” out your mistake, initial the “X”, and circle the correct answer.

Once completed please send the **answer sheets only** to the address provided for CSX Transportation to receive a certificate for this course by mail. The mailing address for CSX Transportation is located below and on the answer sheet.

## MAIL ANSWER SHEET TO:

CSX TRANSPORTATION  
DIRECTOR-HAZARDOUS MATERIAL SYSTEMS  
500 WATER STREET – J275  
JACKSONVILLE, FL 32202

**Please allow 6-8 weeks for certificate delivery.**

# Emergency Response Guide Quiz

1. What is the first crucial element needed for a successful response?
  - A. Preplanning
  - B. Equipment
  - C. Number of personnel
  - D. None of the above
  
2. What must be done before anyone makes entry into a railroad tunnel?
  - A. Have plenty of lights
  - B. Ensure all rail traffic is stopped
  - C. Never go into a tunnel at night
  - D. Have only two people in the vehicle at any time
  
3. What are some detection clues used to detect the presence of Hazardous Materials?
  - A. Placards
  - B. Shipping papers
  - C. Tank car markings
  - D. All the above
  
4. Who on the railroad is responsible for the shipping papers on the train?
  - A. Engineer
  - B. Conductor
  - C. Yardmaster
  - D. Chief Dispatcher
  
5. Shipping papers on the railroad are called...
  - A. Waybills
  - B. Consist
  - C. Manifest
  - D. A and B

6. The train consist contains how many basic sections?
- A. One
  - B. Four
  - C. Six
  - D. Eight
7. Which section describes Emergency Handling Precautions?
- A. Tonnage Graph
  - B. Position In Train Document
  - C. Hazardous Special Handling Instructions
  - D. Train Listing and Hazardous Material Description
8. How many classes of Hazardous Materials are there?
- A. 6
  - B. 8
  - C. 9
  - D. 10
9. What hazard class would have a white placard with a class number two at the bottom?
- A. Oxidizer
  - B. Poison
  - C. Poison Gas
  - D. Non Flammable Gas
10. What hazard class would be a substance that does not meet the definition of any other hazard class?
- A. Flammable Liquids
  - B. Corrosive Materials
  - C. Miscellaneous Hazardous Materials
  - D. None of the above
11. What end of the car will have the Handbrake?
- A. B end
  - B. Right side
  - C. A end
  - D. Both A and B end



12. The Car Initial and Number is located on...
- A. On the ends and sides of the car
  - B. Only on the ends of the car
  - C. Only on the sides of the car
  - D. Makes no difference as long as it is readable
13. High pressure tank cars will have test pressure of...
- A. 100 to 500 psi
  - B. 100 to 600 psi
  - C. 300 to 500 psi
  - D. 75 to 100 psi
14. One easy way to identify non-pressure tank cars is by looking at...
- A. The exposed valves and fittings on the top of the tank
  - B. The fittings on the bottom of the tank
  - C. Both A and B
  - D. The smaller size of the tank
15. What are the most common types of pressure cars?
- A. 112 and 211
  - B. 106 and 107
  - C. 112 and 105
  - D. 104 and 111
16. Venting product to atmosphere is normal for what type of tank car?
- A. Flammable Compressed Gas
  - B. Chlorine
  - C. Carbon Dioxide
  - D. No car is allowed to vent to atmosphere
17. Chlorine tank cars have what type of valve arrangements?
- A. Two Liquid Valves, Safety Vent, one Vapor Valve, and One Gauge Rod
  - B. One Liquid Valve, Pressure Relief Device, One Vapor Valve
  - C. Two Liquid Valves, Safety Vent, Two Vapor Valves
  - D. Two Liquid Valves, Two Vapor Valves, One Pressure Relief Device

