

ILLINOIS COMMERCE COMMISSION



2004 ANNUAL REPORT ON ACCIDENTS/INCIDENTS Involving Hazardous Materials on Railroads in Illinois



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STATE OF ILLINOIS



ILLINOIS COMMERCE COMMISSION

May 9, 2005

The Honorable Rod R. Blagojevich
Governor, State of Illinois

The Honorable Emil Jones, Jr.
President of the Senate

The Honorable Frank Watson
Minority Leader of the Senate

The Honorable Michael J. Madigan
Speaker of the House

The Honorable Tom Cross
Minority Leader of the House

Re: 2004 ICC Hazardous Materials Report

Dear Governor Blagojevich and Members of the Legislative Leadership:

The attached report by the staff of the Illinois Commerce Commission is hereby submitted to the General Assembly in response to 625 Illinois Compiled Statutes, 18c-1204. Section 18c-1204 directs the Commission to “prepare and distribute to the General Assembly... a report on railway accidents in Illinois which involve hazardous materials.”

As required by Illinois law, this report includes the location, substance involved, amounts involved, and the suspected reason for each accident, which occurred in Illinois during calendar year 2004. The report also provides the rail line and point of origin of the hazardous material involved in each accident.

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Additionally, the report contains the following related information:

- Details regarding events where hazardous material was involved but no release occurred;
- An overview of ICC activities relative to the transportation of hazardous materials by rail within the State; and,
- A history of the railroad hazardous materials program.

Should you have questions or need clarification about any of the information presented, please contact Peggy Snyder, Director of Governmental Affairs, at (217) 524-0619.

Sincerely,

Edward C. Hurley
Chairman

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1. INTRODUCTION

This report has been prepared by the staff of the Illinois Commerce Commission's Railroad Safety Section in accordance with the provisions of 625 ILCS 5/18c-1204. The law directs the Commission to "prepare and distribute to the General Assembly ... a report on railway accidents in Illinois which involve hazardous materials." The law also provides that the report shall include the location, substance involved, amounts involved, and the suspected reason for each accident, as well as the rail line and point of origin of the hazardous material involved in each accident."

Additionally, this report contains the following related information:

- Details regarding events where hazardous material was involved but no release occurred
- An overview of Commission activities relative to the transportation of hazardous materials by rail within the State
- Review of the transportation of nuclear and radioactive materials by rail within the State

2. BACKGROUND

Illinois is a key hub in the nation's transportation system. With a railroad network of slightly over 7,200 miles, Illinois' rail system is the country's second largest. The Chicago and St Louis terminal switching districts are the two key points of interchange between eastern, western, northern, and southern rail systems and handle over 40,000 rail cars on a typical weekday.

Ten percent of all rail traffic in Illinois involves the movement of hazardous materials. In 2003, railroads in Illinois handled 480 million tons of total freight which is first in the nation in both tons and the number of carloads carried. Of this total, railroads in Illinois handled 44 million tons of hazardous materials.

The U.S. Department of Transportation (USDOT) classifies approximately 3,500 substances as hazardous. Many of these substances, ranging from mild irritants to poisonous and radioactive materials, are routinely transported by rail through populous regions of the country and can have the potential to severely impact the environment and public health, if inadvertently released into the environment. Individual shipments can range in quantity from packages as small as a pint that may be carried inside a highway trailer or container on a flat car, to as much as 42,000 liquid gallons carried in a tank car.

The Association of American Railroads (AAR) Bureau of Explosives has identified approximately 125 hazardous materials comprising 88 percent of all hazardous materials transported by railroad. Attachment 6 provides a list of the most commonly transported materials and the hazard class of each commodity.

Under federal law (49 CFR, Part 212) individual states are authorized to participate in the Railroad Hazardous Material Inspection Program administered by the USDOT. The program is under the supervision of the FRA. FRA certifies state inspectors so that they may have the same legal and administrative authority as federal inspectors in assuring the safe transport of

hazardous material through inspection and investigation. The Commission employs two full-time federally certified inspectors responsible for all of Illinois.

Commission inspectors focus the majority of their effort in the field conducting inspections at railroad yards and the industrial facilities of shippers and consignees of hazardous materials. The inspectors are also responsible for maintaining inspection data, responding to complaints from rail employees and the public, and for providing information concerning the transport of hazardous material within Illinois to other state, regional and local agencies.

In 2004, Commission inspectors inspected 13,899 cars. Over the long term since 1981, when Commission inspectors found violations in 12 percent of all inspections, compliance has improved to the point in 2004, that Commission inspectors found violations in only 4.5 percent of all inspections. The ultimate goal is to find no violations, however attainment of that goal appears to be some ways off in the distance.

The large increase in compliance observed since 1981, is due in part to Commission initiated conferences with rail carriers and shippers to educate and inform them of the complex and continually evolving regulations. The educational meetings and informational sessions are followed up with inspections by Commission staff to insure that the lessons learned from the education and information sessions, have been implemented by the shipper or rail carrier in their day-to-day activities.

3. COMMISSION HAZARDOUS MATERIALS SAFETY PROGRAM

The Commission's hazardous materials safety program is comprised of four main components:

- Inspection of railroad equipment and shipper/consignee facilities
- The provision of technical assistance to shippers/consignees and rail carriers
- The inspection and transport of nuclear materials; and
- Education and outreach activities to shippers/consignees, rail carriers, emergency responders and the general public

3.1 Inspection of Rail Equipment and Shipper/Consignee Facilities

Four types of inspections are made by Commission inspectors: stationary railroad equipment such as tank cars at a yard or plant, railroad equipment in transit in the consist of a through or yard train known as a "roll-by" inspection; analysis of shipping papers and related documentation; and inspection of facilities that either ship or receive hazardous commodities.

3.1.1 Railroad Equipment

Hazardous material equipment inspections are performed on a stationary hazardous material rail car. Normally, this type of inspection occurs within a railroad yard or at the loading or unloading terminal within a shipper's facility. The inspection assures that the cars are affixed with the required placards identifying the hazardous commodities being transported. Attachment 1 provides examples of the various placards and the information they provide, which is of critical importance to emergency response personnel. Commission inspectors verify that the rail car's markings, stenciling, tank and valve test dates, and mechanical safety features, are in compliance with federal regulations.

