

1,4-Dioxane Patient Information Sheet

This handout provides information and follow-up instructions for persons who have been exposed to 1,4-dioxane.

What is 1,4-dioxane?

1,4-Dioxane is a colorless liquid at ambient temperatures with a faint pleasant odor. It does not occur naturally in the environment; it is man-made. Its main use is as a solvent for chemical processing; as a laboratory reagent; in plastic, rubber, insecticides, and herbicides; as part of a polymerization catalyst; and as an extraction medium of animal and vegetable oils. 1,4-Dioxane can be found as a contaminant in some consumer products such as cosmetics, detergents, and shampoos.

What immediate health effects can be caused by exposure to 1,4-dioxane?

Acute exposure to high amounts of vapors of 1,4-dioxane produces eye, nose, and throat irritation, as well as liver and kidney damage. Deaths have been reported after acute exposure to high levels of 1,4-dioxane. Skin contact with liquid 1,4-dioxane can produce skin irritation and burns. Ingestion of liquid 1,4-dioxane can produce internal burns. Little is known about long-term exposure to low levels of 1,4-dioxane. Workers exposed to relative low levels of 1,4-dioxane for years had no health problems.

Can 1,4-dioxane poisoning be treated?

There is no antidote for 1,4-dioxane, but its effects can be treated. Seriously exposed persons may need to be hospitalized.

Are any future health effects likely to occur?

It is not known whether short-term exposure to high-levels of 1,4-dioxane will result in future health effects. However, the possibility exists that repeated exposures to low or moderate levels may cause liver and/or kidney problems in the future.

What tests can be done if a person has been exposed to 1,4-dioxane?

1,4-Dioxane and some of its breakdown products can be measured in blood and urine. Identification of 1,4-dioxane indicates that you have been exposed to 1,4-dioxane, but some of the breakdown products also can be produced by exposure to chemicals other than 1,4-dioxane. The tests need to be conducted within days after the exposure because 1,4-dioxane and its breakdown products leave the body fairly rapidly. These tests are available at specially-equipped laboratories.

Where can more information about 1,4-dioxane be found?

More information about 1,4-dioxane can be obtained from your regional poison control center; your state, county, or local health department; the Agency for Toxic Substances and Disease Registry (ATSDR); your doctor; or a clinic in your area that specializes in occupational and environmental health. If the exposure happened at work, you may wish to discuss it with your employer, the Occupational Safety and Health Administration (OSHA), or the National Institute for Occupational Safety and Health (NIOSH). Ask the person who gave you this form for help in locating these telephone numbers.

Follow-up Instructions

Keep this page and take it with you to your next appointment. Follow *only* the instructions checked below.

Call your doctor or the Emergency Department if you develop any unusual signs or symptoms within the next 24 hours, especially:

- Severe eye irritation, blurred vision
- Abdominal pain, nausea, anuria

No follow-up appointment is necessary unless you develop any of the symptoms listed above.

Call for an appointment with Dr. _____ in the practice of _____.

When you call for your appointment, please say that you were treated in the Emergency Department at _____ Hospital by _____ and were advised to be seen again in _____ days.

Return to the Emergency Department/_____ Clinic on (date) _____ at _____ AM/PM for a follow-up examination.

Do not perform vigorous physical activities for 1 to 2 days.

You may resume everyday activities including driving and operating machinery.

Do not return to work for _____ days.

You may return to work on a limited basis. See instructions below.

Avoid exposure to cigarette smoke for 72 hours; smoke may worsen the condition of your lungs.

Avoid drinking alcoholic beverages for at least 24 hours; alcohol may worsen injury to your stomach or have other effects.

Avoid taking the following medications: _____

You may continue taking the following medication(s) that your doctor(s) prescribed for you:

 Other instructions: _____

- Provide the Emergency Department with the name and the number of your primary care physician so that the ED can send him or her a record of your emergency department visit.

- You or your physician can get more information on the chemical by contacting: _____ or _____, or by checking out the following Internet Web sites: _____;

Signature of patient _____ Date _____

Signature of physician _____ Date _____