DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Agency for Toxic Substances
and Disease Registry
Atlanta, GA 30333

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Scott Masten, PhD
Director, Office of Nomination and Selection
National Toxicology Program
National Institute of Environmental Health Sciences
P.O. Box 12233, MD K2-02
530 Davis Frive, Room 2140
Research Triangle Park, North Carolina 27709

10-17-11 11:08 RCVD

Scott

Dear Dr. ~~Masten~~:

The Agency for Toxic Substances and Disease Registry (ATSDR) supports the Alaska Department of Environmental Conservation, nominating the chemical, sulfolane to the National Toxicology Program (NTP) for further research.

Sulfolane (CAS number 126-33-0) is an industrial solvent used in the purification of natural gas and extraction of aromatic hydrocarbons from petroleum. Sulfolane is listed in the United States Environmental Protection Agency (US EPA), High Production Volume Chemical List (EPA 2011). There are over 150 sulfolane extraction units worldwide (Oasis Environmental 2010).

Sulfolane has been detected in the drinking water of residents of North Pole, Alaska. At the time sulfolane was detected at North Pole, no established public health screening level existed for sulfolane. Because only a limited amount of information was readily available, ATSDR was contacted by our cooperative agreement partner, the Alaska Department of Health and Social Services in 2009 to provide technical assistance in the public health assessment of the exposure. The reported source of the contamination was a nearby refinery, and nearly 300 drinking water wells have been reported as having some level of sulfolane in them.

ATSDR prepared two written health consultations for the State of Alaska (ATSDR 2011, 2010) which discuss the available literature on the health effects, structure activity relationships and environmental fate of suflolane. The available literature to base public health assessment decisions is limited, and there is some evidence (Andersen et al. 1977, Zhu et al. 1987) there can be significant interspecies differences in responses to sulfolane. Currently, lack of information on the absorption, distribution, metabolism, excretion, and mechanisms of action result in default uncertainty factors in developing public health screening values for sulfolane. There is disagreement on the appropriate species (guinea pigs or rats) and endpoint for a point of departure in deriving a screening level. This disagreement is further exacerbated by limited information provided in the Zhu et al.

1987 study. These uncertainties have limited ATSDR and our partners' ability to effectively answer the community concerns related to sulfolane.
In conclusion, there are significant scientific gaps in our understanding of the toxicity and public health significance of oral exposure to sulfolane. Because of these gaps, appropriate questions about the choice of animal model, key health endpoint, appropriate characterization of the dose-response, and appropriate choice of uncertainty factors remain controversial. US EPA is in the process of establishing a Peer-Reviewed Provisional Toxicity Value (PRPTV) for sulfolane; nevertheless, the underlying quality of the science remains a concern. ATSDR believes review and possible research by NTP will assist public health and environmental agencies in developing long term strategies dealing with sulfolane contaminated sites such as the North Pole Refinery site.

Sincerely,

[Redacted]

Christopher J. Portier, Ph.D.
Director, National Center for
Environmental Health, and
Agency for Toxic Substances and
Disease Registry

PS: Hope you're doing well. Say hello to everyone for me.

References

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