3.1.2 Roll-By

A roll-by inspection involves monitoring an entire train while in motion. The location of loaded hazardous material cars, as well as those cars that have been unloaded, but that still contain residue of the commodity transported, are observed in relation to the locomotives, occupied cabooses, other hazardous material cars, and certain other types of cargo cars. Specific types of hazardous material cars are required to be spotted at particular locations within a train. Should Commission inspectors determine that cars are not correctly located within the train's consist, the inspector may require the rail carrier to stop the train and order the cars to be correctly placed.

Proper placement of hazardous material cars within a train's consist is of great importance to the train crew who could be severely injured if a derailment were to occur. For example, hazardous material cars containing liquefied petroleum gas (LPG), as well as other highly flammable commodities, may not be positioned next to the locomotive.

3.1.3 Documentation

Documentation inspections involve examining waybills and bills of lading to verify that the documents were completed correctly. Such inspections normally occur at the office of the shipper or consignee, or at the yard office of the rail carrier. The bill of lading is a document providing a description of the type and quantity of commodities being transported. Attachment 5 provides a sample bill of lading.

The bill of lading must include a 24-hour emergency response telephone number clearly visible, in order to facilitate the appropriate response by emergency providers in case of an accident or derailment. Inspectors examine the bill of lading to verify that the correct shipping name, hazard class, 4-digit commodity identification number, and weight are all present and correctly stated.

Emergency responders rely on the provision of this shipping information in the case of a spill or other type of incident concerning the shipment. Depending upon the particular substance being transported; incorrect or incomplete information, can result in injury or death to responders, rail employees and the public in the event of a derailment that could

cause an inadvertent release.

3.1.4 Shipping Facilities

Shipping facility inspections are conducted at privately owned facilities. The purpose of the inspection is to assure that the requirements of Title 49 of the United States Code of Federal Regulations (CFR) are being complied with. All regulations of 49CFR must be complied with in order to permit the continued ability of the shipper or consignee to receive or ship hazardous materials.

3.2 Technical Assistance Program to Shippers, Consignees and Emergency Responders

Commission inspectors respond to railroad related collisions/incidents involving hazardous material. The Commission's role is to provide technical assistance to emergency response personnel. The assistance provided is that of determining if the documentation and information provided by the rail carrier or shipper to the emergency responder, is correct and adequate to permit the responder to safely handle the incident. Commission inspectors will also advise the emergency response team as to proper mitigation and clean up procedures and requirements. Commission inspectors assist in investigation of the incident in order to identify the cause, as well as any violations that may have contributed either directly, or indirectly in causing the incident. Commission inspectors are on-call 24-hours a day to respond to any incident.

3.3 Escort of Nuclear Material in Illinois

The movement of nuclear material in or through the State of Illinois by rail occurs infrequently. However, as spent nuclear fuel materials begin to move to a national repository, (Yucca Mountain in Nevada) more frequent shipments are expected. The current protocol for the shipment of nuclear material requires that the train be stopped and inspected prior to entering Illinois. Nuclear material shipments are escorted by Commission inspectors, as well as Commission track inspectors who verify that the rail line to be traveled is in suitable condition.

Radioactive material is probably the most controversial and least understood class of hazardous material being transported by rail in Illinois today. To date, there have been no incidents involving the transport of radioactive material, however widespread concern on the part of the public due to safety and security issues, warrant the careful planning and inspection of all radioactive shipments traveling over the Illinois rail network.

3.4 Education and Outreach Activities

As provided by State statute, Commission inspectors offer training for local law enforcement and emergency response personnel. The training is intended to acquaint participants with railroad car marking and placarding requirements and emergency response manuals and guide books. Fire departments are provided with instruction and training concerning tank car structure and

damage assessment. Commission inspectors also make presentations on the interpretation and application of federal and state hazardous materials regulations to railroad company personnel. Since 1990, seventy-four educational or training presentations on hazardous material safety have been made to approximately 1,600 persons affiliated with a variety of emergency planning and response teams.

4. COMMISSION HAZARDOUS MATERIAL SAFETY PROGRAM ACTIVITY IN 2004

Summary of all Inspections Conducted by Commission Inspectors 2000 through 2004. (Source: FRA)

Year	Inspections	Units Inspected	Defects Identified	Defects Per Unit
2000	415	8,013	282	0.035
2001	387	9,200	394	0.042
2002	328	7,718	274	0.035
2003	424	9,641	248	0.026
2004	218	13,899	445	0.032
Total 2000 - 2004	1,772	48,471	1,643	0.034

4.1 Summary of Inspections of Stationary Railroad Yard Equipment. (Source: IHRMA)

Year	Yard Inspections	Placard Violations	Equipment Violations	Documentation Violations	Other Violations	Total Violations
2001	225	443	282	0	0	725
2002	194	372	161	1	0	534
2003	137	320	196	0	0	516
2004	171	337	159	6	0	502
Total	727	1,472	798	7	0	2,277

4.2 Summary of Roll-By Inspections. (Source: IHRMA)

Year	Roll-By Inspections	Placard Violations	Equipment Violations	Documentation Violations	Other Violations	Total Violations
2001	77	120	2	2	0	124
2002	66	125	2	1	2	130
2003	91	111	17	2	0	130
2004	91	108	17	1	2	128
Total	325	464	38	6	4	512

4.3 Summary of All Inspections. (Source: IHRMA)

Year	All Types of Inspections	Placard Violations	Equipment Violations	Documentation Violations	Other Violations	Total Violations
2001	302	563	284	2	0	849
2002	260	497	163	2	2	664
2003	229	432	213	2	0	647
2004	267	452	179	7	3	641
Total	1,058	1,944	839	13	5	2,801

Note: Totals Include 6 Documentation Inspections

5. CRITICAL DEFECTS

Closure problems, commodity stenciling problems, brake system problems, coupler problems, and tanks overdue for retest, represent the types of incidents that are considered critical defects. Commission inspectors found 125 loose closures of hazmat tank cars preventing possible ground contamination and injuries to railroad employees and the public. Commission inspectors also found three hazmat tank cars that were overdue for retest necessitating that the cars be taken out of service until the cars could be tested to verify they were safe for use in transporting hazardous materials. In addition, 20 hazmat tank cars were found with missing or incomplete commodity stenciling which could lead to misinformation to emergency responders if the car was to be involved in an accident/incident.