18. What special feature(s) is required on tank cars that transport flammable compressed gases?
- A. Head shields and Thermal Protection
  - B. Head shields and External Pressure Relief Devices
  - C. Thermal Protection
  - D. Head shields and an extra steel jacket for protection
19. What is the major hazard that may be encountered with boxcars?
- A. Doors may be hard to open
  - B. Top heavy when empty
  - C. Lading may shift during a derailment
  - D. Both A and B
20. Emergency fuel cut-off switches are located...
- A. On both sides of the locomotive
  - B. On the Engineer side of the locomotive
  - C. On both sides of the locomotive and on the inside of the locomotive on the conductors side.
  - D. On both sides of the locomotive and on the inside of the locomotive on the engineer side behind the control stand.
21. In the event of a derailment of a passenger train the passengers should...
- A. Not be evacuated unless it is absolutely necessary
  - B. Stay in the car until shelter and transportation is available
  - C. Moved into other cars still on the rail
  - D. Both A and B
22. If emergency response personnel need to communicate with a passenger train operation on CSXT tracks, they should...
- A. Call Chemtrec
  - B. Contact CSXT Public Safety Coordination Center 1-800-232-0144
  - C. Call the local Yard
  - D. Contact the State Police

23. While operating on railroad property responders must...
- A. Expect movement on any track at any time
  - B. Avoid walking between the rails
  - C. Keep a safe distance, 30 feet, from passing trains
  - D. All the above
24. When working on tank cars the first responder should...
- A. Ensure that there will be no movement on the track on which you are working
  - B. Never stand, step, or cross on the center sill or coupler
  - C. Never put your body over or in front of any valve, gauge, or other opening
  - D. All the above
25. The minimum required equipment for personnel operation at the site of a derailment is?
- A. A hardhat/helmet, safety glasses, gloves, and steel toed boots
  - B. Safety glasses, and gloves
  - C. Gloves, SCBA, and bunker gear
  - D. Chemical protective clothing

# Answer Sheet

This answer sheet may be copied.

Please use pen and print clearly.

First Name:

Last Name:

Department/Organization:


Street Address:

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State:

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City:

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Zip Code:

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Date:

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Email Address:

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**CAREFULLY READ EACH QUESTION, SELECT THE BEST POSSIBLE ANSWER, AND  
CIRCLE THE CORRESPONDING LETTER BELOW**

1. A B C D
2. A B C D
3. A B C D
4. A B C D
5. A B C D
6. A B C D
7. A B C D
8. A B C D
9. A B C D
10. A B C D
11. A B C D
12. A B C D
13. A B C D

14. A B C D
15. A B C D
16. A B C D
17. A B C D
18. A B C D
19. A B C D
20. A B C D
21. A B C D
22. A B C D
23. A B C D
24. A B C D
25. A B C D

**ONCE COMPLETED MAIL TO:**  
CSX TRANSPORTATION  
DIRECTOR - HAZARDOUS MATERIAL SYSTEMS  
500 WATER STREET – J275  
JACKSONVILLE, FL 32202







# ENVIRONMENTAL POLICY STATEMENT

Safety and the protection of human health and the environment are fundamental to CSX's vision, management principles and good business practices. CSX is committed to operating in an environmentally sustainable manner by protecting the health and safety of our employees and the communities in which we operate.

To help guide our daily decisions and actions and meet our goals for sustainability, CSX is guided by the following environmental principles:

- Conduct operations safely, protecting employees, customers, the public and environment.
- Identify, promptly report and responsibly address any environmental hazards.
- Comply with applicable environmental regulations, company policies and best management practices.
- Strive towards a goal of zero waste through comprehensive recycling and reuse initiatives, reduce greenhouse gas intensity and prevent pollution.
- Use sound environmental practices when redeveloping, remediating and restoring property.
- Encourage candid communication with employees, customers and the public regarding our environmental program.
- Train and empower employees to fulfill their environmental responsibilities and act with care regarding environmental risks.
- Encourage suppliers to follow environmentally sustainable practices.
- Continually improve environmental performance by setting and reviewing targets and goals.



*Michael Ward*

**MICHAEL J. WARD**

CSX Corporation  
Chairman, President and  
Chief Executive Officer

10-16-08

Date

