Illinois Commerce Commission

2022 Annual Report on Accidents/Incidents Involving Hazardous Materials on Railroads in Illinois

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STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

527 East Capitol Avenue
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March 23, 2023

The Honorable Don Harmon
Senate President

The Honorable Dan McConchie
Senate Republican Leader

The Honorable Emanuel Chris Welch
House Speaker

The Honorable Tony McCombie
House Republican Leader

Dear Honorable Members of the Legislative Leadership:

The Illinois Commerce Commission submits the attached report in compliance with 625 ILCS, Section 5/18c-1204, which 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. The report also provides the rail line and point of origin of the hazardous material involved in each accident.

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 Sarah Ryan, Director of Governmental Affairs, at (217) 785-2449.

Sincerely,

Carrie K. Zalewski
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 Illinois Commerce Commission (ICC) 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 approximately 7,400 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 35,000 rail cars on a typical weekday.

According to the Association of American Railroads (AAR), approximately 7.9 percent of all rail traffic involved the movement of hazardous materials(1). In 2020 (latest year for which data is available), railroads in Illinois originated 125.9 million tons of total freight and 3,796,332 carloads of freight(2). Of this total, HM shippers in Illinois originated approximately 9.95 million tons of hazardous materials (or 299,910 carloads).

The U.S. Department of Transportation (USDOT) classifies approximately 3,500 substances as hazardous(3). 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.

[1,2,3Note: See page 12 for References]

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 Federal Railroad Administration (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 ICC currently has two full-time federally certified Hazardous Material inspector positions responsible for all of Illinois.

The ICC Hazardous Material (HM) inspectors, in cooperation with FRA inspectors, focus the majority of their efforts 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 2022, the ICC HM inspectors inspected 8,549 rail cars. Since 1981, when three ICC HM inspectors found violations in 12 percent of all inspections, compliance has improved to the point that inspectors found violations in only 1.3 percent of all inspections in 2022.

The large increase in compliance observed since 1981, is due in part to ICC-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 ICC 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. ILLINOIS COMMERCE COMMISSION HAZARDOUS MATERIALS SAFETY PROGRAM

The ICC'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 escort 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 ICC HM 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. The ICC HM 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 the ICC HM inspectors determine that cars are not correctly located within the train's consist, they 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. The ICC HM inspectors examines 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.

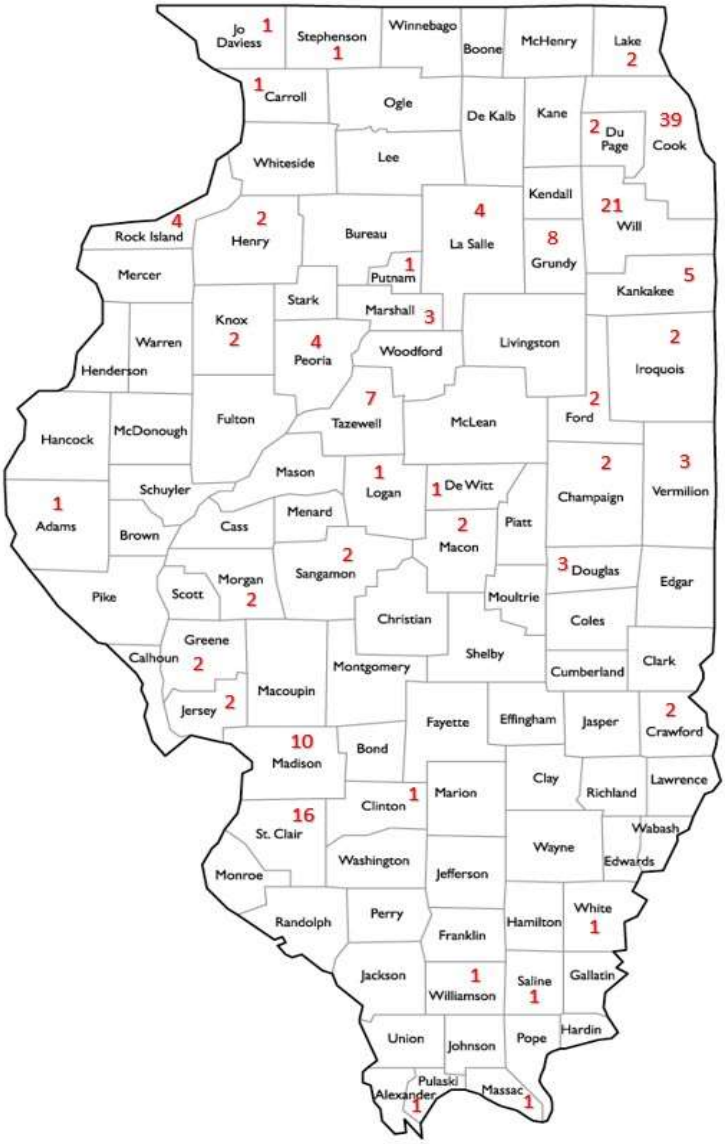
Emergency responders rely on the provision of this shipping information in the case of a spill or other type of incident concerning the shipment. Depending upon the particular substance being transported; incorrect or incomplete information,

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 in order to permit the continued ability of the shipper or consignee to receive or ship hazardous materials. Illinois has an extensive network of hazardous materials shippers as shown in Map 1.

Map 1. Illinois Hazardous Material Shippers.



