

NAS STUDY MAY BACK CONTROVERSIAL EPA METHOD FOR ESTIMATING TCE RISKS

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An upcoming National Academy of Sciences (NAS) report on the ubiquitous solvent trichloroethylene (TCE) may support EPA's controversial approach under which exposure to alcohol and other chemicals magnifies the risks posed by TCE by a factor of three, according to industry and federal sources.

The report may launch a fresh wave of controversy because industry and the Defense Department have heavily criticized EPA's 2001 draft TCE risk review for its blanket employment of stricter proposed risk standards to account for so-called co-exposures to alcoholic beverages and the TCE metabolites dichloroacetic acid (DCA) and trichloroacetic acid (TCA) that are found in drinking water supplies.

The upcoming NAS report will not specifically focus on EPA's risk assessment but a set of technical issues raised in recent EPA "white papers" on TCE. One of the EPA white papers concludes that the studies reviewed "suggest that multiple metabolites may contribute to liver and kidney tumorigenesis."

Sources say the NAS review is likely to endorse the agency's stance on the co-exposures issue. "There will be some strong hints about" the co-exposures issue in the NAS report, according to one source.

EPA sources say any NAS backing is key because there was a lack of internal agency debate in 2001 on how and whether co-exposures should be considered in EPA risk reviews like the one for TCE. The decision to increase TCE risk estimates by a factor of three because of the co-exposure issue was not vetted by the agency's high-profile Science Policy Council or other agency risk forums before going to the agency's Science Advisory Board (SAB), EPA sources say.

"The inclusion of co-exposures was not well-discussed in the agency and it has an impact on how conservative the agency is. It left a bad after-taste" once EPA staff realized what was in the document, according to one waste office source.

TCE is among the most common contaminants found at Superfund and other waste sites due to its widespread use as a degreaser for machine and aircraft parts.

In 2001, EPA's SAB backed most of EPA's draft TCE risk conclusions, but did not support a blanket tightening of the agency's noncancer risk estimates, saying not all groups are exposed to DCA, TCA or alcohol in quantities that warrant magnifying TCE risks threefold. Instead, the

advisers supported a case-by-case adjustment depending on the population in question at various sites -- an approach industry sources say they favor.

After the SAB review, then-EPA science chief Paul Gilman still had questions about the draft assessment and elected to forward a series of technical issues related to TCE to the NAS for consideration.

Despite the ongoing NAS assessment, some states and EPA regions, including Regions III and IX, have relied on the proposal to set stringent cleanup requirements at a number of high-profile Air Force and industrial sites where TCE vapors from groundwater and soils intrude into the indoor air of buildings, industry sources say.

The issue is particularly controversial because regulators are in some cases suggesting they may force additional TCE cleanups at sites where cleanups were once considered complete. For example, New York regulators recently sought information about contamination from vapor intrusion at dozens of contaminated sites where cleanup was already considered finished, sparking industry fears that they could face additional cleanup liability.

Industry sources say that if EPA finalizes the proposed risk assessment in its current form, it could make cleanups costly and difficult to implement. "There have been tremendous problems implementing something this severe" at cleanup sites, according to one industry source.

Industry sources say there are numerous studies on TCE toxicity that regulators must evaluate and are urging that they only consider co-exposures on a case-by-case basis -- as the SAB recommended. For example, one consultant says DCA is flushed quickly out of the body and TCA creates tumors in mice but not rats, raising questions about its relevance to humans.

Blanket assumptions about co-exposures are "totally flawed and far too casual," according to another industry source.

EPA's consideration of co-exposures is not unprecedented. In its radon risk assessment, EPA determined that smokers face an 8-10 fold higher risk than non-smokers and accounted for that elevated risk in its evaluation. And the agency is required to finalize several high-profile cumulative risk assessments for exposure to similar pesticides such as organophosphates and carbamates in early August in accordance with the mandates of the 1996 Food Quality Protection Act. -- Steve Gibb