OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

Chemical Name: 2,6-Dinitrotoluene Developed by: Chris J. Skalski
CAS # 606-20-2 Data Retrieval Date: 10-10-01
Internal Code # 69 Fact Sheet Preparation Date: 3-01-06

ACUTE DATA

SPECIES	EC_{50}/LC_{50} (µg/l)	TEST TYPE[a]	DURATION (HOURS)	SMAV[b] (µg/l)	GMAV[b] (µg/l)	REFERENCE NUMBER
Cladoceran	21,700	S,U	48	21,750	21,750	1
Daphnia magna	21,800	S,M	48			2
Fathead Minnow	18,500	S,U	96	18,943	18,943	3
Pimephales promelas	19,000	S,U	96			4
	19,800	S,U	96			1
	18,500	S,M	96			2

[a] S = static; U = unmeasured; M = measured.
[b] SMCV = Species Mean Chronic Value; GMCV = Genus Mean Chronic Value.

CHRONIC DATA

SPECIES	CHRONIC VALUE (µg/l)	METHOD	SMCV[a] (µg/l)	GMCV[a] (µg/l)	REFERENCE NUMBER

No Chronic Data

[a] SMCV = Species Mean Chronic Value; GMCV = Genus Mean Chronic Value.

REFERENCES

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2. Liu, D.H.W., H.C. Bailey and J.G. Pearson. 1983. Toxicity of a Complex Munitions Wastewater to Aquatic Organisms. In: W.E. Bishop, R.D. Cardwell and B.B. Heidolph (Eds.), Aquatic Toxicology and Hazard Assessment: Sixth Symposium. ASTM STP 802, Philadelphia, PA:135-150.

3. Bailey, H.C. and R.J. Spanggord. 1983. The Relationship Between the Toxicity and Structure of Nitroaromatic Chemicals. In: W.E. Bishop, R.D. Cardwell and B.B. Heidolph (Eds.), Aquatic Toxicology and Hazard Assessment: Sixth Symposium. ASTM STP 802, Philadelphia, PA:98-107.

4. Liu, D.H.W., R.J. Spanggord, H.C. Bailey, G.W. Newell, Jr., J.G. Pearson and M.C. Warner. 1977. Acute Toxicity of TNT Wastewater Components to the Fathead Minnow (*Pimephales promelas*). Page 527. In:

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CALCULATION OF ACUTE AQUATIC VALUE (AAV)[a]

Data Requirement OAC 3745-1-36(A)(1)	SPECIES	GMAV (µg/l)
(c)	Fathead Minnow	18,943
(d)	*Daphnia magna*	21,750

Secondary Acute Factor (SAF) = 13.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 18,943 ÷ 13.0
= 1,457 = 1,500 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 1,457 ÷ 2
= 729 = 730 µg/l

CALCULATION OF CHRONIC AQUATIC VALUE (CAV)[a]

Experimentally determined Acute-Chronic Ratios (ACRs):

SPECIES	ACUTE VALUE (µg/l)	CHRONIC VALUE (µg/l)	ACUTE-CHRONIC RATIO	SPECIES MEAN ACR
None Available				

Secondary Acute Chronic Ratio (SACR) = $\sqrt[3]{(18)(18)(18)} = 18$

Chronic Aquatic Value (CAV) = SAV ÷ SACR
= 1,457 ÷ 18
= 81 µg/l

[a]See Ohio Administrative Code 3745-1-36 effective February 22, 2002.