3.2 Technical Assistance Program to Shippers, Consignees and Emergency Responders

ICC HM 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. The ICC HM inspectors will also advise the emergency response team as to proper mitigation and clean up procedures and requirements. The ICC HM 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. The ICC HM inspectors are on-call 24-hours a day to respond to any incident.

3.3 Low Level Radioactive Material & Escort of High Level Nuclear Material in Illinois

The movement of nuclear material in or through the State of Illinois by rail occurs infrequently. The current protocol for the shipment of nuclear material requires that the train be stopped and inspected prior to entering Illinois. When they do occur, nuclear material shipments will be escorted by the ICC HM inspectors, as well as the ICC 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. 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. Since 1998 when annual reporting was first required, there have been two incidents involving low level radioactive waste. One, detailed in the 2020 Annual Report, and a second on August 23, 2022. The incident involved modified rail cars carrying low level radioactive waste from a soil remediation site in the City of Chicago. The Illinois Emergency Management Agency's Nuclear and Radiation Safety Team was lead in monitoring the response and clean-up with ICC Inspectors supporting. The Federal Railroad Agency investigation is ongoing, and the low specific activity material was transferred to suitable rail cars and transported to its destination in Texas.

3.4 Education and Outreach Activities

According to 625 ILCS 5/18c-7404, ICC inspectors facilitate 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. The ICC HM inspectors also educate railroad company personnel and shippers on the interpretation and application of federal and state hazardous materials regulations.

4. *Illinois Commerce Commission Hazardous Material Safety Program Activity in 2022*

Summary of Inspections Conducted by ICC HM Inspectors: 2013 through 2022. (Source: ICC)

Year	Inspections	Units Inspected	Defects Identified	Defects per Unit	Staff *(Full - Time)*
2013	148	11,005	206	0.019	1.0
2014	142	10,186	199	0.020	1.0
2015	127	8,065	195	0.024	1.0
2016	268	16,294	361	0.022	2.0
2017	295	18,223	331	0.018	2.0
2018	303	17,209	270	0.016	2.0
2019	215	8,355	90	0.011	1.5
2020	244	8,745	91	0.010	2.0
2021	304	11,884	96	0.008	2.0
2022	272	8,549	110	0.013	2.0
Total	**2,318**	**118,515**	**1,949**	**0.016**	

5. *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. ICC 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.

6. *Data Describing Accidents and/or Incidents in Illinois in 2022*

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.

Summary of Hazardous Material Related Incidents: 2013 – 2022.

Type of Incident	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
A. Hazardous Materials Physically Involved in Derailment and Hazardous Materials Release Occurred	5	2	4	4	2	1	6	4	4	5
B. Hazardous Materials Physically Involved in Derailment Where No Hazardous Materials Release Occurred	23	36	27	14	14	8	6	7	31	29
C. Hazardous Materials Released From Rail Cars Where No Derailment Occurred	82	84	69	65	69	55	33	46	29	52
Total	**110**	**122**	**100**	**83**	**85**	**64**	**45**	**57**	**64**	**86**

Information for Tables A, B and C was obtained from reports filed by the railroads with the Commission, as well as from the USDOT's Research and Innovative Technology Administration.

Three categories of information contained in this report not specifically required by law 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 is provided in Table D.

Table A. Hazardous Materials Physically Involved in a Derailment and a Hazardous Materials Release Occurred.

City	County	Railroad Involved	Substance Involved	Point of Origin	Suspected Reason for Incident	Amount Involved	Amount Released	Type of Equipment	Date
Joliet	Will	UP	Diesel Fuel	Joliet, IL	Possible switch issue	4,000 gals.	1,100 gals.	Locomotive	2/15/2022
Rochelle	Ogle	UP	Diesel Fuel	Rochelle, IL	Unknown derailment	Unknown	Minmal	Refrigerated car	3/25/2022
Albers	Clinton	NS	Methyl Methacrylate	Columbus, OH	Unknown derailment	172,487 liquid lbs.	20,000 gals.	Tank car	9/19/2022
McLeansboro	Hamilton	EWR	Diesel Fuel	McLeansboro, IL	Train struck semi	4,000 gals.	26 gals.	Locomotive	10/8/2022
Stonington	Christian	NS	Diesel Fuel	Decatur, IL	Train struck elevator trackmobile	4,000 gals.	2,000 gals.	Locomotive	10/21/2022

Table B. Hazardous Materials Physically Involved in a Derailment Where No Hazardous Materials Release Occurred.

