

Just the Facts – Railroads Safely Move Hazardous Materials, Including Crude Oil

Railroads spill less of the hazardous liquid product they move than do other modes of transportation.

99.9977 % of rail hazmat shipments reached their destination without a release caused by a train accident (through 2010)

Quick Glossary

1 carload = between 25,000-30,000 gallons
1 carload = 600 to 700 barrels
1 barrel = 42 gallons
Ton mile = one ton of freight (weight) moved one mile (distance)
Barrel mile = one barrel of liquid moved one mile
Non-accident releases = NARs are typically minor leaks or spills from tank cars

- Hazmat shipments equal roughly 6% of all U.S. rail traffic (2010)
- Train accidents with a hazmat release have declined 26% since 2000, and 78% since 1980 (through 2012), while hazmat train accident rates have declined 38% since 2000, and 91% since 1980 (through 2010)

Pipelines have an average hazmat spill size more than four times that of railroads and their total amount spilled per billion ton-miles is about 1.6 times that of the railroads.

- For the 20-year period 1990-2009, the pipeline spill ratio was about 1.25 gallons spilled per billion barrel miles and the railroad spill ratio was about 1.13 or 9% lower.
- In more recent years, pipelines have spilled 55% more per ton-mile than have railroads. Excluding spills less than 5 gallons, railroads spilled about 5,000 gallons of hazardous liquid per billion ton miles while pipelines spilled about 8,000 gallons per billion ton miles (2005-2009).
- While trucks have an average hazmat spill size about one-tenth that of railroads, they still spill 23% (2005-2009) or 58% (2002-2009) more total liquid hazmat and about double the total equivalent hazmat (i.e., including gases and solids as well as liquids) that railroads do per year and per billion ton-miles.

(Sources: Pipelines and Hazardous Materials Administration (PHMSA) HMIS and Pipeline Incident Databases; AAR Freight Commodity Statistics, and Association of Oil Pipelines, Report on Shifts in Petroleum Transportation)

Total Crude Carloads 2002-2012
U.S. Class I Railroads, including U.S. operations of Canadian railroads

TOTAL Crude Carloads	= 400,441 carloads
TOTAL Crude Gallons	= 11,212,348,000 gallons (appx. 28K gal. per carload)
TOTAL Crude Barrels	= 266,960,667 barrels (appx.)

Pipeline and Hazardous Materials Administration Data
Rail Vs. Pipeline Crude Oil Incidents
2002-2012

	Rail	Pipeline
Total Incidents Reported**	129*	1,849
Total Gallons Spilled	95,256	19,926,540
Total Barrels Spilled	2,268	474,441
Average Gallons Spilled	738	10,777
# Incidents over 5 gals	35	1,784
Estimated spill rate	0.38	0.88 (gallons spilled per million barrel miles moved)

*of the 129 rail incidents during this period:

- 123 or **95% were non-accident releases (NARs) which typically are minor leaks or spills from tank cars, and**
- 94 or **73% were less than 5 gallons**, spills of the size pipelines do not generally report.**

**Railroads are required to report spills of any size. Pipelines are only required to report spills of greater than 5 gallons unless the spill also involves a fatality, and injury, or costs greater than \$50,000.

Last year, the pipeline crude oil spill percentage was 10 times that of the railroads (Rail = 0.00006% vs. pipelines = 0.0005% in 2012).

(Sources: Pipelines and Hazardous Materials Administration (PHMSA) HMIS and Pipeline Incident Databases; AAR Freight Commodity Statistics, and Association of Oil Pipelines, Report on Shifts in Petroleum Transportation)