Contrary to federal regulation, one hazmat tank car was found without a double shelf coupler which prevents overriding of the coupler system in an accident. When properly equipped with a double shelf coupler, the coupler will prevent the car from striking and penetrating an adjacent tank car in the train's consist, which would compromise the car's integrity and result in a potentially catastrophic release of toxic materials.

During one of hundreds of routine inspections performed by Commission inspectors, a hazmat tank car brake beam was determined to be gouging the wheel flange and had cut the width of the flange down from 1 inch to less than 3/8 of an inch. This defect could have caused the wheel to split a switch point and cause a major derailment. The potential derailment was prevented because of the thorough inspection performed by the Inspector and the quick action taken to correct this critical defect.

Also, a train traveled 200 miles with a Liquefied Petroleum Gas tank car next to the engines, which is a major violation of the Federal Regulations, until a State Hazardous Materials Inspector had them moved the tank car so it would be back in compliance. This violation was not only dangerous for public safety in general but was very dangerous to the train crew if there was an accident. An LPG tank car positioned next to the trains engines provides an ignition source if the tank car is compromised.

6. SUMMARY

The nature of catastrophic incidents that can occur from hazardous material incidents is cause for prudent exercise of state and federal regulations and the necessity of having staff to assure compliance with all applicable regulations. Commission inspectors routinely discover minor violations and defects, and occasionally major violations or defects, that if not corrected, could lead to serious incidents likely to result in loss of life and extensive damage to property.

7. DATA DESCRIBING ACCIDENTS AND/OR INCIDENTS IN ILLINOIS IN 2004

Specific data required by 625 ILCS 5/18c-1204 is shown in tabular form on the following pages. The applicable section states: “The staff shall prepare and distribute to the General Assembly, in April of each year, a report on railway accidents in Illinois which involve hazardous material. The report shall include the location, substance involved, quantity involved, and the suspected reason for each accident. The report shall also reveal the rail line and point of origin of the hazardous material involved in each accident.” The remainder of this report provides three tables and a number of attachments.

Table A shows railroad derailments where hazardous material was being transported in the derailed railroad equipment and a hazardous material release occurred.

Table B shows railroad derailments where hazardous material was being transported in the train and the railroad equipment derailed, however, there was no release of any hazardous material.

Table C shows hazardous material releases from railroad equipment where no derailment was involved.

The location column in Tables A, B, and C indicates the county where the accident/incident occurred and the nearest identifiable location. Information for all three tables was obtained from reports filed by the railroad with the Commission, as well as from the USDOT’s Research and Special Programs Administration.

Three categories of information not specifically asked for by the General Assembly have been added to make the report more useful. The first category is “Amount Released.” This distinction is important in order to differentiate the “Amount Involved” required by the General Assembly, from the more significant quantity of “Amount Released.” The “Amount Involved” is simply the quantity of commodity that was being transported; the “Amount Released” into the environment by accident is far more critical.

The second category added is the “Type of Equipment” involved. The final additional category is the date of the incident. In the tables, the railroad companies are identified by their FRA reporting marks; for example NS is the Norfolk Southern Railway. A listing of the complete names follows Table C.

TABLE A

Hazardous Materials Physically Involved In Derailment And Hazardous Materials Release Occurred

Location	Railroad Involved	Substance Involved	Point of Origin	Suspected Reason for Incident	Amounts Involved	Amounts Released	Type of Equip.	Date
Chicago Cook	NS	Diesel Fuel	Chicago	Derailment ruptured fuel tank	3,900 Gals.	500 Gals.	E	3/16/04
Rochelle Ogle	UP	Diesel Fuel	Rochelle	Derailment of Locomotive	3,000 Gals.	200 Gals.	E	3/17/04
Bedford Park Cook	BRC	Diesel Fuel	Bedford Park	Derailment of Locomotive	4,000 Gals.	1,000 Gals.	E	3/23/04
Franklin Park Cook	CP	Diesel Fuel	Franklin Park	Derailment of Locomotive	3,000 Gals.	1,500 Gals.	E	4/14/04
Villa Park Dupage	UP	Diesel Fuel	Villa Park	Derailment of Locomotive	3,000 Gals.	1,500 Gals.	E	6/18/04
Cahokia St. Clair	UP	Diesel Fuel	Cahokia	Derailment of Locomotive	5,000 Gals.	200 Gals.	E	6/23/04
East St. Louis St. Clair	UP	Diesel Fuel	East St. Louis	Derailment of Locomotive	5,000 Gals.	700 Gals.	E	7/2/04
Alton Madison	NS	Diesel Fuel	Alton	Derailment of Locomotive	2,600 Gals.	500 Gals.	E	7/27/04
North Lake Cook	UP	Battery Acid	North Lake	Human Error	1 Gal.	1 Gal.	E	8/14/04
Madison Madison	TRRA	Diesel Fuel	Madison	Broken rail	3,000 Gals.	800 Gals.	E	9/10/04
Stonington Christian	NS	Hydrochloric Acid	Decatur I	Human error	18,000 Gals.	500 Gals.	T	10/3/04

Location	Railroad Involved	Substance Involved	Point of Origin	Suspected Reason for Incident	Amounts Involved	Amounts Released	Type of Equip.	Date
Cahokia St Clair	UP	Diesel Fuel	Cahokia	Human error	1,500 Gals	800 Gals.	E	10/24/04
Buckley Ford	CP	LP Gas	Buckley	Broken rail	30,000 Gals.	2500 Gals.	T	11/20/04
Joliet Will	BNSF	Diesel Fuel	Elwood	Human factor	2,300 Gals.	2,000 Gals.	E	12/12/04
Paris Edgar	CSX	Hydrochloric Acid	Park	Human Error	22,000 Gals	200 gals.	T	12/22/04
Granite City Madison	NS	Diesel fuel	Decatur	Broken rail	3,000 Gals.		E	12/31/04

T = Tank

E = Engine

CH = Covered Hopper

R = Refrigerated Car

COFC = Container on Flat Car

TABLE B**Hazardous Materials Physically Involved In Derailment Where No Hazardous Materials Release Occurred**