City	County	Railroad Involved	Substance Involved	Point of Origin	Suspected Reason for Incident	Amount Involved	Amount Released	Type of Equipment	Date
Elgin	Kane	Metra	Diesel Fuel	Elgin, IL	Derail left in the on position	3,000 gals.	None	Locomotive	1/2/2022
Chicago	Cook	Metra	Diesel Fuel	Chicago, IL	Unknown derailment	3,000 gals.	None	Locomotive	1/5/2022
Melrose Park	Cook	UP	Diesel Fuel	Melrose Park, IL	Snow/Ice build up in tracks	4,000 gals.	None	Locomotive	1/6/2022
Chicago	Cook	Metra	Diesel Fuel	Chicago, IL	Snow/Ice build up in tracks	3,000 gals.	None	Locomotive	2/2/2022
Melrose Park	Cook	UP	Diesel Fuel	Melrose Park, IL	Unknown derailment	4,000 gals.	None	Locomotive	2/8/2022
East Moline	Rock Island	CP	Anhydrous Ammonia	Unknown	Unknown derailment	26,000 gals.	None	Tank car	2/17/2022
Melrose Park	Cook	UP	Sulfuric Acid	Unknown	Unknown derailment	Unknown	None	Tank car	3/17/2022
Sterling	Whiteside	UP	Diesel Fuel	Sterling, IL	Unknown derailment	4,000 gals.	None	Locomotive	3/19/2022
Granite City	Madison	UP	Diesel Fuel	Granite City, IL	Wide gauge & defective ties	4,000 gals.	None	Locomotive	3/26/2022
Dolton	Cook	UP	Diesel Fuel	Dolton, IL	Normal wear & tear of track	4,000 gals.	None	Locomotive	3/28/2022
Chicago	Cook	Metra	Diesel Fuel	Chicago, IL	Unknown derailment	4,000 gals.	None	Locomotive	6/24/2022
Dolton	Cook	UP	Diesel Fuel	Dolton, IL	Switch improperly aligned	4,000 gals.	None	Locomotive	6/27/2022
Dolton	Cook	UP	Diesel Fuel	Dolton, IL	Unknown derailment	4,000 gals.	None	Locomotive	7/3/2022
Dolton	Cook	UP	Diesel Fuel	Dolton, IL	Unknown derailment	4,000 gals.	None	Locomotive	7/23/2022
Keensburg	Wabash	NS	Diesel Fuel	Keensburg, IL	Track debris	4,000 gals.	None	Locomotive	7/26/2022

City	County	Railroad Involved	Substance Involved	Point of Origin	Suspected Reason for Incident	Amount Involved	Amount Released	Type of Equipment	Date
Blue Island	Cook	Metra	Diesel Fuel	Blue Island, IL	Track issues	4,000 gals.	None	Locomotive	8/6/2022
Rochelle	Ogle	UP	Diesel Fuel	Rochelle, IL	Ran through switch	4,000 gals.	None	Locomotive	8/10/2022
Dupo	St. Clair	UP	Isobutanol	Dupo, IL	Unknown derailment	Unknown	None	Tank car	8/27/2022
Rochelle	Ogle	UP	Diesel Fuel	Rochelle, IL	Unknown derailment	4,000 gals.	None	Locomotive	9/21/2022
Villa Grove	Douglas	UP	Diesel Fuel	Villa Grove, IL	Human factor	4,000 gals.	None	Locomotive	10/5/2022
Chicago	Cook	Metra	Diesel Fuel	Chicago, IL	Operator error locomotive failed to stop short of derail	4,000 gals.	None	Locomotive	10/18/2022
Rochelle	Ogle	UP	Diesel Fuel	Rochelle, IL	Unknown derailment	4,000 gals.	None	Locomotive	11/10/2022
Chicago	Cook	Metra	Diesel Fuel	Chicago, IL	Unknown derailment	4,000 gals.	None	Locomotive	11/21/2022
Maywood	Cook	UP	Diesel Fuel	Maywood, IL	Unknown derailment	4,000 gals.	None	Locomotive	11/24/2022
Barstow	Rock Island	BNSF	Diesel Fuel	Barstow, IL	Unknown derailment	4,000 gals.	None	Locomotive	11/27/2022
Melrose Park	Cook	UP	Diesel Fuel	Melrose Park, IL	Mechanical error	4,000 gals.	None	Locomotive	11/29/2022
Centralia	Marion	BNSF	Diesel Fuel	Centralia, IL	Unknown derailment	4,000 gals.	None	Locomotive	12/22/2022
Northlake	Cook	UP	Diesel Fuel	Northlake, IL	Unknown derailment	4,000 gals.	None	Locomotive	12/25/2022
Chicago	Cook	UP	Diesel Fuel	Chicago, IL	Broken rail	4,000 gals.	None	Locomotive	12/27/2022

Table C. Hazardous Materials Released From Rail Cars Where No Derailment Occurred.

City	County	Railroad Involved	Substance Involved	Point of Origin	Suspected Reason for Incident	Amount Involved	Amount Released	Type of Equipment	Date
Wedron	La Salle	IR	Diesel Fuel	Wedron, IL	Fuel tank on locomotive overfilled	3,000 gals.	75 gals.	Locomotive	1/3/2022
Centralia	Marion	CN	Styrene Monomer, Stabilized	Carville, LA	Loose manway bolts	24,235 gals.	1 gal.	Tank car	1/3/2022
Chicago	Cook	NS	Picolines	Unknown	Trailer chassis failure	Unknown	600 gals.	Container on flat car	1/5/2022
Peoria	Peoria	UP	Methyl Chloride	Mapleton, IL	Loose liquid valve plug	10 gals.	1 pint	Tank car	1/25/2022
Bensenville	Du Page	CP	Diesel Fuel	Bensenville, IL	Operator error	4,000 gals.	150 gals.	Locomotive	1/26/2022
Decatur	Macon	NS	Diesel Fuel	Decatur, IL	Broken fitting	4,000 gals.	50 gals.	Locomotive	2/8/2022
Chicago	Cook	UP	Diesel Fuel	Chicago, IL	Unknown	100 gals.	Minmal	Locomotive	3/3/2022
Gary	Lake	CN	Hydrochloric Acid	Willow Springs, IL	Loose securement fastener	21,922 gals.	1 gal.	Tank car	3/23/2022
Elwood	Will	BNSF	Diesel Fuel	Elwood, IL	Locomotive hit semi truck in yard	Unknown	50-100 gals.	Semi truck	3/23/2022
East St. Louis	St. Clair	ALS	Diesel Fuel	East St. Louis, IL	Fuel tank on locomotive overfilled	4,000 gals.	50 gals.	Locomotive	3/28/2022
Alorton	St. Clair	UP	Diesel Fuel	Alorton, IL	Fuel tank on locomotive overfilled	4,000 gals.	50 gals.	Locomotive	3/28/2022
East St. Louis	St. Clair	UP	Fluoroilicic Acid	East St. Louis, IL	Wind blew hose out of tank car being transloaded	Unknown	Minmal	Tank car	3/30/2022
Alton	Madison	UP	Diesel Fuel	Alton, IL	Unknown	4,000 gals.	300 gals.	Locomotive	3/31/2022
Joliet	Will	UP	Vinyltrimethoxysilane	Singapore	Inadequate blocking & bracing of container	55 gals.	1 gal.	Steel drum	4/1/2022

