

## **Hazardous Substances Emergency Events Surveillance, 2004**

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 fourteen 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 reports of hazardous material releases from several sources, including the Minnesota Duty Officer, the United States Coast Guard's National Response Center, and other state agencies. Upon receipt of this initial report, the MDH calls the responsible party or emergency responders and obtains information to complete an extensive questionnaire. Information gathered includes the number of people who were evacuated, injured, or decontaminated; the identity of the materials spilled; and how much was spilled. 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 that were released, the day of the week on which the release occurred, the time of day at which the release occurred, and list the number of injuries by chemical and the number of evacuations by chemical. Maps can be generated showing the locations of spills with respect to municipalities; rivers and lakes; and roads.

For the purpose of the HSEES program, 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 which 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 2004, a total of 468 events occurred in Minnesota, resulting in 740 chemicals released, 3 threatened releases, 40 evacuations and 64 injured people (i.e., victims). For the nine urban counties, there were 297 events, 540 chemicals released, 1 threatened release, 30 victims, and 25 evacuations. For the 78 primarily agricultural counties, there were 171 events, 200 chemicals released, 2 threatened releases, 34 victims, and 15 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 primarily agricultural counties.

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



**Environmental Health Table 3: Average Hazardous Material Releases, Victims, Evacuations, and Chemicals per Event for 2004 in Minnesota by State and County\***

	Events/County	Victims/County	Evacuations/County	Average Number
<b>Urban Counties</b>	<b>33.0</b>	<b>3.3</b>	<b>2.8</b>	<b>1.8</b>
<b>Agricultural Counties</b>	<b>2.2</b>	<b>0.4</b>	<b>0.2</b>	<b>1.2</b>
	Events	Victims	Evacuations	Average Number Chemicals/Event
<b>State of Minnesota</b>	<b>468</b>	<b>64</b>	<b>40</b>	<b>1.6</b>
Aitkin	1	2	0	4.0
Anoka	23	2	1	1.0
Becker	2	1	0	1.0
Beltrami	0	0	0	0.0
Benton	2	0	0	1.0
Big Stone	0	0	0	0.0
Blue Earth	6	0	0	1.0
Brown	4	0	2	1.0
Carlton	6	0	0	1.7
Carver	3	0	0	1.0
Cass	1	0	0	12.0
Chippewa	1	0	0	1.0
Chisago	0	0	0	0.0
Clay	8	0	1	1.3
Clearwater	0	0	0	0.0
Cook	1	0	0	1.0
Cottonwood	1	0	0	1.0
Crow Wing	2	3	1	1.0
Dakota	91	3	7	1.3
Dodge	2	0	0	1.0
Douglas	2	0	0	1.0
Faribault	2	0	0	1.0
Fillmore	2	0	0	1.0
Freeborn	3	0	0	1.0
Goodhue	5	2	0	1.0
Grant	1	0	1	1.0
Hennepin	71	9	7	3.8
Houston	2	0	0	1.0
Hubbard	3	0	0	1.0
Isanti	0	0	0	0.0
Itasca	13	0	0	1.1
Jackson	1	0	0	1.0
Kanabec	0	0	0	0.0
Kandiyohi	3	0	0	1.0
Kittson	1	0	0	1.0
Koochiching	2	0	0	1.0
Lac Qui Parle	1	0	0	1.0
Lake	0	0	0	0.0
Lake of the Woods	0	0	0	0.0
Le Sueur	3	0	0	1.0
Lincoln	1	0	0	1.0
Lyon	2	0	1	1.5
McLeod	7	1	0	1.6
Mahnomen	0	0	0	0.0
Marshall	1	0	0	1.0
Martin	1	0	0	1.0
Meeker	1	0	0	1.0
Mille Lacs	1	0	0	1.0

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<b>State of Minnesota</b>	<b>468</b>	<b>64</b>	<b>40</b>	<b>1.6</b>
Morrison	1	0	0	1.0
Mower	1	0	0	1.0
Murray	3	0	0	1.0
Nicollet	1	0	0	1.0
Nobles	1	0	0	1.0
Norman	0	0	0	0.0
Olmsted	8	0	0	1.0
Otter Tail	4	1	1	1.0
Pennington	1	0	1	1.0
Pine	0	0	0	0.0
Pipestone	0	0	0	0.0
Polk	2	2	1	1.0
Pope	2	0	1	1.0
Ramsey	57	2	4	1.0
Red Lake	0	0	0	0.0
Redwood	3	0	0	1.0
Renville	7	0	0	1.0
Rice	4	0	1	1.0
Rock	0	0	0	0.0
Roseau	3	0	0	1.0
St. Louis	13	4	2	1.3
Scott	2	1	1	1.0
Sherburne	9	2	0	1.0
Sibley	1	0	0	2.0
Stearns	7	12	0	1.0
Steele	4	0	0	1.3
Stevens	2	0	0	1.0
Swift	3	0	0	1.0
Todd	2	0	2	1.0
Traverse	0	0	0	0.0
Wabasha	0	0	0	0.0
Wadena	0	0	0	0.0
Waseca	1	0	0	1.0
Washington	29	9	3	1.4
Watonwan	0	0	0	0.0
Wilkin	0	0	0	0.0
Winona	2	0	0	1.0
Wright	10	8	1	1.1
Yellow Medicine	2	0	1	1.0

Source: Minnesota Department of Health, Environmental Health Division

\*2004 Preliminary data

**Urban counties:** Anoka, Carver, Dakota, Hennepin, Olmsted, Ramsey, Scott, St. Louis, & Washington counties

**Agricultural counties:** Counties other than urban counties