Location	Railroad Involved	Substance Involved	Point of Origin	Suspected Reason for Incident	Amounts Involved	Amounts Released	Type of Equip.	Date
Rock Island Rock Island	BNSF	Sodium Hydroxide Solution	Plaquemine La.	Poor tie condition	26,000 Gals.	0	T	1/12/04
Rochelle Ogle	BNSF	Fuel Oil	Rochelle Illinois	Side swiped	30,000 Gals.	0	T	1/19/04
Waukegan Lake	UP	Ethylene Oxide	Hasting Ne.	Human Error	29353 Gals.	0	T	9/1/04
Berkeley Cook	UP	Phosphoric Acid	New Hamburg Ontario	Phosphoric Acid	26,000 Gals	0	T	12/31/04

T = Tank TOFC = Trailer on Flat Car

TABLE C

Hazardous Materials Released From Rail Cars Where No Derailment Occurred

Location	Railroad Involved	Substance Involved	Point of Origin	Suspected Reason for Incident	Amounts Involved	Amounts Released	Type of Equip.	Date
Salem Marion	UP	Sodium Hydroxide Solution	Plaquemine La.	Loose manway bolts	16,276 Gals.	5 Gals.	T	1/02/04
Chicago Cook	IC	Ethanol	Hastings Ne.	Loose manway bolts	30,110 Gals.	1 Gal.	T	1/08/04
Galesburg Knox	BNSF	Argon	Texas City Tx.	Leaking valves	19,120 Gals.	2860 lbs.	T	1/09/04
Joliet Will	EJE	Ethylene	Morris Il.	Overloaded	11,900 lbs.	16.2 lbs.	T	1/12/04
Harvey Cook	CN	Diesel Fuel	Harvey Il.	Punctured Fuel Tank	900 Gals.	300 Gals.	PT	1/13/04
Belvidere Boone	Tanners Short line	Ammonia Anhydrous	Belvidere Il.	Loose liquid valve	34,000 Gals.	<50 Gals.	T	1/16/04
East St. Louis St. Clair	UP	Argon	Plaquemine La.	Loose packing around valve	19,000 Gals.	10 Gals.	T	1/17/04
Hartford Madison	NS	Petroleum Distillates, N.O.S.	Roxana Il.	Loose bottom outlet cap	25,471 Gals.	5 Gals.	T	2/12/04

N.O.S. = Not Otherwise Specified T = Tank E = Engine TOFC = Trailer on Flat Car COFC = Container on Flat Car PT = Portable Tank
CH = Covered Hopper

Location	Railroad Involved	Substance Involved	Point of Origin	Suspected Reason for Incident	Amounts Involved	Amounts Released	Type of Equip.	Date
Bedford Park Cook	CSX	Diesel Fuel	Bedford Park Il.	Broken fuel filter	80 Gals.	30 Gals.	PT	2/13/04
Chicago Cook	IC	Ethanol	Watertown SD.	Loose manway bolts	30,174 Gals.	1.0 Gal.	T	2/21/04
Decatur Macon	NS	Diesel Fuel	Decatur Il.	Fuel line injector hose broke	4,000 Gals.	40 Gals.	E	2/25/04
Staunton Macoupin	NS	Diesel Fuel	Decatur Il.	Clamp on return fuel line failed	3,500 Gals.	1 Gal.	E	3/08/04
Galesburg Knox	BNSF	Diesel Fuel	Galesburg Il.	Blown gasket and end cap of tank car	27,500 Gals	50 Gals.	T	3/13/04
Chicago Cook	UP	Diesel Fuel	Omaha Ne.	Ruptured fuel tank	3,000 Gals.	1,000 Gals.	E	3/20/04
Harristown Macon	NS	Lube Oil	Decatur Il.	Human error	25 Gals.	1 Gal.	E	4/15/04
Calumet City Cook	CSX	Diesel Fuel	Calumet City	Ruptured Fuel Tank	4,000 Gals.	50 Gals.	E	4/29/04
Decatur Macon	NS	Diesel Fuel	Decatur Il.	Humane error	500 Gals.	50 Gals.	T	5/22/04

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CH = Covered Hopper

Location	Railroad Involved	Substance Involved	Point of Origin	Suspected Reason for Incident	Amounts Involved	Amounts Released	Type of Equip.	Date
East St. Louis St. Clair	UP	Ethyl Methyl Ketone	East St. Louis Il.	Bad manway gasket	29,955 Gals.	5 Gals.	T	5/25/04
Corwith Cook	BNSF	Diesel Fuel	Corwith Il.	Human Error	4,000 Gals.	3,500 Gals.	E	5/25/04
Riverdale Cook	IHB	Diesel Fuel	Riverdale Il.	Fuel tank punctured by track debris	3,000 Gals.	540 Gals.	E	5/27/04
East St. Louis St. Clair	UP	Flammable Liquids N.O.S.	Houston Tx.	Loose manway bolts	30,000 Gals.	Vapor	T	6/13/04
Urbana Champaign	IC	Petroleum Distillates N.O.S.	Baytown Tx.	Loose manway bolts	27,374 Gals.	2 Gals.	T	6/14/04
Villa Park Dupage	UP	Diesel Fuel	Villa Park Il.	Ruptured Fuel Tank	4,000 Gals.	1,500 Gals.	E	6/17/04
East St. Louis St. Clair	UP	Cresylic Acid	Houston Tx.	Defective Manway Gasket	20,648 Gals	1 quart	T	6/19/04
Villa Grove Douglas	UP	Flammable Liquids NOS	Logansport In.	Loose manway bolts	24015 Gals.	Vapor	T	6/29/04
Rochelle Ogle	UP	Diesel Fuel	Rochelle Il.	Punctured fuel ;tank	50 Gals.	<50 Gals.	T	6/29/04

N.O.S. = Not Otherwise Specified T = Tank E = Engine TOFC = Trailer on Flat Car COFC = Container on Flat Car PT = Portable Tank
CH = Covered Hopper

