



News Release

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NEW REVIEW ARTICLE SUPPORTS FINDINGS REGARDING PREVIOUS OCCUPATIONAL EXPOSURE LIMITS FOR TOLUENE DIISOCYANATE

Critical review finds there was no scientific justification to support ACGIH's decision to lower the TLVs for TDI

WASHINGTON (August 1, 2018) – A new review article from Gradient, an environmental risk sciences consulting firm, evaluated the basis of the American Conference of Governmental Industrial Hygienists' (ACGIH) decision to lower the occupational exposure limits, known as threshold limit values (TLVs) for toluene diisocyanate (TDI). The review concluded ACGIH's decision to lower the TLVs for TDI is "unlikely to result in fewer cases of occupational asthma" and "not adequately supported."

The review, titled, "Critique of the ACGIH 2016 derivation of toluene diisocyanate Threshold Limit Values," is [available online now](#) as open access in the journal *Regulatory Toxicology and Pharmacology*.

In 2016, ACGIH lowered the 8-hour TLV-time-weighted average (TLV-TWA) for TDI from 5 ppb to 1 ppb and the 15-min short-term exposure limit (STEL) from 20 ppb to 5 ppb.

The authors of the review state "the human evidence indicates that adherence to the previous 8-hour TLV-TWA and 15-min STEL (5 ppb and 20 ppb, respectively) prevents most, if not all, cases of occupational asthma, and eliminates or reduces the risk of lung function decrements and other respiratory effects."

The authors concluded "the ACGIH documentation for the revised TDI TLVs does not fully explain the basis for or indicate the specific evidence that it concludes supports lowering the TDI TLV-TWA concentration from 5 ppb to 1 ppb, or the TDI STEL from 20 ppb to 5 ppb. Specifically, the documentation does not fully consider or integrate the results of all the available human and animal studies. The results of the studies published between the 2004 and 2016 ACGIH reviews were similar to previous studies and thus did not indicate that the TDI TLVs should have been changed."

Sahar Osman-Sypher, director for the [American Chemistry Council's \(ACC\) Diisocyanates Panel](#), said the scientific evidence has long supported the conclusion that the previous TLVs were sufficiently protective of workers.

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“ACGIH’s revisions to the TLVs in 2016 were not based on the best available science, and Gradient’s new review concludes the lower TLVs are unlikely to prevent additional cases of occupational asthma,” Osman-Sypher said. No adequate justification was provided to support ACGIH’s rationale that further lowering the TLV will significantly reduce incidence of occupational asthma.

“The Panel attributes the [decline in diisocyanate asthma cases](#) seen over the last decade to industry improvements in work practices, engineering controls, and medical surveillance. These industry improvements have also contributed to the reduction of peak exposures, which are considered to be the primary cause of diisocyanate-related occupational asthma cases.”

TDI manufacturers are committed to the safe use and handling of the chemical and strive to create a healthy workplace. Diisocyanates have been in use since the 1940s and are well-studied chemistries with a robust database of scientific information. Extensive safety precautions enforced by government mandates are undertaken by the industry to protect worker and consumer health and safeguard local communities and the environment.

The American Chemistry Council’s Diisocyanates Panel represents the U.S. manufacturers and importers of toluene diisocyanate (TDI) and methylene diphenyl diisocyanate (MDI). For more information, please visit americanchemistry.com/dii.

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The American Chemistry Council (ACC) represents the leading companies engaged in the business of chemistry. ACC members apply the science of chemistry to make innovative products and services that make people's lives better, healthier and safer. ACC is committed to improved environmental, health and safety performance through Responsible Care®; common sense advocacy designed to address major public policy issues; and health and environmental research and product testing. The business of chemistry is a \$768 billion enterprise and a key element of the nation's economy. It is among the largest exporters in the nation, accounting for fourteen percent of all U.S. goods exports. Chemistry companies are among the largest investors in research and development. Safety and security have always been primary concerns of ACC members, and they have intensified their efforts, working closely with government agencies to improve security and to defend against any threat to the nation's critical infrastructure.