City	County	Railroad Involved	Substance Involved	Point of Origin	Reason for Incident	Amount Involved	Amount Released	Type of Equipment	Date
Chicago	Cook	NS	Diesel Fuel	Chicago, IL	Mechanical failure	40 gals.	3 gals.	Truck	4/12/2022
Bedfork Park	Cook	CSX	Diesel Fuel	Bedford Park, IL	Fuel cap missing	Unknown	30 gals.	Crane in yard	4/17/2022
Rochelle	Ogle	UP	Ethanol/Alcohol	Unknown	Unknown	26,000 gals.	1 gal.	Tank car	4/21/2022
Beardstown	Cass	BNSF	Phosphoric Acid	Savannah, GA	Bottom outlet valve deterioration/aging	210,300 lbs.	1 cup	Tank car	4/26/2022
East St. Louis	St. Clair	CSX	Argon	Tonawanda, NY	Pressure relief device failed	18000 gals.	3 gals.	Tank car	5/4/2022
Dolton	Cook	UP	Argon	Omaha, NE	Liquid valve in open position	18,000 gals.	580 Liquid lbs.	Tank car	5/7/2022
Dolton	Cook	UP	Diesel Fuel	Dolton, IL	Unknown	4,000 gals.	100 gals.	Locomotive	5/10/2022
Hainesville	Lake	Metra	Diesel Fuel	Hainesville, IL	Locomotive hit a semi truck	180 gals.	65 gals.	Truck saddle tanks	5/24/2022
Galesburg	Knox	BNSF	Combustible Liquid	Chicago, IL	Manway gasket deterioration	170,500 gals.	1 gal.	Tank car	6/20/2022
Dupo	St. Clair	UP	Diesel Fuel	Dupo, IL	Unknown	Unknown	50 gals.	intermodal crane	6/28/2022
Chicago	Cook	NS	Diesel Fuel	Chicago, IL	Unknown	50 gals.	2 gals.	Motor on a refrigerated car	7/12/2022
Franklin Park	Cook	CP	Diesel Fuel	Franklin Park, IL	Puncture in tank	4,000 gals.	2,000 gals.	Locomotive	7/13/2022
Northlake	Cook	UP	Diesel Fuel	Northlake, IL	Faulty nozzle	4,000 gals.	30 gals.	Locomotive	7/13/2022
Round Grove	Whiteside	UP	Propane	Round Grove, IL	Broken gas line on heater	Unknown	Unknown	Switch heater	7/13/2022
Dupo	St. Clair	UP	Diesel Fuel	Dupo, IL	Mechanical issues	50 gals.	50 gals.	Truck	7/23/2022
Joliet	Will	UP	Acetic Acid	Norfolk, VA	Cracked valve	211 gals.	40 gals.	Bulk Container	8/31/2022
Riverdale	Cook	IHB	Radioactive LSA1	Unknown	Blocking/bracing of material	10 bulk bags	Unknown	Gondola	9/1/2022
Henderson	Knox	BNSF	Diesel Fuel	Henderson, IL	Unknown	Unknown	50 gals.	Railcar	9/5/2022
Elwood	Will	BNSF	Acetic Acid	San Pedro, CA	Valve stem	273 gals.	2 gals.	Bulk Container	9/15/2022
Savanna	Carroll	BNSF	Diesel Fuel	Savanna, IL	Unknown	Unknown	Unknown	Unknown	9/16/2022
Elwood	Will	BNSF	Acetic Acid	San Pedro, CA	Valve stem	275 gals.	2 gals.	Bulk Container	9/27/2022
Dupo	St. Clair	UP	Diesel Fuel	Dupo, IL	Operator error from transfer truck to locomotive	4,000 gals.	50 gals.	Locomotive	10/5/2022
Elwood	Will	BNSF	Acetic Acid	San Pedro, CA	Valve stem	273 gals.	2 gals.	Bulk Container	10/5/2022
Rochelle	Ogle	UP	Diesel Fuel	Rochelle, IL	Fuel filter housing clamp had blown off	4,000 gals.	25 gals.	Locomotive	10/8/2022
Chicago	Cook	UP	Diesel Fuel	Chicago, IL	Unknown	4,000 gals.	Unknown	Locomotive	10/13/2022
Aurora	Kane	BNSF	Potassium Hydroxide	Nekoosa, WI	Bottom outlet valve cap loose	181,900 lbs.	7 lbs.	Tank car	10/14/2022
Elwood	Will	BNSF	Diesel Fuel	Elwood, IL	Engine malfunction	4,000 gals.	100 gals.	Locomotive	10/15/2022
Bridgeview	Cook	CSX	Phosphoric Acid	Bridgeview, IL	Transloading operation error	Unknown	Unknown	Tank car	10/18/2022
Blue Island	Cook	CSX	Diesel Fuel	Blue Island, IL	Mechanical failure	100 gals.	50 gals.	Reefer unit	10/26/2022
Chicago	Cook	BNSF	Diesel Fuel	Chicago, IL	Unknown	4,000 gals.	500 gals.	Locomotive	11/3/2022
Franklin Park	Cook	CP	Pyridine	Peachtree Corners, GA	Defective bottom outlet gasket & bottom outlet valve plug loose	20,000 kgs.	1 cup.	Tank car	11/14/2022
Chicago	Cook	BNSF	Diesel Fuel	Chicago, IL	Sump tank overflow	4,000 gals.	250 gals.	Locomotive	11/29/2022
Joliet	Will	BNSF	Resin Solution	Long Beach, CA	Punctured drum	55 gals.	25 gals.	Drum	12/1/2022
Mt. Vernon	Jefferson	EWR	Diesel Fuel	Mt. Vernon, IL	Crossing collision	4,000 gals.	10 gals.	Locomotive	12/2/2022
Modoc	Randolph	UP	Diesel Fuel	Modoc, IL	Unknown	4,000 gals.	Unknown	Locomotive	12/10/2022
McClure	Alexander	UP	Diesel Fuel	McClure, IL	Discharge from engine for unknown reason	2,650 gals.	75 gals.	Locomotive	12/21/2022
Cahokia Heights	St. Clair	ALS	Diesel Fuel	Cahokia Heights, IL	Train struck semi truck	Unknown	Unknown	Semi truck	12/28/2022
Bedfork Park	Cook	CSX	Diesel Fuel	Chicago, IL	Overfilled fuel tank	Unknown	20 gals.	Crane in yard	12/31/2022

