

What's that smell?

Pulp and Paper Industry Odors

This fact sheet explains the smells and public health issues related to the pulp and paper industry in Wisconsin



Background

In some Wisconsin areas, the pulp and paper industry is known for its distinctive smell.

One type of odor comes from a special technique—called *kraft pulping*—which uses heat and chemicals to *pulp* wood chips for making paper. This reaction produces gaseous sulfur compounds called “total reduced sulfur” or TRS gases. The odor associated with TRS gases is typically described as “rotten cabbage or eggs.”

The U.S. Environmental Protection Agency (EPA) finds these odors are a “nuisance” but not a health concern, at levels normally found in the environment. However, there are times when the normal levels are exceeded.

Not all pulp and paper mills have an odor. Some paper mills use pulp from other mills to make paper and will have a less noticeable odor.

Causes of Odor - Why It Changes?

There are three general groups of odor producing compounds that come from pulp and paper industries. The smelly chemicals are reduced sulfides, ammonia, and other organic compounds.

In addition to kraft pulp mills, odors can come from sulfite pulp mills, wastewater treatment plants and landfills. Each of these sources has their own distinct odor.

Sulfite mills emit sulfur dioxide (SO₂) which has a strong, choking, odor. Wastewater treatment plants can have a rotten garbage odor, and landfills may have an odor from decaying organic matter.

Odors from these sources will vary depending on an individual’s smell sensitivity, changes in wind direction, temperature, and mill processing techniques.

For example, odors may be more noticeable at night and in the early morning because of temperature changes and less wind.

Health Issues

Under most weather conditions, the chemicals released from pulp and paper mills are diluted with clean air so health problems are not expected. Odors may still be noticed because people can smell sulfur-based chemicals, such as TRS gases, at extremely low concentrations.

If the chemicals become concentrated (for example, by weather conditions) area residents may experience eye and breathing irritation. Other symptoms may include nausea and headaches. People with asthma may experience asthma episodes when the odors are strong.

People with emphysema or COPD may also be at risk. These symptoms should disappear shortly after the odors disperse.

See your doctor whenever you have health problems. If after seeing your doctor you feel your symptoms are related to air quality, contact your local health department or the Wisconsin Division of Public Health, (608) 266-5817.

Can The Odors Cause Cancer?

According to the National Toxicology Program (NTP) and the International Agency for Cancer Research (IACR), the specific chemicals that cause odors associated with pulp and paper mills are not known or suspected to cause cancer.

Additionally, monitoring data conducted by the Wisconsin Department of Natural Resources (DNR) shows that the cancer risk in areas with pulp and paper mills is similar to the risk in other urban areas of Wisconsin.

What Can You Do About Odors?

If odors change or get worse near the pulp and paper mills, contact the local mill and the DNR.

The DNR encourages public participation in addressing air quality issues and your comments are encouraged. Information about past problems can be useful in evaluating air permit renewals.

Contact the DNR about how to become involved in these issues.

For more information

- Air Management Program
Wisconsin Department of Natural Resources (DNR) - Madison
(608) 266-7718.
- Health Concerns
Wisconsin Division of Public Health,
Madison, (608) 266-1120.
- For internet resources about ammonia and other chemicals, visit
<http://www.dhfs.state.wi.us/eh>



Prepared by the Wisconsin Department of Health Services,
Division of Public Health, with funds
from the Agency for Toxic Substances and Disease
Registry, USDHHS

P-45009 11/2000