

**Average Hazardous Material Releases, Victims, Evacuations, and
Chemicals per Event for 2006 in Minnesota by State and County
Excerpt from Minnesota County Health Tables, 2007**

**Hazardous Substances Emergency Events Surveillance
Minnesota Department of Health**

This report is supported by funds from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) trust fund and the Office of Terrorism Preparedness and Emergency Response of the Centers for Disease Control and Prevention (CDC), provided to Minnesota Department of Health under a cooperative agreement by the Agency For Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services.



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Dec. 2007

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Hazardous Substances Emergency Events Surveillance, 2006

Hazardous materials are released daily throughout Minnesota as a result of industrial, agricultural, and domestic spills of acids, ammonia, and other chemicals. Many of these releases cause injuries and force evacuations. The Hazardous Substances Emergency Events Surveillance (HSEES) program maintains a database of acute hazardous material releases in Minnesota. The HSEES program is currently active in thirteen other states, and is conducted under a cooperative agreement with the U.S. Agency for Toxic Substances and Disease Registry.

The HSEES program collects data on acute, emergency hazardous material releases, as well as threatened releases that involved a public health action such as evacuation. The program does not include releases that involve petroleum products exclusively, such as diesel fuel or propane, nor does the program include releases permitted by the Minnesota Pollution Control Agency. Chronic releases, such as a several-month leak from an acid holding tank, are also excluded from the program.

The Minnesota Department of Health (MDH) receives initial reports of hazardous material releases from several sources, including the Minnesota Duty Officer, the U. S. Coast Guard's National Response Center, and the U.S. Department of Transportation. Later, MDH calls the responsible party or emergency responders and obtains information to complete an extensive questionnaire. Examples of information gathered include the number of people who were evacuated, injured, or decontaminated; the identity and quantity of the materials spilled; and response actions. Data on long-term health effects from chemical exposures are not collected. The MDH follow-up procedure has the advantage of providing more complete and accurate information than may have been available at the time of original notification of the release.

HSEES data identify the chemicals released, the day of the week and time of day of the release, and the resulting injuries and evacuations. Maps can be generated showing the locations of spills with respect to municipalities; rivers and lakes; and roads. A person is considered injured if that person develops symptoms within 24 hours of exposure to a hazardous substance. Symptoms range from minor ailments, such as throat irritation, to death. The program does not differentiate between injuries caused directly by exposure to hazardous materials and injuries caused indirectly by the release, such as burns from a fire caused by the hazardous materials.

HSEES data can be used in emergency management planning and training. A region's agricultural and industrial activities determine the types of hazardous material releases that are likely to occur within that region. Thus, regional differences require different strategies for planning and training. Comparisons can be made between a rural county and other rural counties, and between an urban county and other urban counties.

During 2006, a total of 546 events occurred in Minnesota involving 584 chemicals. Among these, there were three threatened release events, 58 evacuations, and 68 injured people (i.e., victims). For the ten urban* counties, there were 353 events involving 377 chemicals, three threatened release events, 46 victims, and 37 evacuations. For the 77 non-urban counties, there were 193 events involving 207 chemicals, no threatened release events, 22 victims, and 21 evacuations. Environmental Health Table 3 provides the number of hazardous material releases in each county and the average number of events, injuries, evacuations, and chemicals released per event for urban counties and non-urban counties.

For further information contact the Site Assessment and Consultation Unit: Nancy Rice, HSEES Coordinator, 651/201-4923 or hazhealth@health.state.mn.us.

Environmental Health Table 3: Average Hazardous Material Releases, Victims, Evacuations, and Chemicals per Event for 2006 in Minnesota by State and County*

	Events/County	Victims/County	Evacuations/County	Average Number
Urban Counties	35.3	4.6	3.7	1.1
Agricultural Counties	2.5	0.3	0.3	1.1
	Events	Victims	Evacuations	Average Number Chemicals/Event
State of Minnesota	546	68	58	1.1
Aitkin	0	0	0	0.0
Anoka	42	5	2	1.0
Becker	2	1	0	1.0
Beltrami	1	0	0	1.0
Benton	4	0	0	1.0
Big Stone	0	0	0	0.0
Blue Earth	10	2	2	1.2
Brown	0	0	0	0.0
Carlton	2	0	0	1.5
Carver	6	0	0	1.0
Cass	1	0	0	3.0
Chippewa	2	0	0	1.0
Chisago	1	3	1	1.0
Clay	0	0	0	0.0
Clearwater	1	1	0	1.0
Cook	0	0	0	0.0
Cottonwood	0	0	0	0.0
Crow Wing	2	0	1	1.0
Dakota	80	4	5	1.1
Dodge	7	0	0	1.1
Douglas	0	0	0	0.0
Faribault	10	0	1	1.1
Fillmore	0	0	0	0.0
Freeborn	4	0	0	1.8
Goodhue	8	4	2	1.0
Grant	0	0	0	0.0
Hennepin	80	29	21	1.1
Houston	0	0	0	0.0
Hubbard	2	0	1	1.0
Isanti	1	0	0	1.0
Itasca	6	1	0	1.0
Jackson	1	0	0	1.0
Kanabec	0	0	0	0.0
Kandiyohi	4	0	0	1.0
Kittson	2	0	0	1.0
Koochiching	3	0	0	1.0
Lac Qui Parle	0	0	0	0.0
Lake	2	0	1	1.0
Lake of the Woods	0	0	0	0.0
Le Sueur	0	0	0	0.0
Lincoln	1	0	0	1.0
Lyon	7	1	3	1.0
McLeod	14	0	1	1.0
Mahnomen	0	0	0	0.0
Marshall	0	0	0	0.0
Martin	4	1	1	1.0
Meeker	3	2	1	1.0
Mille Lacs	3	0	0	1.0

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	Events	Victims	Evacuations	Average Number Chemicals/Event
State of Minnesota	546	68	58	1.1
Morrison	1	0	0	1.0
Mower	5	1	1	1.0
Murray	1	0	0	1.0
Nicollet	5	0	0	1.0
Nobles	0	0	0	0.0
Norman	1	0	0	1.0
Olmsted	10	0	0	1.0
Otter Tail	7	0	0	1.0
Pennington	3	0	0	1.0
Pine	1	1	0	1.0
Pipestone	1	0	0	1.0
Polk	4	0	0	1.0
Pope	1	0	0	1.0
Ramsey	48	7	5	1.0
Red Lake	0	0	0	0.0
Redwood	0	0	0	0.0
Renville	2	0	0	1.0
Rice	5	0	0	1.0
Rock	1	0	0	1.0
Roseau	5	1	0	1.2
St. Louis	13	0	2	1.0
Scott	4	0	0	1.3
Sherburne	8	0	0	1.0
Sibley	1	0	0	1.0
Stearns	5	0	0	1.6
Steele	15	2	3	1.1
Stevens	0	0	0	0.0
Swift	2	0	0	1.5
Todd	3	0	0	1.0
Traverse	0	0	0	0.0
Wabasha	1	0	0	1.0
Wadena	0	0	0	0.0
Waseca	2	0	0	1.0
Washington	65	1	2	1.0
Watonwan	4	0	1	1.0
Wilkin	0	0	0	0.0
Winona	3	0	0	1.0
Wright	3	1	1	1.0
Yellow Medicine	0	0	0	0.0

Source: Minnesota Department of Health, Environmental Health Division

***Urban counties:** Anoka, Carver, Dakota, Hennepin, Olmsted, Ramsey, St. Louis, Scott, Stearns and Washington counties (Includes counties with at least one city with a population more than 50,000 or located in the seven-county Twin Cities Metropolitan Area)