Table D. Railroad Companies Identified In The Preceding Tables.

Railroad Involved		2022 Reports
ALS	Alton & Southern Railroad	2
BNSF	BNSF Railway	15
CN	Canadian National Railway	2
CP	Canadian Pacific Railway	4
CSX	CSX Transportation	5
EVWR	Evansville & Western Railroad	2
IHB	Indiana Harbor Belt Railroad	1
IR	Illinois Railway	1
NS	Norfolk Southern Railway	7
Metra	Northeast Illinois Commuter Rail Corp.	8
UP	Union Pacific Railroad	39
Total		**86**

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 Commodities

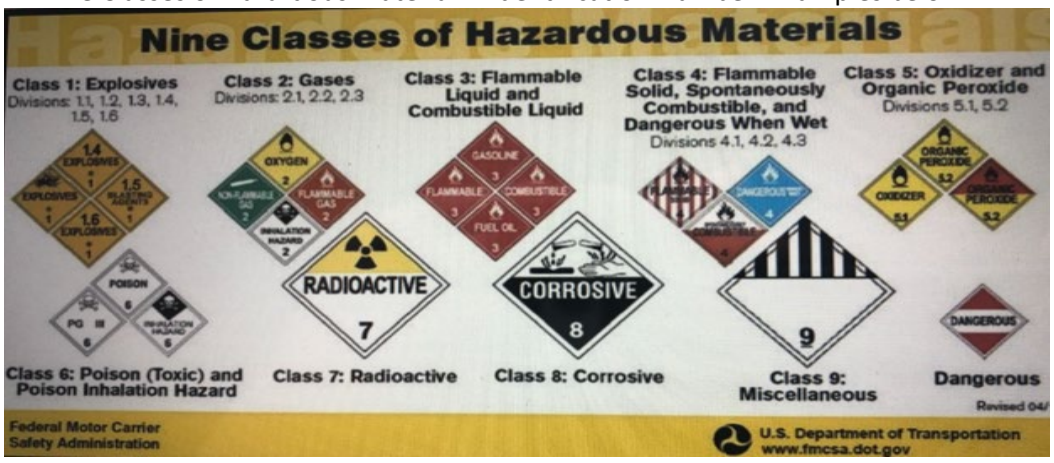
References.

1. Association of American Railroads; *Freight Railroads Move America Safely*. Washington, D.C., February 2023. https://www.aar.org/wp-content/uploads/2020/08/AAR-Safety-Fact-Sheet.pdf Retrieved February 8, 2023.
2. Association of American Railroads. *AAR State Rankings 2019 (2020).* Washington, D.C., December 2020. https://www.aar.org/wp-content/uploads/2021/02/AAR-State-Rankings-2019.pdf Retrieved February 8, 2023.
3. Pipeline and Hazardous Materials Safety Administration. *2020 Emergency Response Guidebook*. U.S. Department of Transportation, Washington, D.C., Revised February 2020. https://www.phmsa.dot.gov/training/hazmat/erg/emergency-response-guidebook-erg and Guidebook Link .

