

# MIOSHA Fact Sheet



## Air Contaminants

General Industry Standard [Part 301, Air Contaminants for General Industry](#) (Part 301) and Construction Standard [Part 601, Air Contaminants for Construction](#) (Part 601) provide requirements to ensure employees are not overexposed to harmful contaminants above their time-weighted average (TWA) or maximum allowable concentration (MAC). Accredited technical and government organizations often recommend exposure limits below the current TWAs and MACs for many harmful contaminants. These organizations also provide recommended exposure limits for harmful contaminants not listed in Part 301 or Part 601.

MIOSHA can issue a General Duty Clause citation, in the interest of employee safety. These citations require an employer to comply with recommended guidelines, when there are no regulatory requirements available in a MIOSHA standard. While MIOSHA's mandatory TWAs and MACs, in Part 301 and Part 601, remain in effect and employers must comply with these regulations where applicable, MIOSHA recommends that employers follow the alternative occupational exposure limits, to protect employee safety and health.

### **National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limits (RELs).**

The Occupational Safety and Health Act of 1970 established NIOSH as a research and education agency focused on the study of worker safety and health. NIOSH makes recommendations known as RELs, to limit exposure to hazardous substances in the workplace. NIOSH transmits its recommendations to Federal OSHA for use in developing legally enforceable standards and NIOSH also publishes its recommendations in publicly available sources such as the [NIOSH Pocket Guide to Chemical Hazards](#), as well as other publications.

### **American Conference of Governmental Industrial Hygienists (ACGIH®) Threshold Limit Values (TLV®) and Biological Exposure Indices (BEI®).**

ACGIH® develops health based TLV® and BEI® recommendations to assist in the evaluation and control of occupational health hazards. TLV® refer to airborne concentrations of chemical substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed, day after day, over a working lifetime, without adverse effects. BEIs® are guidance values for assessing biological monitoring results or concentrations of chemicals in biological media (e.g., blood, urine). BEI® represent the levels of determinants that are most likely to be observed in specimens collected from healthy workers who have been exposed to chemicals in the same extent as workers with inhalation exposure at the TLV®. For more information on TLVs®, please go to <https://www.acgih.org/TLV/>. The TLVs® and BEIs® are copyrighted by ACGIH® and they can be purchased in their entirety on the ACGIH® website at <https://www.acgih.org/store/>.

### **OSHA Annotated PEL Tables.**

[OSHA's annotated PEL tables](#) include a side-by-side comparison of OSHA PELs, California Division (Cal)/OSHA PELs, NIOSH RELs and ACGIH® TLVs®. The TLVs® in the annotated tables are reprinted with permission from ACGIH®. See important note on ACGIH® TLVs®, which is also reprinted with permission from ACGIH®. **Cal/OSHA, NIOSH, and ACGIH have Occupational Exposure Limits (OELs) in addition to those listed in the annotated tables. The annotated tables contain links to the complete OEL lists from Cal/OSHA and NIOSH. TLVs® and BEIs® are not publicly available but can be purchased on [ACGIH's website](#). For the most current OELs and information on notations such as skin absorption, users should consult complete listings and explanations from Cal/OSHA, NIOSH, and ACGIH.**

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