

# What Railroads Haul: Chemicals

America's freight railroads safely, efficiently and cost-effectively transport the chemicals that make modern life possible. These include moving fertilizers to farmers, plastic resins to auto parts producers, caustic soda to pulp and paper manufacturers, and countless other chemical products to intermediaries and end users throughout the U.S. and the world.

In doing so, railroads help ensure that chemical producers and consumers can maintain their competitiveness here and abroad and continue to enhance our health, safety and quality of life.

**Because most chemicals are used in the production of other goods, the chemical industry's fortunes tend to rise and fall with the economy, especially manufacturing.**

The chemical industry is one of the largest U.S. industries — its revenue of \$565 billion in 2019 (excluding pharmaceuticals) was more than seven times the revenue of the U.S. freight railroad industry.

Although the U.S. chemical industry consists of thousands of firms located throughout the country, many plants are concentrated in the Gulf States, where petroleum and natural gas raw materials are readily available.

As the American Chemistry Council (ACC) notes "competitively-priced natural gas and ethane are enabling chemical companies to build new plants, expand or improve their facilities in the United States. Other industries stand to benefit as the downstream effects of shale gas are felt."

**Because end users of chemicals are spread throughout the country, huge volumes of chemicals are transported each year.**

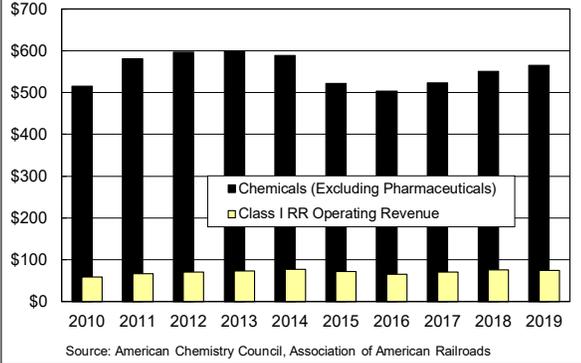
Figures compiled by the ACC show some 972 million tons of chemicals were shipped in the U.S. in 2019 at a cost of \$57.1 billion. In 2019, transportation costs were equivalent to 10.1% of the value of chemical industry shipments.

In 2019, trucks accounted for 57% of chemical tonnage shipped and 70% of chemical transportation costs, while water transport accounted for 21% of tonnage and 7% of transportation costs, according to ACC data. Pipelines and air transport accounted for 4% of tons and costs.

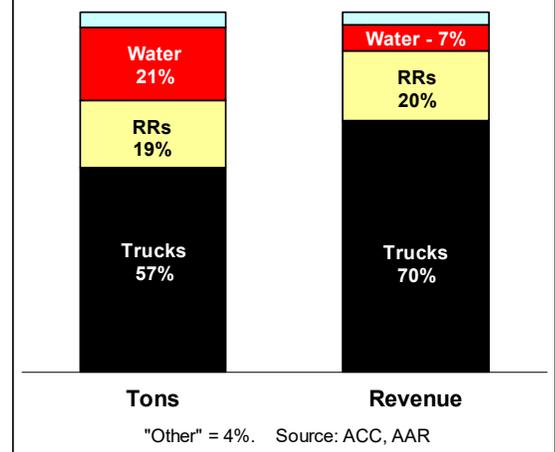
## Key Takeaways

- Freight railroads move many of the chemicals that make modern life possible.
- In 2019, Class I railroads originated 2.2 million carloads of chemicals.
- More than 99.99% of all hazmat moved by rail reaches its destination without a release caused by a train accident.

**Chemical Industry Revenue vs. Freight Railroad Revenue (\$ billions)**



**U.S. Chemical Transportation by Mode: 2019**



The remainder — 19% of tonnage and 20% of chemical transportation costs — is attributable to rail. In 2019, chemicals accounted for 7.8% of originated carloads, 11.5% of originated tonnage, and 15.2% of gross revenue for U.S. Class I railroads.

In 2019, U.S. Class I railroads originated 2.2 million carloads and 180.7 million tons of chemicals. The highest-volume chemical carried by U.S. railroads is ethanol. More than half of all rail chemical carloads consist of various industrial chemicals, including soda ash, caustic soda, urea, sulfuric acid and anhydrous ammonia. Plastic materials and synthetic resins account for close to a quarter of rail chemical carloads. Most of the rest is agricultural chemicals.

Historically, only coal and intermodal have provided more revenue to railroads than chemicals. Class I gross revenue from chemicals was \$11.2 billion in 2019 (15.2% of total gross revenue), though rail revenue from transporting chemicals in 2019 was equal to just 2.0% of U.S. chemical industry revenue.

U.S. railroads transport (depending on the year) more than two million carloads of hazardous materials each year, including many chemicals that are considered hazardous. Railroads are the safest mode to transport hazardous materials. More than 99.999% of rail hazmat shipments reach their destination without a release caused by a train accident.

