

## **OSHA Training Toolbox Talk: Hazardous Substance Awareness – Benzene**

*[Reference: Parts 1910, 1915, and 1926, subpart Z; 1926 subpart Z]*

Benzene is a colorless, highly flammable liquid that occurs naturally in crude oil and gasoline, and it may also be found in certain industrial solvents, paints, adhesives, and chemical products. While regulations and substitutions have reduced its use over the years, benzene is still present in some workplaces, particularly in petroleum refining, chemical manufacturing, maintenance, or construction operations involving older or specialty products. Awareness of where benzene may be present is essential for working safely.

Benzene may be present in liquids, vapors, or residues where you may not immediately expect, such as fuel storage tanks, solvent containers, or cleaning equipment. Attention to labels, warning signs, and Safety Data Sheets is critical. Only trained personnel should handle benzene-containing materials, and even brief tasks should be conducted with proper controls to minimize risk.

Exposure to benzene can occur in several ways. Inhalation of vapors is the primary concern, but skin contact can also contribute to absorption. Activities such as pouring, transferring, spraying, cleaning, or handling solvents and fuels can generate vapors. Even residues left on tools, surfaces, or equipment can be a source of exposure. Benzene vapors are heavier than air and can accumulate in low-lying areas, making proper ventilation critical. Repeated or prolonged exposure can affect the central nervous system, causing dizziness, headaches, fatigue, or drowsiness, and may also affect bone marrow, increasing the risk of blood disorders such as anemia or leukemia.

Precautions to reduce exposure include using engineering controls such as proper ventilation, fume hoods, or exhaust systems, following safe work procedures, and using appropriate personal protective equipment, including chemical-resistant gloves, eye protection, and respirators when required. Good hygiene practices are essential, such as washing hands and exposed skin before eating, drinking, or leaving the work area. Contaminated clothing should be handled according to company procedures to prevent take-home exposure and protect family members from risk.

If you are working with or around benzene, or if you see a label or warning sign indicating its presence, remember that merely being near benzene does not necessarily mean you are overexposed or at imminent risk. Following proper controls, procedures, and safety measures helps ensure exposure remains below OSHA's permissible limits.

If you have any questions or concerns about benzene hazards or exposure, please direct them to your safety manager, supervisor, or other workplace representative. And please be sure to sign the training certification form to ensure you get credit for attending today's OSHA toolbox talk.