Location	Railroad Involved	Substance Involved	Point of Origin	Suspected Reason for Incident	Amounts Involved	Amounts Released	Type of Equip.	Date
Chicago Cook	IC	Alcohols N.O.S.	Argo Il.	Loose valve	30,000 gals.	2 Gals.	T	6/30/04
East St. Louis St. Clair	KC	Hydro Fluosilicic Acid	Tampa Florida	Broken Valve	30,000 Gals.	1,000 Gals.	T	7/7/04
East St. Louis Madison	CSX	Diesel Fuel	East St. Louis Il.	Broken Sight Glass	3,000 Gals.	500 Gals.	E	7/8/04
Venice Madison	TRAA	Environmental Hazardous Solution	Granite City Il.	Equipment Failure	14,000 Gals.	880 Gals.	T	7/13/04
Gilman Iroquois	IC	Phosphoric Acid	New Hamburg Ontario	Loose Manway Bolts	14,781 Gals.	2 Gals.	T	7/14/04
Chicago Cook	BNSF	Adhesives	Irving Tx.	Human Error	5 Gallon cans	2 Gals.	TOFC	7/20/04
Dolton Cook	UP	Petroleum Distillates N.O.S.	Baytown Tx.	Loose closures	27,349 Gals.	15 Gals.	T	7/27/04
Cicero Cook	BNSF	Petroleum Products, N.O.S.	Chicago Il.	Blocking & Bracing	5 Gallon buckets	1.5 Gals.	TOFC	7/29/04
Chicago Cook	IC	Sodium Hydroxide, Solution	Lemont Il.	Loose Manway Bolts	16,420 Gals.	1.5 Gals.	T	8/3/04

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Location	Railroad Involved	Substance Involved	Point of Origin	Suspected Reason for Incident	Amounts Involved	Amounts Released	Type of Equip.	Date
Hodgkin Cook	BNSF	Toxic Liquid, Organic, N.O.S.	Alliance Tx.	Blocking & Bracing	55 Gallon Drums	75 Gals.	TOFC	8/5/04
Chicago Cook	IC	Methanol	Clover Bar Alabama	Loose Closures	30,808 Gals.	4 Gals.	T	8/9/04
East St. Louis St. Clair	CSX	Para formaldehyde	Theodore Al.	Blocking & Bracing	2,000 LBS. Saks	20 LBS.	TOFC	8/19/04
Rock Island Rock Island	Iais	Diesel Fuel	Rock Island Il.	Track Debris	1,600 Gals.	200 Gals.	E	8/22/04
Danville Vermillion	CSX	Molten Sulfur	Lemont Il.	Loose Closures	15,272 Gals.	Vapor	T	8/24/04
Chicago Il.	UP	Diesel Fuel	Chicago Il.	Punctured Fuel Tank	3,900 Gals.	80 Gals.	E	9/13/04
Calumet Cook	NS	Methyl Methacrylate, Monomer, Stabilized	New Orleans La.	Loose Closures	27,235 Gals.	<1 Gal.	T	9/14/04
Posen Cook	CN	Diesel Fuel	Posen Il.	Track Debris	4,000 Gals.	600 Gals.	E	9/23/04
Franklin Park Cook	CP	Diesel Fuel	Franklin Park, Il.	Faulty Fuel Pump	4,500 Gals.	15 Gals.	E	10/29/04

N.O.S. = Not Otherwise Specified T = Tank E = Engine TOFC = Trailer on Flat Car COFC = Container on Flat Car PT = Portable Tank CH = Covered Hopper

Location	Railroad Involved	Substance Involved	Point of Origin	Suspected Reason for Incident	Amounts Involved	Amounts Released	Type of Equip.	Date
Sims Wayne	NS	Diesel Fuel	Sims Il.	Human Error	4,000 Gals.	20 Gals.	E	11/8/04
Decatur Macon	CP	Diesel Fuel	Decatur Il.	Broken Rail	3,000 Gals.	50 Gals.	E	11/8/04
East St. Louis St. Clair	UP	Diesel Fuel	East St. Louis Il.	Human error	3,600 Gals.	200 Gals.	E	11/11/04
River Dale Cook	CSX	Acetic Acid, Glacial	Riverdale Il.	Loose closures	25,000 Gals.	Vapor	T	11/14/04
Dolton Cook	UP	Ammonia Nitrate	Dolton Il.	Open Valve	20,000 lbs.	100 lbs.	CH	11/15/04
Franklin park Cook	IHB	Diesel Fuel	Franklin Park Il.	Human Error	4,000 Gals.	1,000 Gals.	E	11/15/04
Aurora Kane	BNSF	Diesel Fuel	Aurora Il.	Mechanical problem	2,500 Gals.	50 Gals.	E	11/22/04
Riverdale Cook	CSX	Petroleum Naphtha	Riverdale Il.	Loose closures	30,000 Gals.	1 Gallon	T	12/08/04
Berkley Cook	UP	Anhydrous Ammonia	Berkley Il.	Human Error	18,000 Gals.	Vapor	T	12/13/04
West Chicago Dupage	UP	Diesel Fuel	West Chicago Il.	Ruptured Fuel line	4,900 Gals.	1,000 Gals.	E	12/14/04
Decatur Macon	NS	Diesel Fuel	Decatur Il.	Leaking sight glass	4,000 Gals.	1 Gallon	E	12/15/04

N.O.S. = Not Otherwise Specified T = Tank E = Engine TOFC = Trailer on Flat Car COFC = Container on Flat Car PT = Portable Tank
CH = Covered Hopper

Waukegan Lake	UP	Petroleum distillates	Waukegan Il.	Loose closures	30202 Gals.	200 Gals.	T	12/16/04
Chicago Cook	NS	Diesel Fuel	Chicago Il.	Fire	4,000 gals.	2,00 Gals.	E	12/26/04

N.O.S. = Not Otherwise Specified T = Tank E = Engine TOFC = Trailer on Flat Car COFC = Container on Flat Car PT = Portable Tank
CH = Covered Hopper

RAILROAD COMPANIES CITED IN THE PRECEDING TABLES

RR Code	Railroad Name
BNSF	The Burlington Northern and Santa Fe Railway Company
CP	Canadian Pacific
CRL	Chicago Rail Link
CSX	CSX Transportation, Inc.
EJE	Elgin, Joliet & Eastern Railway Co.
IAIS	Iowa Interstate Railroad, Ltd.
IC	Canadian National/Illinois Central Railroad Company
IHB	Indiana Harbor Belt Railroad Co.
KBSR	Kankakee, Beaverville and Southern Railroad Company
KCS	Kansas City Southern
NS	Norfolk Southern Railway Company
TRRA	Terminal Railroad Association of St. Louis
UP	Union Pacific Railroad Company
WC	Wisconsin Central Railroad

