



## COMMERCIAL CHEMICAL INCIDENTS

The newly-established Chemical Safety and Hazard Investigation Board (CSB) recently issued a report on commercial chemical incidents in the United States over the 10 year period from 1987 to 1996. Highlights of that report are presented here. The CSB was created by the Clean Air Act (42 USC 7412) and began operations in federal fiscal year 1998. The mission of this independent, nonpartisan, quasi-legislative agency is to reduce the occurrence of chemical incidents, thereby protecting workers, the public and the environment and lessening associated economic consequences.

The CSB report established, for the first time, baseline data on the status of the reported chemical incident problem. It did this by consolidating data from five federal reporting systems that cover all areas except marine oil spills. The data systems are:

- National Fire Incident Reporting System (U.S. Fire Administration)
- Hazardous Materials Incident Reporting System (U.S. Department of Transportation)
- Incident Reporting Information System (U.S. Coast Guard, National Response Center)
- Emergency Response Notification System (U.S. Environmental Protection Agency)
- Integrated Management Information System (U.S. Department of Labor, Occupational Safety and Health Administration)

A total of 10.1 million incident reports were contained in the data bases, of which 874,000 met the study's criteria and 604,653 appeared to be unique.

The principal findings of the study are:

- Chemical incidents were recorded in 95% of the nearly 3,300 counties in the U.S.
- Of the 605,000 incidents, 42% occurred at fixed locations occupied by industrial and commercial businesses and 43% were transportation related. The remainder were other or unknown types of sites.

- About 1.6% of the incidents resulted in at least one death or injury; 0.7% resulted in evacuation of workers and/or the public; and 27.1% resulted in property damage. (Some incidents may be included in more than one of these categories.)
- Over the 10-year period, there were 2,565 deaths and 22,949 injuries reported—on average about 2,550 people killed or injured each year. It should be noted that none of the data bases specify whether the chemical release involved in the incident directly caused any of the deaths or injuries. In particular, some deaths and injuries reported in transportation may be attributable solely to physical impact unrelated to the chemical release.
- All states experienced chemical incidents, but seven states accounted for nearly one half of the total — California, Texas, Ohio, New York, Illinois, Michigan, and Louisiana.
- Incidents were most frequently reported for chemical manufacturing and fuel companies.
- Gasoline was the chemical most often involved in incidents (128,000 reports), but the number of incidents related to all other flammable and combustible liquids exceeded that number. In addition to fuels, there were 45 other chemicals involved with 1,000 or more incidents.
- Mechanical failures were cited as leading to 40% of the incidents. Human factors, both intentional and unintentional, were cited in 27% of the reports, and natural phenomena accounted for 1%. Most reports cite other or unknown initiating events.

Source: Chemical Safety Board. (1999, February). The 600K Report: Commercial Chemical Incidents in the United States 1987-1996. *Baseline Study, Special Congressional Summary*. <http://chemsafety.gov>