Attention Chemophobes-Get your science On!

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Che-mo-pho-bia: abnormal or excessive fear of chemicals (Merriam-Webster)
→ https://www.merriam-webster.com/medical/chemophobia

The term chemophobia has been defined by some as an irrational fear of chemicals. On the other hand, chemophobia might also be considered as a perfectly rational response to media stories related to chemicals. It's easy to find scary stories about the hazards of chemicals, but it's uncommon to find stories that inform the public about how chemicals help to make our lives better and safer.

Chemophobia has also been described as an example of low scientific literacy and distrust in science. This perspective may help to explain the common divergence between the general public and scientific experts, including regulatory authorities, on matters of chemical safety.

A good example of these phenomena is the chemical bisphenol A (BPA). It's been safely used for decades to make clear and shatter-resistant polycarbonate plastic, which we contact daily in common consumer products ranging from eyeglasses to bicycle helmets and automobile headlamp lenses to life-saving medical devices.

The safety of BPA has been intensively studied and it is now one of the best tested substances in commerce. For more than 10 years, U. S. government scientists have been conducting an in-depth research program with the goal of answering key scientific questions about the safety of BPA.

From this research, we know that human exposure to BPA is extremely low. We know that BPA is quickly eliminated from the body after exposure. And we know that BPA is unlikely to cause health effects at the very low levels to which we're exposed. Based on the full body of scientific data, the U.S. Food and Drug Administration (FDA) unambiguously answers the question "Is BPA safe?" with just one word – "Yes."

From some media coverage and activist groups though, you may well have the impression that BPA is an extremely hazardous substance, one to be avoided at all costs. Given these widely diverging views on substances such as BPA, it's no surprise that researchers are interested in understanding why they occur and finding ways to avoid them.

Recently a group of researchers at a Swiss institute published the results of a large-scale Swiss government funded study that was aimed at understanding consumers' knowledge of toxicology and their trust in public authorities. Ultimately the researchers hope to improve communication between experts, such as toxicologists, and the general public.

The study was in the form of a large-scale survey of over 5600 people in eight European countries. Overall the results "*suggest that large gaps exist regarding people's knowledge of toxicological principles and that a lack of knowledge is significantly associated with higher levels of chemophobia.*" Regarding public authorities, the survey also found that "*more trust was significantly related to a lower level of chemophobia.*"

Knowing this is important but the big challenge is knowing what to do about it. The authors note that "*informing and educating consumers about toxicological principles and the risk assessment of chemical substances might improve public trust in the executing authorities and lead to lower levels of chemophobia*." While that may be true, it's a tall order and we can expect chemophobia to be with us for some time.