LIST OF ATTACHMENTS

Attachment 1:Recognizing and Identifying Hazardous Materials

Attachment 2:Sample Waybill

Attachment 3:Sample Consist

Attachment 4:Emergency Response Information

Attachment 5:Sample Bill of Lading

Attachment 6:Top 125 Hazardous Commodity Movements by Tank Car Origination

RECOGNIZING AND IDENTIFYING HAZARDOUS MATERIALS

PLACARD AND LABEL NOTES

Placards are diamond shaped — 10 3/4 inches square. The placard provides recognition information in a number of ways:

1. the colored background;
2. the symbol at the top;
3. The United Nations hazard class number at the bottom; and
4. the hazard class wording or the identification number in the center.

a. Color:

- orange indicates explosive;
- red indicates flammable;
- green indicates nonflammable;
- yellow indicates oxidizing material;
- white indicates poisonous material;
- white with vertical red stripes indicates flammable solid;
- yellow over white indicates radioactive material; and
- white over black indicates corrosive material.

b. Symbols:

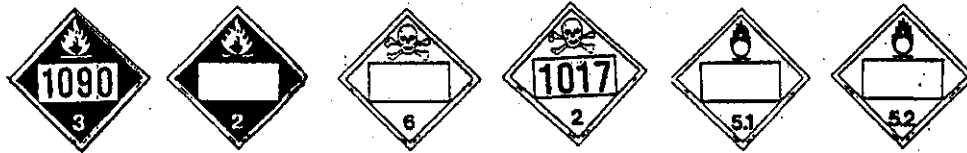
- the bursting ball symbol indicates explosive;
- the flame symbol indicates flammable;
- the slash W (W) indicates dangerous when wet;
- the skull and crossbones indicates poisonous material;
- the circle with the flame indicates oxidizing material;
- the cylinder indicates nonflammable gas;
- the propeller indicates radioactive;
- the test tube/hand/metal symbol indicates corrosive; and
- the word Empty indicates that the product has been removed, but a harmful residue may still be present.

c. United Nations Hazard Class Numbers:

- 1 — Explosives
- 2 — Gases
- 3 — Flammable Liquids
- 4 — Flammable Solids
- 5 — Oxidizing Substances
- 6 — Poisonous and Infectious Substances
- 7 — Radioactive Substances
- 8 — Corrosive Substances
- 9 — Miscellaneous Dangerous Substances

d. Hazard Class or Identification Number

Below are some examples of placards.



SAMPLE WAYBILL

Attachment 2
Page 1 of 2

*

RTMX 21065 T/C

#123456

03 06 01

St. Louis

MO.

1212 St. Louis, MO.
12 S. Street
John Doe Inc.

John Doe Inc.
Chicago, IL.

1/TC

Residue: Last Contained
Acetone, 3, UN 1090, II, RQ (Acetone)

STCC 4908108

CHEMTREC EMERGENCY CONTACT 1-800-424-9300

SAMPLE WAYBILL

Attachment 2
Page 2 of 2

*

GAPX 6075 T/C

#123457

03 06 01

St. Louis MO.

1212 St. Louis, MO.
12 S. Street
John Doe Inc.

John Doe Inc.
Chicago, IL.

1/TC Phenol, Molten, 6.1, UN 2312, II,RQ (Phenol) 20,000 GAL.

STCC 4921220

CHEMTREC EMERGENCY CONTACT 1-800-424-9300

SAMPLE CONSIST

ATTACHMENT 3

TRAIN/JOB	CONDUCTOR				
NAME	CATAGORY—SECONDARY MANIFEST		TYPE—THRU		
ENGINE - IDENT	HORSEPOWER	LENGTH	WEIGHT	STATUS	
6142	3000	69	200E		
1001	3000	74	200E		
ENG 1005	3000	74	200E		
TOTAL	9000 HP	217 FEET	600 TONS		

TRAIN/JOB	SEQ	EQPMNT	ID	KND	GWT	COMDTY	DESTN	ZTS/CARR	NXBLK	CITY/STATE	CONSIGNEE
BLOCK --											
1	BJOX	278	LC4T	131	CORN	7MT018			214H	MEMPHIS TN	
										NOTIFY SHIPPER IF DELAYED	IF BAD ORDERED NOTIFY SHIPPER
2	BJOX	109	LC4T	131	CORN	7MT018			214H	MEMPHIS TN	
										NOTIFY SHIPPER IF DELAYED	IF BAD ORDERED NOTIFY SHIPPER
3	BJOX	110	LC4T	131	CORN	7MT018			214H	MEMPHIS TN	
										NOTIFY SHIPPER IF DELAYED	IF BAD ORDERED NOTIFY SHIPPER
4	CRDX	7227	LC4T	131	CORN	7MT018			214H	MEMPHIS TN	
										NOTIFY SHIPPER IF DELAYED	IF BAD ORDERED NOTIFY SHIPPER
5	RTMX	21065	ET29	35		12ZA003	CR			CHICAGO IL	
										R50 SPEED RESTRICTED CAR	

*****	1/TK
* * *	RESIDUE: LAST CONTAINED
*****	ACETONE
	3
EMERGENCY CONTACT:	UN 1090
1-800-424-9300	II
	RQ (ACETONE)
	HAZMAT STCC = 4908105
6 GAPX 6075 LT19 36 POIS B 12ZA003 00 BRC CHICAGO IL	
	R50 SPEED RESTRICTED CAR

*****	1/TC
* * *	PHENOL, MOLTEN
*****	6.1
	UN 2312
EMERGENCY CONTACT:	II
1-800-424-9300	RQ (PHENOL)
	HAZMAT STCC = 4921220

EMERGENCY RESPONSE INFORMATION

POTENTIAL HAZARDS

FIRE OR EXPLOSION

- **HIGHLY FLAMMABLE:** Will be easily ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.

HEALTH

- Inhalation or contact with material may irritate or burn skin and eyes.
- Fire may produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or suffocation.
- Runoff from fire control may cause pollution.

PUBLIC SAFETY

- **CALL** Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 300 meters (1000 feet).

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

EMERGENCY RESPONSE

FIRE

CAUTION: All these products have a very low flash point; Use of water spray when fighting fire may be inefficient.

