

Hazardous Substances Emergency Events Surveillance, 2003

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 an 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 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 2003, a total of 438 events occurred in Minnesota, resulting in 491 chemicals released, 8 threatened releases, 34 evacuations and 83 injured people (i.e., victims). For the nine urban counties, there were 251 events, 272 chemicals released, 7 threatened releases, 37 victims, and 19 evacuations. For the 78 primarily agricultural counties, there were 187 events, 219 chemicals released, 1 threatened release, 46 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 2003 in Minnesota by State and County*

	Events/County	Victims/County	Evacuations/County	Average Number
Urban Counties	27.9	4.1	2.1	1.2
Agricultural Counties	2.4	0.6	0.2	1.2
	Events	Victims	Evacuations	Average Number Chemicals/Event
State of Minnesota	438	83	34	1.1
Aitkin	1	0	0	4.0
Anoka	9	1	1	1.1
Becker	0	0	0	0.0
Beltrami	0	0	0	0.0
Benton	1	0	0	1.0
Big Stone	0	0	0	0.0
Blue Earth	7	0	0	1.1
Brown	3	0	0	1.0
Carlton	10	0	0	2.9
Carver	4	4	1	1.0
Cass	0	0	0	0.0
Chippewa	3	0	0	1.0
Chisago	0	0	0	0.0
Clay	2	0	0	1.5
Clearwater	0	0	0	0.0
Cook	0	0	0	0.0
Cottonwood	1	0	0	1.0
Crow Wing	1	0	1	1.0
Dakota	82	2	6	1.2
Dodge	3	0	0	1.0
Douglas	2	1	0	1.0
Faribault	0	0	0	0.0
Fillmore	2	0	0	1.0
Freeborn	4	3	0	1.0
Goodhue	5	1	2	1.2
Grant	0	0	0	0.0
Hennepin	42	5	3	1.1
Houston	0	0	0	0.0
Hubbard	0	0	0	0.0
Isanti	2	0	0	1.0
Itasca	21	1	1	1.0
Jackson	1	4	0	2.0
Kanabec	0	0	0	0.0
Kandiyohi	8	0	0	1.0
Kittson	7	1	0	1.0
Koochiching	2	0	0	1.0
Lac Qui Parle	0	0	0	0.0
Lake	0	0	0	0.0
Lake of the Woods	0	0	0	0.0
Le Sueur	4	1	1	1.3
Lincoln	0	0	0	0.0
Lyon	9	0	0	1.0
McLeod	8	1	0	1.0
Mahnomen	0	0	0	0.0
Marshall	0	0	0	0.0
Martin	2	0	0	1.0
Meeker	1	0	1	1.0
Mille Lacs	1	0	0	1.0
Morrison	1	0	0	1.0

Mower	2	0	0	1.0
Murray	0	0	0	0.0
Nicollet	1	0	0	1.0
Nobles	1	0	0	1.0
Norman	0	0	0	0.0
Olmsted	28	2	1	1.0
Otter Tail	0	0	0	0.0
Pennington	0	0	0	0.0
Pine	2	0	1	1.0
Pipestone	1	0	1	1.0
Polk	5	2	1	1.2
Pope	1	0	0	4.0
Ramsey	36	0	2	1.0
Red Lake	0	0	0	0.0
Redwood	4	2	1	1.0
Renville	3	0	0	1.0
Rice	3	20	1	1.0
Rock	2	1	0	1.0
Roseau	4	0	0	1.0
St. Louis	6	0	0	1.0
Scott	7	3	2	1.0
Sherburne	7	4	0	1.0
Sibley	2	0	0	1.0
Stearns	6	1	0	1.0
Steele	9	0	1	1.0
Stevens	1	0	0	1.0
Swift	4	2	0	1.5
Todd	3	0	0	1.0
Traverse	0	0	0	0.0
Wabasha	2	0	2	1.0
Wadena	0	0	0	0.0
Waseca	2	0	0	1.0
Washington	37	20	3	1.1
Watonwan	0	0	0	0.0
Wilkin	0	0	0	0.0
Winona	1	0	0	1.0
Wright	7	1	1	1.0
Yellow Medicine	2	0	0	1.0

Source: Minnesota Department of Health, Environmental Health Division

*2003 Preliminary data

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

Agricultural counties: Counties other than urban counties