

INDUSTRIAL HEALTH
AND SAFETY SERIES
No. 8

*Benzene
File*

Occupational Diseases Cause Human Waste

BENZOL (BENZENE) POISONING

ITS CAUSE AND PREVENTION



ISSUED BY
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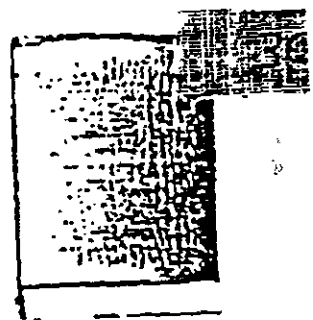
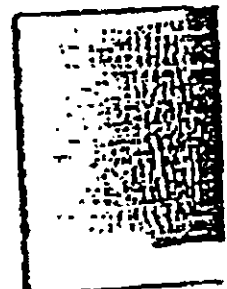


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What It Is

Benzol (benzene) poisoning is a chronic disease affecting the blood-forming tissues, resulting in a disease in blood cells.

Where It Is Found

Benzol is widely used throughout industry, especially in using and making industrial solvents. Workers most likely to be exposed to benzol include:

Airplane-dope workers	Lacquers
Artificial-leather makers	Linoleum workers
Benzol-still men	Nitro-benzene makers
Blenders (motor fuel)	Nitrocellulose workers
Brake-lining makers	Oilcloth makers
Cementers (rubber)	Paint-remover makers
Compounders (rubber)	Paintmakers
Degreasers (fertilizer and leather)	Paraffin workers
Driers (rubber)	Phenol makers
Dry cleaners	Photoengravers
Dye makers	Pyroxylin-plastic workers
Enamel makers	Reclaimers (rubber)
Enamelers	Shade-cloth makers
Engravers	Shellac makers
Explosive workers	Shoe finishers
Glue workers	Varnish makers
Lacquer makers	Varnishers
	Vulcanizers

How It Occurs

Benzol (benzene) poisoning occurs from inhaling benzol vapor or fumes. Once in the lungs, it is dissolved in the blood. It evaporates easily, and therefore gets into the air very readily.

Chronic poisoning is more common and results from continually breathing small amounts of benzol. The result is a form of blood disease in which red-blood cells are not formed.

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By breathing large amounts of benzol, acute poisoning occurs, in which the victim quickly becomes unconscious, with paralysis of the breathing system, and death often follows. This is not a common type of poisoning, and usually occurs as a result of an accident or in cleaning vats, tanks, etc.

Benzol (benzene) should not be confused with benzine. Benzol is highly poisonous and is obtained from coal tar, while benzine is fairly nonpoisonous in comparison to benzol, and is obtained from petroleum.

Signs and Symptoms

In mild chronic cases there will be headache, dizziness, loss of appetite, nervousness, and sleeplessness. Severe chronic poisoning is indicated by anemia, hemorrhages, vomiting, reduction in white- and red-blood cells, and weakness.

Acute poisoning is usually indicated by breathlessness, excitement, delirium, convulsion, unconsciousness, paralysis of the breathing system, failing sight and death. When a victim has collapsed from benzol poisoning, remove him to fresh air and apply prone pressure method of artificial respiration. Keep warm and send for a doctor.

What To Do About It

A worker exposed to benzol (benzene), and suspecting benzol poisoning, should immediately report to a doctor. Cases should be reported to the State Department of Labor so that steps may be taken to protect other workers.

Prevention

FOR EMPLOYERS

1. Provide exhaust ventilation to remove benzol fumes at the point of origin, in order that they may not get into the air and then be breathed by workers.

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1. See that all workrooms are well supplied with fresh air.
2. Use substitutes for benzol wherever practicable.
3. Keep equipment in good order and inspect frequently for escaping benzol.
4. Provide gas masks only for limited exposures and emergencies, where exhaust ventilation is impracticable, use oxygen-breathing apparatus or positive pressure hoods. Provide gloves and aprons when workers are using liquid benzol.
5. Isolate benzol processes when practicable.
6. Have air in workrooms tested periodically for benzol. Remember that more than 1 part of benzol in 10,000 parts of air is recognized as dangerous.
7. Maintain medical supervision of workers, including periodic complete blood examinations.

FOR WORKERS

1. If possible, have a medical examination, to include blood examination, before going to work in benzol process. Persons who have a tendency to bleed, anemia, or any blood disease, should not work where benzol is used.
2. Use the gas masks, gloves, aprons, and other protective equipment given to you.
3. After illness due to benzol poisoning, do not return to work except on the doctor's orders.

This pamphlet contains merely a brief summary of data. For further information or advice as to prevention of benzol poisoning, write to Division of Labor Standards, United States Department of Labor, Washington, D. C.

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