

Bisphenol a (bpa)

[Literature](#), [Russian Literature](#)



1) What is BPA (Bisphenol-A)? What do they use it for? What is the health impact of this chemical on your health and the environment? What can you do to minimize the impact of BPA on yourself and the environment?

Bisphenol A or BPA, which can be chemically expressed as $(\text{CH}_3)_2\text{C}(\text{C}_6\text{H}_4\text{OH})_2$, is an organic industrial substance that appears colorless in solid form and dissolves chiefly in organic solvents than in water. It is known in recent years of the mid-20th century to have been widely utilized in the manufacture of bottles made of hard plastic as well as metallic containers for packaging food and beverage. BPA is primarily used in synthesizing polycarbonate high-performance plastics, epoxy resins, and coatings which are further required for a variety of yields and other applications.

Studies indicate BPA as being a potential contaminant which bears significant impact upon reproduction and growth in aquatic life due to leaching of BPA from landfills which consist of mixed wastes of disposed plastic and metal objects. As such, organisms like fish, reptiles, amphibians, and several aquatic invertebrates have been reported to suffer from endocrine-based consequences upon exposure to moderately toxic BPA levels. Other relevant findings also demonstrate environmental hazards posed by BPA on terrestrial wildlife and leguminous plants through its interfering action on certain processes required for biological development. Equivalently, BPA is found to cause disruption of endocrine and neurological functions, obesity, brain tumors, thyroid problems, and cancer in human beings among others.

I suppose that, as a concerned citizen, I can help minimize the impact of BPA

on my environment and on my own health by completely refraining from or reducing at least the use of polycarbonate products. Moreover, I would take the time and effort to join some anti-BPA campaigns whenever I can and communicate to the public the must to support the endeavor of seeking alternatives to BPA.

(2) What is hydraulic fracturing? What do they use it for? What is the impact of this on your health and the environment? What can you do about it?

Hydraulic Fracturing refers to a process of well stimulation which involves generation of fractures throughout a rock layer via pressurized fluid action for the purpose of recovering maximum quantities of underground resources. This includes extraction of natural gas, oil, and geothermal energy by subsurface fracture systems that enable fluid resources to flow through porous rocks and reach the surface upon acquisition into production wells. Specifically, hydraulic fracturing is used to provide relief for the complexities of extracting natural gas from shale, releasing this gas instead through injection of a mixture of water, chemicals, and sand into ground spots under extreme pressure.

Apparently, no confirmed health effects have yet been recorded but current studies by the EPA (Environmental Protection Agency) would investigate into possible contamination of both groundwater and drinking water that may be accessed by toxic organic and volatile leaks seeping in from a drilling facility. Further research is commenced to determine how likely the quality of air can be threatened and up to what degree would pollution by noise and air proceed as a result of rock fracture propagation. Though no direct association was claimed, the study carried out in New York and Pennsylvania

managed to locate contamination of drinking wells by methane allegedly originating from a site that actively drilled natural gas. It would be reasonable to suspect contamination at anytime since the “ fracking” process makes use of chemicals such as benzene, toluene, xylene, and hydrochloric acid.

With the lack of pertinent research on the environmental of hydraulic fracturing, it is advised that continuous surveillance is maintained to check water and air quality as well as noise levels in an area. Caution must also be taken by informing authorities of all sensitive hydraulic fracturing processes and materials used to monitor levels of toxicity and risks thereafter.

Works Cited

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