

Toxicological Summary for: Tolyltriazole and 5-Methyl-1H-Benzotriazole

CAS: 29385-43-1 (Tolyltriazole); 136-85-6 (5-Methyl-1H-Benzotriazole)

Synonyms:

Tolyltriazole: 4-methyl-2H-benzotriazole; 4(or 5)-methyl-1H-1,2,3-benzotriazole; Tolyltriazole
5-Methyl-1H-benzotriazole: 1H-1,2,3-benzotriazole, 5-methyl-; 5-Tolyltriazole; NSC 122012

Health-Based Guidance

Tolyltriazole (TTR) and 5-methyl-1H-benzotriazole (5-Me-BT) are very similar chemicals that have recently been nominated to the Contaminants of Emerging Concern (CEC) Initiative by external stakeholders. During the review of a more data-rich closely related compound, 1H-benzotriazole (BT), the Minnesota Department of Health (MDH) examined the appropriateness of using a surrogate approach in order to derive health-based guidance for TTR and 5-Me-BT. While toxicity data are lacking for TTR and 5-Me-BT, there are similarities in physical/chemical properties, toxicokinetics, and available in vivo toxicity data to BT. Therefore, MDH determined that BT is a suitable health-protective surrogate for TTR and 5-Me-BT. The health-based guidance developed for BT will apply to TTR and 5-Me-BT as Risk Assessment Advice.

The Risk Assessment Advice values for TTR and 5-Me-BT based on the health-based guidance for BT are:

Acute Non-Cancer Risk Assessment Advice ($nRAA_{Acute}$) Not Derived (Insufficient Data)

Short-term Non-Cancer Risk Assessment Advice ($nRAA_{Short-term}$) = 20 $\mu\text{g/L}$

Additivity endpoint(s): Developmental

Subchronic Non-Cancer Risk Assessment Advice ($nRAA_{Subchronic}$) = $nRAA_{Short-term}$ = 20 $\mu\text{g/L}$ *

Additivity endpoint(s): Developmental

Chronic Non-Cancer Risk Assessment Advice ($nRAA_{Chronic}$) = $nRAA_{Short-term}$ = 20 $\mu\text{g/L}$ *1H-Be

Additivity endpoint(s): Developmental

*The Subchronic and Chronic nRAAs must be protective of the short-term exposures that occur within these longer durations. Therefore, the Subchronic nRAA and Chronic nRAA are set equal to the Short-term nRAA.

Cancer Health-Based Value (cHBV) = Not Applicable

For additional information on the derivation of the health-based guidance for the surrogate used to establish risk assessment advice for TTR and 5-Me-BT, see: [Toxicological Summary for 1H-Benzotriazole](https://www.health.state.mn.us/communities/environment/risk/docs/guidance/gw/1hbtsumm.pdf)
(<https://www.health.state.mn.us/communities/environment/risk/docs/guidance/gw/1hbtsumm.pdf>)

Volatile: Yes (low)

Summary of Guidance Value History:

No previous guidance has been developed for TTR or 5-Me-BT.

Summary of toxicity testing for health effects identified in the Health Standards Statute (144.0751):

Even if testing for a specific health effect was not conducted for this chemical, information about that effect might be available from studies conducted for other purposes. MDH has considered the following information in developing health protective guidance.

	Endocrine	Immunotoxicity	Development	Reproductive	Neurotoxicity
Tested for specific effect?	No	No	No	No	No
Effects observed?	--	--	--	--	--

Comments on extent of testing or effects:

General note: Only lethal dose studies (LD₅₀) have been conducted on both TTR and 5-Me-BT, while a short-term 28-day study was identified for TTR. These studies do not provide specific information regarding the categories outlined in the Health Standards Statute. The classification of the health-based guidance for TTR and 5-Me-BT as Risk Assessment Advice is an acknowledgement of the lower amount of information available on these chemicals and required use of a surrogate approach in order to determine water guidance values.

See the [Toxicological Summary for 1H-Benzotriazole](https://www.health.state.mn.us/communities/environment/risk/docs/guidance/gw/1hbtsumm.pdf)
(<https://www.health.state.mn.us/communities/environment/risk/docs/guidance/gw/1hbtsumm.pdf>) for Health Standards Statute information on the surrogate for TTR and 5-Me-BT.

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