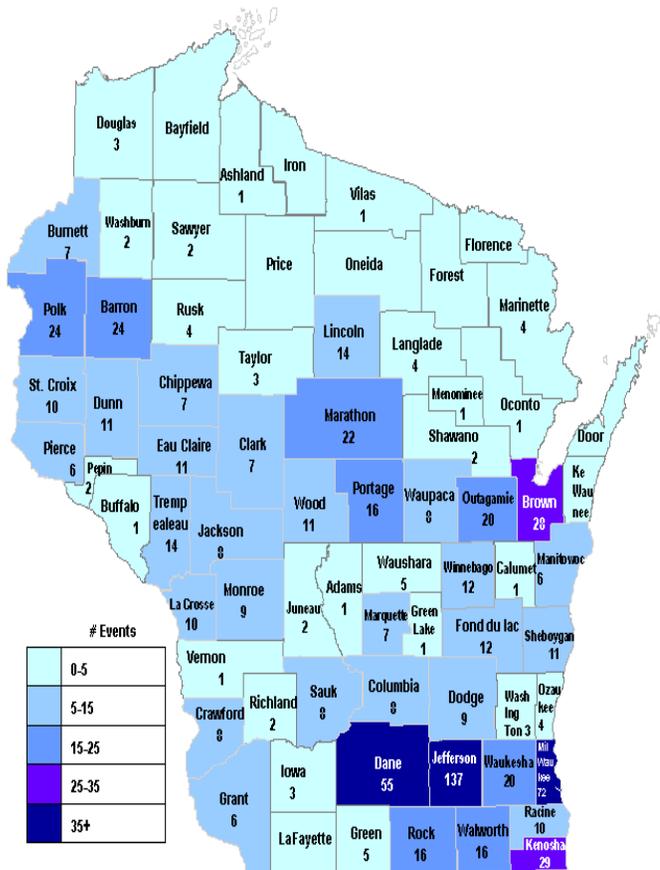


# Ammonia Events by County

Total events: 768

1993-2009



Total Ammonia Victims

(not indicated on map)

N=302

Total Ammonia Evacuees

(not indicated on map)

N=24,636

## Funding Attribution Statement

This brochure is supported by funds from CERCLA trust fund, and the Office of Public Health Preparedness and Response of Centers for Disease Control & Prevention; and provided to the Wisconsin Department of Health Services under cooperative agreement with the Agency For Toxic Substances and Disease Registry (ATSDR), Public Health Service, US Department of Health and Human Services under Cooperative Agreement Number

5U61TS000126-03.

## Wisconsin Department of Health Services



Division of Public Health  
Bureau of Environmental and Occupational Health  
One West Wilson Street  
Madison, WI 53702  
Phone: (608) 266-2663

<http://www.dhs.wisconsin.gov/eh/NTSIP/>

Publication Number:  
P-45101 (08/2011)

# Ammonia Spills In Wisconsin 1993-2009

NATIONAL TOXIC SUBSTANCE INCIDENTS PROGRAM (NTSIP)



## AMMONIA CHARACTERISTICS & EFFECTS

Ammonia is a colorless gas with a sharp, suffocating odor.

Ammonia gas can be detected by most people at a concentration of 1 to 8 parts per million (ppm).

Ammonia exposure can cause headache, nausea, and a pronounced burning feeling of the eyes, nose, throat, and skin.

Anhydrous ammonia expands when released and can form large clouds of toxic vapors.

Under certain conditions ammonia can be flammable or explosive.

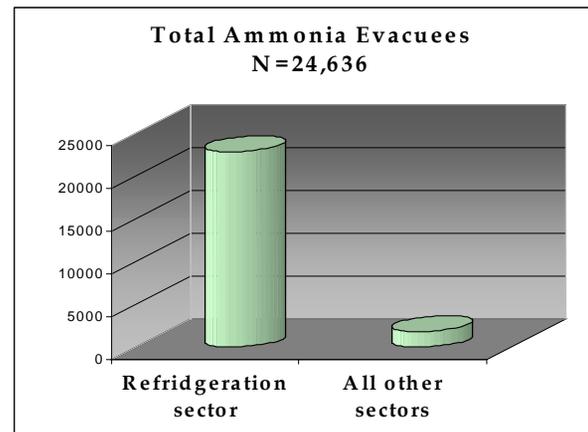
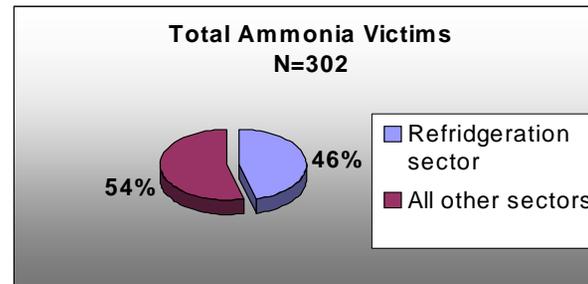
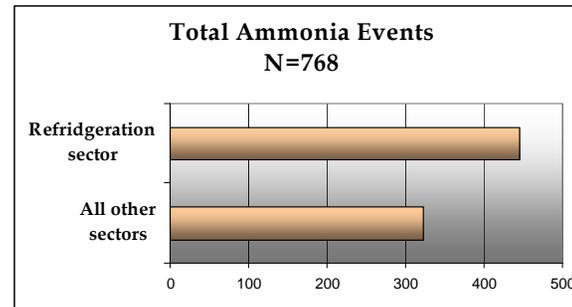
Ammonia can react with other chemicals to produce lethal vapors.

Liquid ammonia can cause freezing burns and frostbite within seconds.

Ammonia burns can cause permanent scarring of the lungs and eyes.

## Wisconsin Ammonia Events

1993-2009



## AMMONIA SPILLS IN WISCONSIN 1993-2009

Since 1993, Wisconsin has had **768** uncontrolled ammonia releases, representing approximately **45** releases per year.

**445 (58%)** of Wisconsin's ammonia releases involved refrigeration systems.

A total of **302** people have sustained injuries as the result of exposure to ammonia, representing **17%** of all NTSIP victims.

Of the **302** total ammonia victims, **138** involved exposure in the refrigeration sector, representing **46%** of total ammonia victims.

During this **17** year period, a total of **24,636** persons were evacuated in connection with ammonia releases in Wisconsin, representing **35%** of all NTSIP evacuees.

(NOTE: 15,000 evacuees occurred during a single ammonia event in the refrigeration sector during 2009.)