OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

Chemical Name: 3,5-Dinitrotoluene Developed by: Chris J. Skalski
CAS # 618-85-9 Data Retrieval Date: 12-06-01
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*	45,100	S,U	48	45,100	45,100	1
Fathead Minnow	22,000	S,U	96	22,298	22,298	1
Pimephales promelas	22,600	S,U	96			2

[a] S = static; U = unmeasured.
[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. 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	22,298
(d)	*Daphnia magna*	45,100

Secondary Acute Factor (SAF) = 13.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 22,298 ÷ 13.0
= 1,715 - 1,700 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 1,715 ÷ 2
= 858 = 860 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
= 1,715 ÷ 18
= 95 µg/l

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