Attachment 1

Recognizing and Identifying Hazardous materials – Placards and Label Notes. Placards are diamond shaped – 10 ¾ 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 Nation's hazard class number at the bottom; and
4. The hazard class wording or the identification number in the center.
    a. Color:
        i. Orange indicates explosive
        ii. Red indicates flammable
        iii. Green indicates nonflammable
        iv. Yellow indicates oxidizing material
        v. White indicates poisonous material
        vi. White with vertical red stripes indicates flammable solid
        vii. Yellow over white indicates radioactive material
        viii. White over black indicates corrosive material
    b. Symbols:
        i. The bursting ball symbol indicates explosive
        ii. The flame symbol indicates flammable
        iii. The slashed W indicates dangerous when wet
        iv. The skull and crossbones indicates poisonous material
        v. The circle with the flame indicates oxidizing material
        vi. The cylinder indicates nonflammable gas
        vii. The propeller indicates radioactive
        viii. The test tube/hand/metal symbol indicates corrosive
        ix. The word Empty indicates product has been removed, but a reside may remain
    c. United Nations Hazard Class Numbers:
        i. Explosives
        ii. Gases
        iii. Flammable Liquids
        iv. Flammable Solids
        v. Oxidizing Substances
        vi. Poisonous and Infectious Substances
        vii. Radioactive Substances
        viii. Corrosive Substances
        ix. Miscellaneous Dangerous Substances
    d. Nine Classes of Hazardous Material – Identification Number: Examples below.



SAMPLE WAYBILL **Attachment 2**

****

* Hazardous Materials *

****

RTMX 21065 T/C

#123456 1/10/16

St. Louis MO.

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

John Doe Inc.
Chicago, IL.

1 T/C
Residue: Last Contained
UN 1090
Acetone
3//PG II
RQ (Acetone)
Emergency Contact:
Chemtrec – 1-800-424-9300
STCC 4908105

SAMPLE WAYBILL **Attachment 2**

****

* Hazardous Materials *

****

GAPX 6075 T/C

#123457 1/10/16

St. Louis MO. 1212 St. Louis, MO.

12 S. Street

John Doe Inc.

John Doe Inc.

Chicago, IL.

1 T/C 20,000 Gals.

UN 2312

Phenol, Molten

6.1//PG II

RQ (Phenol)

Emergency Contact:

Chemtrec – 1-800-424-9300

STCC 4921220

Sample Consist **Attachment 3**

Train/Job Conductor

Name Category – Secondary Manifest Type-Thru

Engine – Ident	Horsepower	Length	Weight Status
6142	3000	69	200E
1001	3000	74	200E
1005	3000	74	200E
Total	9000 HP	217 Feet	600 Tons

Train/Job SEQ Equipment ID BLOCK	KND	GWT	COMDTY	CITY/STATE	CONSIGNEE
1 BJOX 278	LC4T	131	Corn	Memphis, TN	
2 BJOX 109	LC4T	131	Corn	Memphis, TN	
3 BJOX 110	LC4T	131	Corn	Memphis, TN	
4 CRDX 7227	LC4T	131	Corn	Memphis, TN	
5 RTMX 21065	ET29	35		Chicago, IL	
R50 SPEED RESTRICTED CAR					

****
* Hazardous Materials *
****
1/TC
Residue: Last Contained
UN 1090
Acetone
3//PG II
RQ (Acetone)
Emergency Contact: Chemtrec 1-800-424-9300
STCC 4908105

6 GAPX 6075 LT19 38 POIS B Chicago, IL.
R50 SPEED RESTRICTED CAR

****
* Hazardous Materials *
****
1/TC
UN 2312
Phenol, Molten
6.1//PG II
RQ (Phenol)
Emergency Contact: Chemtrec 1-800-424-9300
STCC 4921220

GUIDE 127 Flammable Liquids (Water-Miscible)

POTENTIAL HAZARDS

FIRE OR EXPLOSION

- **HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.**

CAUTION: Ethanol (UN1170) can burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.)

- 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 the ground and collect in low or confined areas (sewers, basements, tanks, etc.).
- 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 will float on 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 asphyxiation.
- Runoff from fire control or dilution water may cause environmental contamination.

PUBLIC SAFETY

- **CALL 911. Then call emergency response telephone number on shipping paper**. If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate closed spaces before entering, but only if properly trained and equipped.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing provides thermal protection **but only limited chemical protection**.

EVACUATION

Immediate precautionary measure

- Isolate spill or leak area for at least 50 meters (150 feet) in all directions.

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.

In Canada, an Emergency Response Assistance Plan (ERAP) may be required for this product. Please consult the shipping paper and/or the ERAP Program Section (page 390).

EMERGENCY RESPONSE

FIRE

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

CAUTION: For fire involving UN1170, UN1987 or UN3475, alcohol-resistant foam should be used.

CAUTION: Ethanol (UN1170) can burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.)

Small Fire

- Dry chemical, CO_2, water spray or alcohol-resistant foam.

Large Fire

- Water spray, fog or alcohol-resistant foam.
- Avoid aiming straight or solid streams directly onto the product.
- If it can be done safely, move undamaged containers away from the area around the fire.

Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned master stream devices 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 master stream devices 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) from 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 Spill

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

FIRST AID

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air if it can be done safely.
- Give 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.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim calm and warm.

POTENTIAL HAZARDS

FIRE OR EXPLOSION

- Flammable/combustible material.
- May be 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 the ground and collect in low or confined areas (sewers, basements, tanks, etc.).
- 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 will float on water.

HEALTH

- May cause toxic effects if inhaled or ingested.
- Contact with substance may cause severe burns to skin and eyes.
- Fire will produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or asphyxiation.
- Runoff from fire control or dilution water may cause environmental contamination.