Small Fires

- Dry chemical, CO₂, water spray or alcohol-resistant foam.

Large Fires

- Water spray, fog or alcohol-resistant foam.
- Use water spray or fog; do not use straight streams.
- Move containers from fire area if you can do it without risk.

Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor suppressing foam may be used to reduce vapors.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Use clean non-sparking tools to collect absorbed material.

Large Spills

- Dike far ahead of liquid spill for later disposal.
- Water spray may reduce vapor; but may not prevent ignition in closed spaces.

FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Apply artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Wash skin with soap and water.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved; and take precautions to protect themselves.

POTENTIAL HAZARDS

- **TOXIC:** inhalation, ingestion, or skin contact with material may cause severe injury or death.
- Contact with molten substance may cause severe burns to skin and eyes.
- Avoid any skin contact.
- Effects of contact or inhalation may be delayed.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

FIRE OR EXPLOSION

- Combustible material: may burn but does not ignite readily.
- When heated, vapors may form explosive mixtures with air: indoors, outdoors, and sewers explosion hazards.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated.
- Runoff may pollute waterways.
- Substance may be transported in a molten form.

PUBLIC SAFETY

- **CALL** Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate enclosed areas.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing which is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations.

EVACUATION

Spill

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

EMERGENCY RESPONSE

FIRE

Small Fires

- Dry chemical, CO₂ or water spray.

Large Fires

- Dry chemical, CO₂, alcohol-resistant foam or water spray.
- Move containers from fire area if you can do it without risk.
- Dike fire control water for later disposal; do not scatter the material.

Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

SPILL/LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- DO NOT GET WATER INSIDE CONTAINERS.

FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Apply artificial respiration if victim is not breathing.
- Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

RECEIVED, subject to the classifications and lawfully Blue tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading.									
CUST. NUMBER 5	S.D. NUMBER 7	CAR OR TRAILER INITIAL AND NUMBER 15 RTMX 21065	DATE SHIPPED 8	MC DD EE	ROUTE CODE 5	SHP. PLT. 1	the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Freight Bill of Lading set forth (1) in Official, Southern, Western and Alaska Freight Classifications in effect on the date hereof, if this is a rail-carrier shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.		
NET WEIGHT 8	GROSS WEIGHT 8	NO. OF UNIT 4	UNIT CODE 3	PROD. CODE 3	PROD. FLT. 2				
CONSIGNEE John Doe, Inc.			DESTINATION Chicago, IL	STATE OF IL	COUNTY OF Cook				
FROM John Doe, Inc. Permanent Postoffice Address of Shipper St. Louis, MO			AT						
ROUTE ABC Railroad			DELIVERING CARRIER ABC	AGENT ABC PER					
NO. PKGS.	DESCRIPTION OF ARTICLES, SPECIAL MARKS AND EXCEPTIONS					WEIGHT (Sub. to Corr.)	RATE		
1 T/C	Residue: Last Contained Acetone 3 UN 1090 II RQ (Acetone) EMERGENCY CONTACT 1-800-424-9300 HAZ MAT STCC = 4908105					Residue			
This shipment is correctly described: CORRECT WEIGHT IS LBS. subject to verification by the Eastern, Southern or Western Weighing and Inspection Bureau, whichever applicable. 18843 John Doe, Inc. SHIPPER			THE TOTAL WEIGHT OF THE PALLETS USED ON THE SHIPMENT IS SHOWN ABOVE.			TRANSPORTATION FREE PER ABOVE			
PURCHASE ORDER NO.		SEAL NUMBERS		THIS CAR LEASED TO: John Doe, Inc.		LIGHT-TARE WEIGHT IS			
IF CHARGES ARE TO BE PREPAID, WRITE OR STAMP HERE "TO BE PREPAID" Prepaid			Subject to section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignee, the consignee shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.			SHIPPER John Doe, Inc. PER			
			SIGNATURE OF COMRAIGNOR						

PLANT COPY

***** STRAIGHT BILL OF LADING — SHORT FORM — Original — Not Negotiable Attachment 5
 * * * * * Page 2 of 2

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading.											
CUST. NUMBER 5	S.D. NUMBER 7	CAR OR TRAILER INITIAL AND NUMBER 15			DATE SHIPPED 8	MO. OF DEPT. 8	ROUTE CODE 5	SHP. PLT. 1	the property described below, in apparent good order, except as noted (contents and condition of contents of package unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination.		
NET WEIGHT 8		GROSS WEIGHT 8	NO. OF UNIT 4	UNIT CODE 3	PROD. CODE 3	PROD. PLT. 2	It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Alaska Freight Classification in effect on the date hereof, if this is a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.				
GAPX 6075											
CONSIGNEE John Doe, Inc.					DESTINATION Chicago, IL	STATE OF	COUNTY OF Cook				
FROM Permanent Postoffice Address of Shipper John Doe, Inc. St. Louis, MO					AT						
ROUTE ABC Railroad					DELIVERING CARRIER ABC	AGENT ABC					
					PER						
NO. PKGS.	DESCRIPTION OF ARTICLES, SPECIAL MARKS AND EXCEPTIONS						WEIGHT (Sub. to Corr.)	RATE			
1 T/C	Phenol, Molten 6.1 UN 2312 II RQ (Phenol) EMERGENCY CONTACT 1-800-424-9300 HAZ MAT STCC = 4921220						20,000 Gals.				
This shipment is correctly described: CORRECT WEIGHT IS LBS. subject to verification by the Eastern, Southern or Western Weighing and Inspection Bureau, whichever applicable, 18943 John Doe, Inc. SHIPPER					THE TOTAL WEIGHT OF THE PALLETS USED ON THE SHIPMENT IS SHOWN ABOVE.			TRANSPORTATION FREE PER ABOVE			
PURCHASE ORDER NO.			SEAL NUMBERS		THIS CAR LEASED TO: John Doe, Inc.			LIGHT-TARE WEIGHT IS			
IF CHARGES ARE TO BE PREPAID, WRITE OR STAMP HERE "TO BE PREPAID" Prepaid					Subject to section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignee, the consignee shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.					SHIPPER John Doe, Inc.	
					SIGNATURE OF CONSIGNEE					PER	

