

Consumer Factsheet on: XYLENES

[List of Contaminants](#)

As part of the Drinking Water and Health pages, this fact sheet is part of a larger publication:
National Primary Drinking Water Regulations

This is a factsheet about a chemical that may be found in some public or private drinking water supplies. It may cause health problems if found in amounts greater than the health standard set by the United States Environmental Protection Agency (EPA).

What is Xylene and how is it used?

A xylene is any of a group of very similar organic compounds. They are clear liquids with a sweet odor. The greatest use of xylenes is as a solvent which is much safer than benzene. Other uses include: in gasoline as part of the BTX component (benzene-toluene-xylene); Xylene mixtures are used to make phthalate plasticizers, polyester fiber, film and fabricated items.

The list of trade names given below may help you find out whether you are using this chemical at home or work.

Trade Names and Synonyms:

Dimethyl benzene
Xylol
Methyltoluene
Violet 3

Why is Xylene being Regulated?

In 1974, Congress passed the Safe Drinking Water Act. This law requires EPA to determine safe levels of chemicals in drinking water which do or may cause health problems. These non-enforceable levels, based solely on possible health risks and exposure, are called Maximum Contaminant Level Goals.

The MCLG for xylenes has been set at 10 parts per million (ppm) because EPA believes this level of protection would not cause any of the potential health problems described below.

Based on this MCLG, EPA has set an enforceable standard called a Maximum Contaminant Level (MCL). MCLs are set as close to the MCLGs as possible, considering the ability of public water systems to detect and remove contaminants using suitable treatment technologies.

The MCL has been set at 10 ppm because EPA believes, given present technology and resources, this is the lowest level to which water systems can reasonably be required to remove this contaminant should it occur in drinking water.

These drinking water standards and the regulations for ensuring these standards are met, are called National Primary Drinking Water Regulations. All public water supplies must abide by these regulations.

What are the Health Effects?

Short-term: EPA has found xylenes to potentially cause the following health effects when people are exposed to it at levels above the MCL for relatively short periods of time: disturbances of cognitive abilities, balance, and coordination.

Long-term: Xylenes has the potential to cause the following effects from a lifetime exposure at levels above the MCL: damage to the central nervous system, liver and kidneys.

How much Xylene is produced and released to the environment?

Production of xylenes was 6.84 billion lbs. in 1993. Major environmental releases of xylenes are due to evaporation from the refining and use of petroleum products. It may also be released by leaks or spills during the transport and storage of gasoline and other fuels. Xylenes are a natural products of many plants, and are a component of petroleum and coal tar.

From 1987 to 1993, according to EPA's Toxic Chemical Release Inventory, xylene releases to land and water totalled nearly 4.8 billion lbs. These releases were primarily from petroleum refining industries. The largest releases occurred in Texas. The largest direct releases to water occurred in New Jersey and Georgia.

What happens to Xylene when it is released to the environment?

Most of the xylenes are released into the atmosphere where they are quickly degraded by sunlight. When released to soil or water, xylenes will quickly evaporate. They may leach into ground water and persist there for several years. There is little potential for accumulation in aquatic life.

How will Xylene be Detected in and Removed from My Drinking Water?

The regulation for xylenes became effective in 1992. Between 1993 and 1995, EPA required your water supplier to collect water samples every 3 months for one year and analyze them to find out if xylenes is present above 0.5 ppb. If it is present above this level, the system must continue to monitor this contaminant.

If contaminant levels are found to be consistently above the MCL, your water supplier must take steps to reduce the amount of xylenes so that it is consistently below that level. The following treatment methods have been approved by EPA for removing xylenes: Granular activated charcoal in combination with Packed Tower Aeration.

How will I know if Xylene is in my drinking water?

If the levels of xylenes exceed the MCL, 10 ppm, the system must notify the public via newspapers, radio, TV and other means. Additional actions, such as providing alternative drinking water supplies, may be required to prevent serious risks to public health.

Drinking Water Standards:

Mclg: 10 ppm

Mcl: 10 ppm

Xylene Releases to Water and Land, 1987 to 1993 (in pounds):

TOTALS (in pounds)	Water 875,943	Land 3,897,738
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Top Ten States*

TX	30,853	2,099,734
NJ	294,437	280,759
IL	36	206,990
IN	0	145,079
AL	34,361	59,022
CA	0	91,500
MI	0	86,774
GA	68,310	15,000
VA	50,100	33,000
WA	27,860	52,360

Major Industries*

Petroleum refining	131,817	2,678,958
Metal barrels, drums	5	289,542
Textile finishing, misc.	278,454	0
Misc. Industrial chems.	95,706	69,696
Extruded Aluminum prod.	1,265	138,798
Furniture, fixtures	0	91,500
Cotton fabric finishing	68,310	15,000
Wood office furniture	0	67,677
Pharmaceuticals	52,285	3,100
Paper mills	52,480	2,122

* Water/Land totals only include facilities with releases greater than a certain amount - usually 1000 to 10,000 lbs.

Learn more about your drinking water!

EPA strongly encourages people to learn more about their drinking water, and to support local efforts to protect and upgrade the supply of safe drinking water. Your water bill or telephone books government listings are a good starting point.

Your local water supplier can give you a list of the chemicals they test for in your water, as well as how your water is treated.

Your state Department of Health/Environment is also a valuable source of information.

For help in locating these agencies or for information on drinking water in general, call: EPAs Safe Drinking Water Hotline: (800) 426-4791.

For additional information on the uses and releases of chemicals in your state, contact the: Community Right-to-Know Hotline: (800) 424-9346.