To

Results updated between these given dates

REVIEWED
By Chris at 11:56 am, Sep 17, 2020

Minimal Risk Levels (MRLs) for Hazardous

Minimal Risk Levels (MRLs) – For Prof

MRL Information for the General Public

List of ATSDR MRLs

Narrative

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA amended by the Superfund Amendments and Reauthorization Act (SARA) [Pub. L. 99 49 for Toxic Substances and Disease Registry (ATSDR) develop jointly with the U.S. Environ (EPA), in order of priority, a list of hazardous substances most commonly found at facili Priorities List (NPL) (42 U.S.C. 9604(i)(2)); prepare toxicological profiles for each substan of hazardous substances, and to ascertain significant human exposure levels (SHELs) fo environment, and the associated acute, subacute, and chronic health effects (42 U.S.C. initiation of a research program to fill identified data needs associated with the substar

The ATSDR Minimal Risk Levels (MRLs) were developed as an initial response to the mar with scientists within the Department of Health and Human Services (HHS) and the EPA practice similar to that of the EPA's Reference Dose (RfD) and Reference Concentration specific health guidance levels for non-neoplastic endpoints. An MRL is an estimate of t hazardous substance that is likely to be without appreciable risk of adverse non-cancer duration of exposure. These substance specific estimates, which are intended to serve by ATSDR health assessors and other responders to identify contaminants and potentia concern at hazardous waste sites. **It is important to note that MRLs are not intended t levels for ATSDR or other Agencies.**

The toxicological profiles include an examination, summary, and interpretation of availa

and epidemiologic evaluations of a hazardous substance. During the development of tc
derived when ATSDR determines that reliable and sufficient data exist to identify the ta
most sensitive health effect(s) for a specific duration for a given route of exposure to th
on non-cancer health effects only and are not based on a consideration of cancer effect
exposure concentrations expressed in units of parts per million (ppm) for gases and vol
meter (mg/m3) for particles. Oral MRLs are expressed as daily human doses in units of
day (mg/kg/day). Radiation MRLs are expressed as external exposures in units of millisi

ATSDR uses the no observed adverse effect level/uncertainty factor (NOAEL/UF) approa
hazardous substances. They are set below levels that, based on current information, mi
effects in the people most sensitive to such substance-induced effects. MRLs are derive
intermediate (>14-364 days), and chronic (365 days and longer) exposure durations, an
routes of exposure. Currently MRLs for the dermal route of exposure are not derived b
identified a method suitable for this route of exposure. MRLs are generally based on th
induced end point considered to be of relevance to humans. ATSDR does not use seriou
irreparable damage to the liver or kidneys, or birth defects) as a basis for establishing M
above the MRL does not mean that adverse health effects will occur.

MRLs are intended to serve as a screening tool to help public health professionals decic
They may also be viewed as a mechanism to identify those hazardous waste sites that a
adverse health effects. Most MRLs contain some degree of uncertainty because of the l
information on the people who might be most sensitive (e.g., infants, elderly, and nutrit
compromised) to effects of hazardous substances. ATSDR uses a conservative (i.e., prot
these uncertainties consistent with the public health principle of prevention. Although h
MRLs often must be based on animal studies because relevant human studies are lacki
to the contrary, ATSDR assumes that humans are more sensitive than animals to the ef
that certain persons may be particularly sensitive. Thus the resulting MRL may be as mu
levels shown to be nontoxic in laboratory animals. When adequate information is availa
pharmacokinetic (PBPK) modeling and benchmark dose (BMD) modeling have also beer
NOAEL/UF approach in deriving MRLs.

Proposed MRLs undergo a rigorous review process. They are reviewed by the Health Ef
the Division of Toxicology and Human Health Sciences; an expert panel of external peer
MRL Workgroup, with participation from other federal agencies, including EPA; and are
comment through the toxicological profile public comment period. Each MRL is subject
becomes available concomitant with updating the toxicological profile of the substance
toxicological profiles supersede previously published levels. Follow this link to see our c

ATSDR Contact Person for MRLs:

Further information can be obtained by contacting the ATSDR Information Center at:

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