OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

Chemical Name: 4-amino-2,6-Dinitrotoluene Developed by: Chris J. Skalski
CAS # 19406-51-0 Data Retrieval Date: 10-11-01
Internal Code # --- 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 *Daphnia magna*	5,200	S,U	48	5,200	5,200	1
Flatworm *Dugesia dorotocephala*	1,560	R,M	96	1,560	1,560	2
Fathead Minnow	6,900	S,U	96	6,900	6,900	1
Pimephales promelas	6,900	S,U	96			3

[a] S = static; U = unmeasured; M = measured; R = renewal.
[b] SMAV = Species Mean Acute Value; GMAV = Genus Mean Acute Value.

CHRONIC DATA

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

None Available

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

REFERENCES

1. Pearson, J.G., J.P. Glennon, J.J. Barkley and J.W. Highfill. 1979. An Approach to the Toxicological Evaluation of a Complex Industrial Wastewater. In: L.L. Marking and R.A. Kimerle (Eds.), Aquatic Toxicology and Hazard Assessment, 2nd Symposium, ASTM STP 667, Philadelphia, PA:284-301.

2. Johnson, L.R., R. Davenport, H. Balbach and D.J. Schaeffer. 1994. Phototoxicology. III. Comparative Toxicity of Trinitrotoluene and Aminodinitrotoluenes to *Daphnia magna*, *Dugesia dorotocephala*, and Sheep Erythrocytes. Ecotoxicol. Environ. Saf. 27(1):34-49.

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, 6th Symposium, ASTM STP 802, Philadelphia, PA:98-107.

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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	6,900
(d)	*Daphnia magna*	5,200
(g)	Flatworm	1,560

Secondary Acute Factor (SAF) = 8.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 1,560 ÷ 8.0
= 200 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 195 ÷ 2
= 98 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
= 195 ÷ 18
= 10.8 = 11 µg/l

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