

# THE ELEMENTS OF RAIL SAFETY

...the vast majority of hazardous materials shipped by rail tank car every year arrive safely and without incident, and railroads generally have an outstanding record in moving shipments of hazardous materials safely.

– U.S. Department of Transportation  
Source: [www.fra.dot.gov/Page/P0151](http://www.fra.dot.gov/Page/P0151)

## HAZARDOUS MATERIALS ARE ESSENTIAL FOR:



Health Care



Farming



Manufacturing



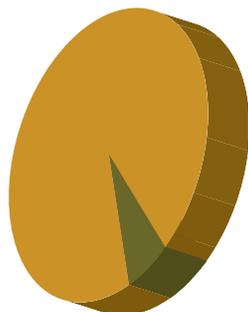
Renewable Energy Production



Water Treatment



Telecommunications



Hazmat shipments account for **5.5 percent** of all carloads shipped by rail. According to the Association of American Railroads, “99.998 percent of rail hazmat shipments reached their destination without a release caused by a train accident.”

- HAZMAT SHIPMENTS
- NON-HAZARDOUS MATERIALS



## TRANSPORTING HAZARDOUS MATERIALS IS HIGHLY REGULATED

According to the U.S. Department of Transportation, “The comprehensive Federal regulatory framework applicable to the rail transportation of hazardous materials effectively mitigates safety and security risks.” This comprehensive Federal regulatory framework addresses all facets of safety and security including employee training and fatigue, track maintenance, routing decisions, and construction and operation of rail tank cars.

## IMPROVING RAIL SAFETY REQUIRES A COOPERATIVE AND COMPREHENSIVE APPROACH



### The Best Way to Prevent a Hazmat Incident is to Prevent Rail Accidents

The primary causes of rail accidents are track defects, equipment defects and human error. These incidents can be reduced by detecting and preventing broken rails, improving grade crossings, and installing collision avoidance technologies.



### If an Accident Occurs, Strong Tank Cars Can Provide Additional Protection

Hazmat shippers are committed to continuously improving our already strong safety record. Current tank cars must adhere to strict Federal standards. Because chemical companies own or lease their tank car fleets, our industry works closely with the railroads and regulators to establish robust standards to strengthen and upgrade the cars used to ensure the safe transportation of hazardous materials. Together, we are also developing science-based performance standards for future cars as part of broader efforts to enhance overall hazmat rail safety.



### Finally, Railroads and Shippers Maintain Effective Emergency Response Plans

In the extremely unlikely event of an accident, railroads and shippers are prepared to rapidly respond. As part of this preparation, TRANSCAER® (Transportation Community Awareness and Emergency Response) promotes the safe transportation and handling of hazardous materials and helps communities prepare and respond to potential incidents. TRANSCAER® involves volunteers from chemical and transportation industries, as well as emergency responders and the government.