

From: Chou, Selene (ATSDR/DTEM/PRMSB)  
Sent: Wednesday, April 07, 2010 12:24 PM  
To: Austin Kerr  
Subject: RE: factors for MRLs

Dr. Kerr,

The “factors” refer to the composite uncertainty factor used in deriving the MRL, the larger the factors, the less confidence on the toxicological database.

The acute oral MRL of 0.4 ppm for MTBE was derived based on a NOAEL of 40 mg/kg/day in rats for neurological effects, uncertainty factors of 100 was applied, 10 for extrapolation from animals to humans and 10 for human variability.

Selene Chou, Ph.D.  
Environmental Health Scientist  
ATSDR/DTEM MSF62  
1600 Clifton Road, NE  
Atlanta, GA 30333

Tel: 770-488-3357  
Email: cjc3@cdc.gov

From: Austin Kerr [mailto:austin.kerr@ascentenvinc.com]  
Sent: Tuesday, April 06, 2010 3:19 PM  
To: Chou, Selene (ATSDR/DTEM/PRMSB)  
Subject: factors for MRLs

Dr. Chou,

What is the meaning of the column labeled “factor” in the table of MRLs at [http://www.atsdr.cdc.gov/mrls/mrls\\_list.html](http://www.atsdr.cdc.gov/mrls/mrls_list.html)? Is this the factor used to ensure that a conservative approach was used to establish an MRL.

Text at <http://www.atsdr.cdc.gov/mrls/index.html> states that “most MRLs contain some degree of uncertainty because of the lack of precise toxicological information on the people who might be most sensitive (e.g., infants, elderly, and nutritionally or immunologically compromised) to effects of hazardous substances. ATSDR uses a conservative (i.e., protective) approach to address these uncertainties consistent with the public health principle of prevention. Although human data are preferred, MRLs often must be based on animal studies because relevant human studies are lacking. In the absence of evidence to the contrary, ATSDR assumes that humans are more sensitive than animals to the effects of hazardous substances that certain persons may be particularly sensitive. Thus the resulting MRL may be as much as a hundredfold below levels shown to be nontoxic in laboratory animals.”

I’m particularly interested in oral ingestion of MTBE. The factor listed for MTBE is 100.

Thanks,  
Austin Kerr

J. Austin Kerr  
Senior Air Quality, Climate Change, and Noise Specialist  
Ascent Environmental, Inc.

455 Capitol Mall, Suite 210  
Sacramento, CA 95814

direct: 916.930.3193  
main : 916.444.7301

Ascent Environmental is a new, forward-thinking, full-service environmental planning and natural resources consultancy established to assist you with your challenging environmental, climate change, and resources management projects.