PUBLIC SAFETY

- **CALL 911. Then call emergency response telephone number on shipping paper.** If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate closed spaces before entering, but only if properly trained and equipped.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer **when there is NO RISK OF FIRE**.
- Structural firefighters' protective clothing provides thermal protection **but only limited chemical protection**.

EVACUATION

Immediate precautionary measure

- Isolate spill or leak area for at least 50 meters (150 feet) in all directions.

Spill

- For highlighted materials: see Table 1 - Initial Isolation and Protective Action Distances.
- For non-highlighted materials: increase the immediate precautionary measure distance, in the downwind direction, as necessary.

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.

In Canada, an Emergency Response Assistance Plan (ERAP) may be required for this product . Please consult the shipping paper and/or the ERAP Program Section (page 390) .

EMERGENCY RESPONSE

FIRE

- **Some of these materials may react violently with water.**

Small Fire

- Dry chemical, CO_2, water spray or alcohol-resistant foam.

Large Fire

- Water spray, fog or alcohol-resistant foam.
- If it can be done safely, move undamaged containers away from the area around the fire.
- Dike runoff from fire control for later disposal.
- Do not get water inside containers.

Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned master stream devices 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 master stream devices 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) from 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 with earth, sand or other non-combustible material.
- For **hydrazine**, absorb with DRY sand or inert absorbent (vermiculite or absorbent pads).
- Use clean, non-sparking tools to collect absorbed material.

Large Spill

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

FIRST AID

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air if it can be done safely.
- Give artificial respiration if victim is not breathing.
- **Do not perform mouth-to-mouth resuscitation if victim ingested or inhaled the substance; wash face and mouth before giving artificial respiration. Use 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.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim calm and warm.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

********** STRAIGHT BILL OF LADING — SHORT FORM — Original — Not Negotiable

* * (SAMPLE) Company

****

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	MC DD DD SE	ROUTE CODE 5	SHP PLT. 1
		RTMX 21065				

NET WEIGHT 8	GROSS WEIGHT 8	NO. OF UNIT 4	UNIT CODE 3	PROD. CODE 3	PROD. PLT. 2

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 Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or 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.

CONSIGNEE	DESTINATION	STATE OF	COUNTY OF
John Doe, Inc.	Chicago, IL		Cook

FROM Permanent Postoffice Address of Shipper	AT
John Doe, Inc. St. Louis, MO	

ROUTE	DELIVERING CARRIER	AGENT
ABC Railroad	ABC	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, 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:	LIGHT TARE WEIGHT IS
		John Doe, Inc.	

IF CHARGES ARE TO BE PREPAID, WRITE OR STAMP HERE "TO BE 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 consignor, the consignor shall sign the following statement. The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.	SHIPPER
Prepaid	SIGNATURE OF CONSIGNOR	PER John Doe, Inc.

PLANT COPY

****
* *
****

STRAIGHT BILL OF LADING — SHORT FORM — Original — Not Negotiable

Company

RECEIVED, subject to the classifications and 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	MC DOT DOT SPEC	ROUTE CODE 5	SHP. PLT. 1
		GAPX 6075				

NET WEIGHT 8	GROSS WEIGHT 8	NO. OF UNIT 4	UNIT CODE 3	PROD. CODE 3	PROD. PLT. 2

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 Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications 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 govern 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.

CONSIGNEE	DESTINATION	STATE OF	COUNTY OF
John Doe, Inc.	Chicago, IL		Cook

FROM (Permanent Postoffice Address of Shipper)	AT
John Doe, Inc. St. Louis, MO	

ROUTE	DELIVERING CARRIER	AGENT
ABC Railroad	ABC	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:	LIGHT-TARE WEIGHT IS
		John Doe, Inc.	

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 consignor, the consignor shall sign the following statement.
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

SIGNATURE OF CONSIGNOR

SHIPPER
John Doe, Inc.
PER

PLANT COPY

Attachment 6. Top 125 Hazardous Commodities, as measured by Loaded Tank Car Originations in the U.S., Canada and Mexico

