OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

Chemical Name: Isopropyl benzene Developed by: Chris J. Skalski
CAS # 98-82-8 Data Retrieval Date: 10-29-97
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*	601	S,U	48	601	601	1
Rainbow Trout *Oncorhynchus mykiss*	2,700	R,M	96	2,700	2,700	2
Guppy *Poecilia reticulata*	5,100	R,M	96	5,100	5,100	2
Fathead Minnow *Pimephales promelas*	6,320	F,M	96	6,320	6,320	3

[a] S = static; F = flow though; R = renewal; M = measured; 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. Bobra, A.M., W.Y. Shiu and D. MacKay. 1983. A Predictive Correlation for the Acute Toxicity of Hydrocarbons to the Water Flea (*Daphnia magna*). Chemosphere 12(9-10):1121-1129.

2. Galassi, S., M. Mingazzini, L. Vigano, D. Cesareo and M.L. Tosato. 1988. Approaches to ModelingToxic Responses of Aquatic Organisms to Aromatic Hydrocarbons. Ecotoxicol. Environ. Saf. 16(2):158-169.

3. Geiger, D.L., S.H. Poirier, L.T. Brooke and D.J. Call. 1986. Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*), Vol. 3. Center for Lake Superior Environmental Studies, Univ. of Wisconsin, Superior, WI:328 p.

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CALCULATION OF ACUTE AQUATIC VALUE (AAV)[a]

Data Requirement OAC 3745-1-36(A)(1)	SPECIES	GMAV (µg/l)
(a)	Rainbow Trout	2,700
(b)	Guppy	5,100
(c)	Fathead Minnow	6,320
(d)	*Daphnia magna*	601

Secondary Acute Factor (SAF) = 7.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 610 ÷ 7.0
= 86 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 86 ÷ 2
= 43 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
= 86 ÷ 18
= 4.8 µg/l

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