

Regulating BFRs – From science to policy

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Abstract

An adequate distribution of responsibilities between scientists and policy-makers requires that a distinction be made between theoretical rationality (what to believe) and practical rationality (what to do). In chemical risk management, it is often necessary to base decisions on indications of risk that do not amount to full scientific proof...Furthermore, it is shown that the application of standard decision theory to chemical risks yields conclusions very much in agreement with the precautionary principle.

... This analysis supports what is usually regarded as a “precautionary” decision, namely in this case to treat substance B as – on the given level of knowledge – the more serious problem. Informally, the argument for this is that although it is not known if B causes environmental damage, if it does so then the damage may be very serious. If the severity of a possible danger is large, then it may be rational to take action against that danger even if the probability is relatively small that the danger will materialize.

It is important to note that this argument does not appeal to the precautionary principle or some other special principle of cautiousness. Instead, it is based on the standard principles for practical reasoning as they are used in other areas such as economics. This method, weighting outcomes according to the best estimate of their probabilities (without setting non-zero probabilities to zero), is called “risk-neutral” decision-making in economics.

...5. Sound science

There are outspoken proponents of another view, namely that only well-established scientific fact should be used in decision-making. This means, in practice, that probabilities of danger are implicitly set at zero although the best estimates of these probabilities are clearly above zero. This has been advertised as the application of “sound science”, and recently under new guise as “evidence-based toxicology”.

Proponents of so-called “sound science” often use the current European regulations of PBDEs as a prime example of what they consider to be “unsound science” (Kogan,2003). Their central claim is that the intrascientific burden of proof should

be used also in practical decisions that are based on science. This means that when there are indications but not full proof of danger, the substance should be treated as innocuous, i.e. as if the probability of danger is zero. However, as has already been mentioned, the practice of programmatically setting non-zero probabilities at zero does not seem to be supported by any plausible account of practical rationality.

It should also be observed that the “sound science” proposals have only been targeted at specific, mostly environmental, decisions.

References

Kogan, L.A., 2003, Looking Behind the Curtain: The Growth of Trade Barriers that Ignore Sound Science, National Foreign Trade Council, Washington, DC, 2003 <www.nftc.org>.

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