Rank	Commodity Name	Class
1	ALCOHOLS, N.O.S.	3
2	PETROLEUM CRUDE OIL	3
3	PETROLEUM GASES, LIQUEFIED	2.1
4	SODIUM HYDROXIDE SOLUTION	8
5	ELEVATED TEMPERATURE LIQUID, N.O.S.	9
6	SULFURIC ACID	8
7	DIESEL FUEL	3
8	PROPANE	2.1
9	HYDROCHLORIC ACID	8
10	SULFUR, MOLTEN	9
11	CHLORINE	2.3
12	SULFUR, MOLTEN	4.1
13	PHOSPHORIC ACID SOLUTION	8
14	GASOLINE	3
15	VINYL CHLORIDE, STABILIZED	2.1
16	AMMONIA, ANHYDROUS	2.3
17	FLAMMABLE LIQUIDS, N.O.S.	3
18	METHANOL	3
19	AMMONIA, ANHYDROUS	2.2
20	FUEL, AVIATION, TURBINE ENGINE	3
21	GASOLINE	3
22	CARBON DIOXIDE, REFRIGERATED LIQUID	2.2
23	STYRENE MONOMER, STABILIZED	3
24	GASOLINE	3
25	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.	9
26	FLAMMABLE LIQUIDS, N.O.S.	3
27	PHENOL, MOLTEN	6.1
28	ETHANOL	3
29	ETHYLENE OXIDE	2.3
30	BUTADIENES, STABILIZED	2.1
31	PROPYLENE	2.1
32	BUTANE	2.1
33	PROPYLENE	2.1
34	DIESEL FUEL	CL
35	XYLENES	3
36	POTASSIUM HYDROXIDE, SOLUTION	8
37	BENZENE	3
38	PETROLEUM CRUDE OIL	CL
39	BUTANE	2.1
40	ELEVATED TEMPERATURE LIQUID, N.O.S.	9
41	OTHER REGULATED SUBSTANCES, LIQUID, N.O.S.	9
42	HYDROGEN PEROXIDE, STABILIZED	5.1
43	AMMONIUM NITRATE, LIQUID	5.1
44	FUEL OIL	CL
45	FUEL OIL	CL
46	SULFURIC ACID, SPENT	8
47	NON-ODORIZED LIQUEFIED PETROLEUM GAS	2.1
48	ELEVATED TEMPERATURE LIQUID, N.O.S.	9
49	DIESEL FUEL	3
50	VINYL ACETATE, STABILIZED	3
51	HYDROCARBONS, LIQUID, N.O.S.	3
52	METHYL METHACRYLATE MONOMER, STABILIZED	3
53	ETHANOL AND GASOLINE MIXTURE	3
54	ACETIC ACID, GLACIAL	8
55	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.	9
56	PROPYLENE OXIDE	3
57	HYDROCARBONS, LIQUID, N.O.S.	3
58	PETROLEUM DISTILLATES, N.O.S.	3
59	ACETONE	3
60	PETROLEUM DISTILLATES, N.O.S.	CL
61	ACRYLIC ACID, STABILIZED	8
62	TOLUENE	3
63	PETROLEUM DISTILLATES, N.O.S.	3
64	HYPOCHLORITE SOLUTIONS	8
65	BUTYL ACRYLATES, STABILIZED	3
66	LIQUEFIED PETROLEUM GAS	2.1
67	NON-ODORIZED PETROLEUM GASES, LIQUEFIED	2.1
68	ELEVATED TEMPERATURE LIQUID, N.O.S.	9
69	FERROUS CHLORIDE,SOLUTION	8
70	FERRIC CHLORIDE, SOLUTION	8
71	HEXAMETHYLENEDIAMINE, SOLID	8
72	ETHANOL AND GASOLINE MIXTURE	3
73	HYDROGEN FLUORIDE, ANHYDROUS	8
74	ELEVATED TEMPERATURE LIQUID, N.O.S.	9
75	TOLUENE DIISOCYANATE	6.1
76	ELEVATED TEMPERATURE LIQUID, N.O.S.	9
77	XYLENES	3
78	CYCLOHEXANE	3
79	ACRYLONITRILE, STABILIZED	3
80	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.	9
81	ETHANOL	3
82	SODIUM CHLORATE, AQUEOUS SOLUTION	5.1
83	COMBUSTIBLE LIQUID, N.O.S.	CL
84	ISOPROPANOL	3
85	OTHER REGULATED SUBSTANCES, LIQUID, N.O.S.	9
86	ALCOHOLS, N.O.S.	3
87	FORMALDEHYDE SOLUTIONS	8
88	ISOBUTYLENE	2.1
89	BUTANE	2.1
90	BUTYLENE	2.1
91	PHOSPHORIC ACID SOLUTION	8
92	WASTE FLAMMABLE LIQUIDS, N.O.S.	3
93	COMBUSTIBLE LIQUID, N.O.S.	CL
94	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.	9
95	PETROLEUM CRUDE OIL	3
96	4-THIAPENTANAL	6.1
97	ISOBUTANE	2.1
98	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S.	3
99	GAS OIL	CL
100	DIESEL FUEL	CL
101	FLAMMABLE LIQUIDS, N.O.S.	3
102	1-HEXENE	3
103	BUTANOLS	3
104	BUTADIENES, STABILIZED	2.1
105	MALEIC ANHYDRIDE	8
106	HYDROCARBONS, LIQUID, N.O.S.	3
107	CORROSIVE LIQUIDS, TOXIC, N.O.S.	8
108	ARGON, REFRIGERATED LIQUID	2.2
109	COMBUSTIBLE LIQUID, N.O.S.	CL
110	DIESEL FUEL	CL
111	BUTYLENE	2.1
112	PENTANES	3
113	HEXANES	3
114	HYDROGEN PEROXIDE, AQUEOUS SOLUTIONS	5.1
115	SULFUR DIOXIDE	2.3
116	SULPHURIC ACID, SPENT	8
117	NITRIC ACID	8
118	HEXAMETHYLENEDIAMINE SOLUTION	8
119	METHYL CHLORIDE	2.1
120	FLAMMABLE LIQUIDS, N.O.S.	3
121	ETHANOLAMINE	8
122	ALCOHOLIC BEVERAGES	3
123	ISOPRENE, STABILIZED	3
124	FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.	3
125	ELEVATED TEMPERATURE LIQUID, N.O.S.	9

Source:

Association of American Railroads; Bureau of Explosives
Annual Report of Hazardous Materials Transported by Rail: 2012
Published August 2013; Report BOE 12-1-R

Code	Hazard Class
2.1	Flammable Gases
2.2	Non-Flammable Gases
2.3	Poison Gases
3	Flammable Liquids (CL) Combustible Liquids
4.1	Flammable Solids
5.1	Oxidizing Materials
6.1	Poisonous Materials
8	Corrosive Materials
9	Misc. Hazardous Materials