

What You Can Do to Decrease and Prevent the Release of Hazardous Substances During Transit

- Develop A Plan And Know Who To Call In Case Of An Emergency**
 Develop an emergency response plan before an event occurs. Be familiar with the shipping papers and the Material Safety Data Sheet (MSDS). If a chemical release occurs, immediately notify the Louisiana State Police - Hazardous Materials Hotline, National Response Center and your Local Emergency Planning Committee. *(Contact information can be found in the resource sections of this brochure.)*
- Attend Hazardous Materials (HAZMAT) Safety Training**
 Human error is a leading contributing factor of transportation-related hazardous substance releases. HAZMAT training is not only required, but it is an essential element in reducing HAZMAT incidents through increasing safety awareness. Training must be updated every three years.
- Use PPE**
 Carry appropriate PPE during the transport of hazardous substances and know when and how to use it.
- Preventive Maintenance**
 Equipment failure is often linked to transportation-related hazardous substance releases. Preventive maintenance could prevent or reduce the number of events.
- Re-Route Hazardous Substances**
 To decrease the potential of a release, re-route the transport of hazardous substances away from densely populated areas, especially during peak traffic hours.

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Acute Chemical Release Resources

Louisiana State Police (LSP), Hazardous Materials Hotline

LSP is the state point-of-contact for reporting hazardous material releases, accidents & complaints. Immediate reporting is required. Call **225-925-6595** or **1-877-925-6595**, or visit <http://www.lsp.org/rtk.html>. LSP also notifies the Louisiana Department of Environmental Quality.

National Response Center (NRC)

The NRC is the federal point-of-contact for reporting all chemical releases. Reporting to the NRC is required whenever reportable quantities of hazardous materials are spilled or released into the environment. Call **1-800-424-8802** or **202-267-2675**, or visit www.nrc.uscg.mil

Additional Resources

Louisiana Department of Environmental Quality (LDEQ)

LDEQ receives notification of hazardous substance releases, accidents & complaints that occur in Louisiana. Call **225-342-1234**, or visit http://www.deq.louisiana.gov/surveillance/spoc_procedures.htm

Local Emergency Planning Committee (LEPC)

LEPCs provide a forum for emergency management agencies, responders, industry and the public to work together to understand chemical hazards in the community, develop emergency plans in case of an accidental release and look for ways to prevent chemical accidents. Visit www.epa.gov/ceppo/lepclist.htm

U.S. Department of Transportation's Office of Hazardous Materials Safety (OHM)

OHM coordinates a national safety program for the transportation of hazardous materials by air, rail, highway and water. They provide information on shipping, labeling and placarding for vehicles with hazardous material shipments. Call **1-800-467-4922**, or visit <http://hazmat.dot.gov>

Louisiana Hazardous Substances Emergency Events Surveillance (LA HSEES)

LA HSEES collects and analyzes information about hazardous substances released in Louisiana. Call **504-219-4586** or **1-888-293-7020**, or visit <http://www.oph.dhh.louisiana.gov/environmental/epidemiology/hseess/index.html>



Louisiana Hazardous Substances Emergency Events Surveillance (LA HSEES)

2001 and 2002
Transportation Events

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Center for Environmental Health Services

More than three billion tons of hazardous materials are transported by truck, rail, pipeline or water throughout the United States each year¹.

Louisiana ranks second nationwide in the flow of hazardous material shipments¹.

For calendar years 2001 and 2002, the U.S. Department of Transportation received reports for 530 hazardous substance incidents in Louisiana².

Two hundred fifty-three transportation events were eligible for surveillance in the Louisiana Hazardous Substances Emergency Events Surveillance (LA HSEES) System for 2001 and 2002.

Since 1990, the Agency for Toxic Substances and Disease Registry (ATSDR) of the U.S. Department of Health and Human Services has maintained an active, state-based Hazardous Substances Emergency Events Surveillance (HSEES) system to describe the public health consequences associated with the release of hazardous substances into the environment. The HSEES system's ultimate goal is to provide data to reduce the injuries and fatalities resulting from acute hazardous substances releases. HSEES defines acute hazardous substances events as uncontrolled or illegal releases or threatened releases of hazardous substances that must be removed, cleaned up or neutralized according to federal, state or local law. Events involving petroleum only are excluded by HSEES.

REFERENCES

- 1.) U.S. Census Bureau: 1997 Transportation-Commodity Flow Survey
- 2.) DOT: Hazardous Materials Incident Summary 2001 & 2002

ACUTE HAZARDOUS SUBSTANCES RELEASES DURING TRANSIT

Louisiana 2001 and 2002

Total Transportation Events

Of the 253 transportation events eligible for LA HSEES, 130 involved ground transport, 95 involved rail transport and 28 involved other types of transportation.

Transportation Events by Parish

Many transportation events (43.8%) occurred in five parishes. Events occurred most often in the densely populated parishes of Orleans, Jefferson, Caddo, East Baton Rouge and Ascension. Most rail events occurred in Orleans Parish, while most ground transportation events occurred in Caddo Parish.

Contributing Factors

The primary factors most frequently cited for contributing to transportation events were "equipment failure" (41.5%) and "human error" (28.1%).

Time of Day and Month of Occurrence

Most events occurred during daylight hours between 6 a.m. and 6 p.m. The highest frequency of transportation events occurred on Wednesday between 6 a.m. and noon. The months of May and June had the highest frequency of events.

Chemicals Most Frequently Released

The most frequently released hazardous substance categories were "volatile organic compounds" (20.4%), "acids" (14.9%), and "other inorganic substances" (12.0%). In order of frequency, hydrochloric acid, ammonia and sodium hydroxide were the most frequently released substances.

Victims

- There was a total of 20 victims in 17 events (6.7% of the 253 transportation-related events from 2001-2002). Seventy-five percent of victims resulted from ground transportation events, whereas 10% resulted from rail events.
- Fourteen of the victims were "employees," most likely resulting from their direct proximity to the event.

Victims (continued)

- The most frequently released substances may not necessarily be the most likely to result in victims. For example, "volatile organic compounds" were released 56 times with only 1 victim, whereas "acids" were released in 41 events with five victims, thus indicating a greater potential for immediate harm.

Adverse Health Effects Experienced by Victims

- Of the 20 adverse health effects reported, seven involved "trauma," five were "burns," three were "respiratory system irritation" and the remainder were attributed to other adverse health effects or there was no symptom specified. In some events, trauma may have been caused by the sequence of events leading to the release of a hazardous substance and not by exposure to the hazardous substance itself.
- Most victims, for which the severity of injury was known, were treated at a hospital; six were treated at a hospital and released; five were admitted to a hospital; one was observed at a hospital; one was treated onsite and two died.
- The two deaths occurred in transportation events during which trucks overturned. The first was in a truck carrying phosphoric acid when it overturned and caught fire, fatally burning the driver. The second truck was carrying insecticide, and the driver died as a result of trauma.

Victims Use of Personal Protective Equipment (PPE)

Of the 14 employee victims, one wore a hard hat, nine did not wear any PPE and the type of PPE worn was unknown for four employees.

Evacuations Resulting From Transportation Events

- Evacuations were ordered in 10 events.
- Half involved evacuating the surrounding area in a circle or a radius.
- The number of people evacuated was reported for four events and ranged from 12 to 1,000 (median = 40).
- The evacuation length was reported for three events: two involved an evacuation length of one hour, and one event involved an evacuation of four days.