PLANT COPY

TOP 125 HAZARDOUS COMMODITY MOVEMENTS
BY TANK CAR ORIENTATION

RANK	COMMODITY NAME	**HAZ CLASS
1	Freight All Kinds - Hazardous Materials	
2	Freight All Kinds - Hazardous Materials	
3	Sodium Hydroxide Solution	C
4	Petroleum Gases, Liquefied	CG
5	Sulfuric Acid	C
6	Elevated Temperature Liquid, N.O.S.	ORM
7	Ammonia, Anhydrous, Liquefied	CG
8	Chlorine	CG
9	Sulfur, Molten	ORM
10	Sulfur, Molten	FS
11	Vinyl Chloride, Inhibited	CG
12	Propane	CG
13	Fuel Oil	FL
14	Denatured Alcohol	FL
15	Methanol	FL
16	Gasoline	FL
17	Phosphoric Acid	C
18	Hydrochloric Acid	C
19	Styrene Monomer, Inhibited	FL
20	Carbon Dioxide, Refrigerated Liquid	CG
21	Ammonium Nitrate	O
22	Gasoline	FL
23	Sodium Chlorate	O
24	Diesel Fuel	CL
25	Butane	CG
26	Petroleum Crude Oil	FL
27	Phenol, Molten	P
28	Fuel Oil	FL
29	Butadienes, Inhibited	CG
30	Fuel Oil	CL
31	Ethylene Oxide	CG
32	Methyl Tert Butyl Ether	FL
33	Fuel, Aviation, Turbine Engine	FL

RANK	COMMODITY NAME	HAZ CLASS
34	Isobutane	CG
35	Environ. Hazardous Substances, Liquid	ORM
36	Environ. Hazardous Substances, Liquid	ORM
37	Environ. Hazardous Substances, Liquid	ORM
38	Propylene	CG
39	Propylene Oxide	FL
40	Vinyl Acetate, Inhibited	FL
41	Environ. Hazardous Substances, Solid, N.O.S.	ORM
42	Environ. Hazardous Substances, Solid, N.O.S.	ORM
43	Petroleum Crude Oil	CL
44	Xylenes	FL
45	Other Regulated Substances, Liquid	ORM
46	Cyclohexane	FL
47	Hydrogen Peroxide, Stabilized	O
48	Hexamethylenediamine, Solid	C
49	Acrylic Acid, Inhibited	C
50	Sulfuric Acid, Spent	C
51	Methyl Methacrylate Monomer, Inhibited	FL
52	Environ. Hazardous Substances, Solid, N.O.S.	ORM
53	Potassium Hydroxide, Solution	C
54	Toluene Diisocyanate	P
55	Phosphoric Acid	C
56	Acetic Acid, Glacial	C
57	Formaldehyde Solutions	C
58	Butyl Acrylates, Inhibited	FL
59	Environ. Hazardous Substances, Liquid, N.O.S.	ORM
60	Petroleum Distillates, N.O.S.	CL
61	Acetone	FL
62	Compounds, Cleaning Liquid	FL
63	Toluene	FL
64	Environ. Hazardous Substances, Solid, N.O.S.	ORM
65	Ammonium Nitrate Fertilizers	O
66	Ethanol	FL
67	White Asbestos	ORM
68	Elevated Temperature Liquid, N.O.S.	ORM

RANK	COMMODITY NAME	**HAZ CLASS
69	Liquefied Petroleum Gas	CG
70	Acrylonitrile, Inhibited	FL
71	Liquefied Petroleum Gas	CG
72	Petroleum Distillates, N.O.S.	FL
73	Environ. Hazardous Substances, Liquid	ORM
74	Hazardous Waste, Solid, N.O.S.	ORM
75	Benzene	FL
76	Fuel Oil	FL
77	Ethylene Dichloride	FL
78	Hydrogen Flouride, Anhydrous	C
79	Liquefied Petroleum Gas	CG
80	Sulfer Dioxide	CG
81	Elevated Temperature Liquid, N.O.S.	ORM
82	Elevated Temperature Liquid, Flammable, N.O.S.	FL
83	Elevated Temperature Liquid, N.O.S.	ORM
84	Diesel Fuel	CL
85	Waste Flammable Liquids	FL
86	Other Regulated Substances, Liquid, N.O.S.	ORM
87	Isobutane	CG
88	Isopropanol	FL
89	Sodium Chlorate, Aqueous Solution	O
90	Other Regulated Substances, N.O.S.	ORM
91	Phosphorus, White, Dry	FS
92	Ferrous Chloride, Solution	C
93	Elevated Temperature Liquid, N.O.S.	ORM
94	Methanol	FL
95	Petroleum Distillates, N.O.S.	FL
96	Elevated Temperature Liquid, N.O.S.	ORM
97	Propylene	CG
98	Flammable Liquids, N.O.S.	FL
99	Environ. Hazardous Substances, Solid, N.O.S.	ORM
100	Butanols	FL
101	Nitric Acid	C
102	Polymeric Beads, Expandable	ORM
103	Combustible Liquids, N.O.S.	CL

RANK	COMMODITY NAME	**HAZ CLASS
104	Acetic Anhydride	C
105	Fuel Oil	CL
106	Liquefied Petroleum Gas	CG
107	Fuel Oil	CL
108	Butylene	CG
109	Ferric Chloride, Solution	C
110	Freight All Kinds - Hazardous Materials	
111	Acetaldehyde	FL
112	Other Regulated Substances, Liquid	ORM
113	Batteries, Wet, Filled with Acid	C
114	Maleic Anhydride	C
115	Hydrocarbons, Liquid, N.O.S.	FL
116	Sulfuric Acid, Fuming	C
117	Ammonium Nitrate, Liquid	O
118	Methyl Chloride	CG
119	Alcoholic Beverages	FL
120	Elevated Temperature Liquid, N.O.S.	ORM
121	Combustible Liquid, N.O.S.	CL
122	Ethyl Acetate	FL
123	Ethyl Acrylate, Inhibited	FL
124	Kerosene	FL
125	Other Regulated Substances, Liquid, N.O.S.	ORM

**CG - Compressed Gas
 FL - Flammable Liquid
 FS - Flammable Solid
 CL - Combustible Liquid
 O - Oxidizer
 P - Poison
 C - Corrosive
 ORM - Other Regulated Material