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## Benzene poisoning

Benzene is a clear, liquid, petroleum-based chemical that has a sweet smell. Benzene poisoning occurs when someone swallows, breathes in, or touches benzene. It is a member of a class of compounds known as hydrocarbons. Human exposure to hydrocarbons is a common problem.

This article is for information only. DO NOT use it to treat or manage an actual poison exposure. If you or someone you are with has an exposure, call the local emergency number (such as 911), or the local poison control center can be reached directly by calling the national toll-free Poison Help hotline (1-800-222-1222) from anywhere in the United States.

### Poisonous Ingredient

Benzene can be harmful if it is swallowed, inhaled, or touched.

### Where Found

People may be exposed to benzene in factories, refineries, and other industrial settings. Benzene may be found in:

- Additives to gasoline and diesel fuel
- Many industrial solvents
- Various paint, lacquer, and varnish removers

Other products may also contain benzene.

### Symptoms

Below are symptoms of benzene poisoning in different parts of the body.

#### EYES, EARS, NOSE, AND THROAT

- Blurred vision
- Burning sensation in the nose and throat

#### HEART AND BLOOD

- Irregular heartbeat

- Rapid heartbeat
- Shock and collapse

## LUNGS AND CHEST

- Rapid, shallow breathing
- Tightness in the chest

## NERVOUS SYSTEM

- Dizziness
- Drowsiness
- Nervousness
- Convulsions (seizures)
- Euphoria (feeling of being drunk)
- Headache
- Staggering
- Tremors
- Unconsciousness
- Weakness

## SKIN

- Pale skin
- Small red dots on skin

## STOMACH AND INTESTINES

- Loss of appetite
- Nausea and vomiting

## **Home Care**

Seek medical help right away. DO NOT make the person throw up unless poison control or a health care provider tells you to. If benzene is on the skin or in the eyes, flush with lots of water for at least 15 minutes.

If the person swallowed benzene, give them water or milk right away, unless a provider tells you not to. DO NOT give anything to drink if the person has symptoms that make it hard to swallow. These include vomiting, convulsions, or a decreased level of alertness. If the person breathed in the benzene, move them to fresh air right away.

## **Before Calling Emergency**

Have this information ready:

- Person's age, weight, and condition

- Name of the product (ingredients and strength, if known)
- Time it was swallowed
- Amount swallowed

## Poison Control

Your local poison control center can be reached directly by calling the national toll-free Poison Help hotline (1-800-222-1222) from anywhere in the United States. This hotline will let you talk to experts in poisoning. They will give you further instructions.

This is a free and confidential service. All local poison control centers in the United States use this national number. You should call if you have any questions about poisoning or poison prevention. It does NOT need to be an emergency. You can call for any reason, 24 hours a day, 7 days a week.

## What to Expect at the Emergency Room

The provider will measure and monitor the person's vital signs, including temperature, pulse, breathing rate, and blood pressure. Symptoms will be treated.

The person may receive:

- Blood and urine tests.
- Breathing support, including a tube through the mouth into the lungs, and a breathing machine (ventilator).
- Bronchoscopy -- camera placed down the throat to see burns in the airways and lungs.
- Chest x-ray.
- Endoscopy -- camera placed down the throat to see burns in the esophagus and the stomach.
- Electrocardiogram (ECG).
- Fluids through the vein (by IV).
- Medicines to treat an allergic reaction and other symptoms.
- Washing of the skin may need to be done, perhaps every few hours for several days.

The person may be admitted to the hospital if the poisoning is severe.

## Outlook (Prognosis)

How well someone does depends on how much benzene they swallowed and how quickly they receive treatment. The faster medical help is given, the better the chance for recovery. Benzene is very poisonous. Poisoning can cause rapid death. However, deaths have occurred as long as 3 days after the poisoning. This happens because:

- Permanent brain damage occurs
- The heart stops
- The lungs stop working

People who have regular exposure to low levels of benzene can also become sick. The most common problems are blood diseases, including:

- Leukemia
- Lymphoma
- Severe anemia

People who work with benzene products should only do so in areas with good air flow. They should also wear protective gloves and eye glasses.

## References

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