OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

Chemical Name: Methyl Tert-Butyl Ether Developed by: Chris J. Skalski
CAS # 1634-04-4 Data Retrieval Date: 5-11-04
Internal Code # --- Fact Sheet Preparation Date: 5-11-04
Reviewed by: Bob Heitzman

## 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* | 170,000 | S,U | 48 | 170,000 | 170,000 | 1 |
| Fathead Minnow | 672,000 | F,M | 96 | 688,790 | 688,790 | 2 |
| *Pimephales promelas* | 706,000 | F,M | 96 | | | 3 |

[a] S = static; F= flow through; U = unmeasured; M = measured.
[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 |
|---|---|---|---|---|---|

No Chronic Data Available

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

## REFERENCES


1. A.S.I. Analytical. 1990. Toxicity Tests Conducted for the Amoco Oil Corporation.

2. Geiger, D.L., D.J. Call and L.T. Brooke.1988. Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*), Volume 4. Center for Lake Superior Environmental Studies, Univ. of Wisconsin-Superior, Superior, WI:355 p.

3. Veith, G.D., D.J. Call and L.T. Brooke. 1983. Estimating the Acute Toxicity of Narcotic Industrial Chemicals to Fathead Minnows. In: Aquatic Toxicology and Hazard Assessment:Sixth Symposium. ASTM STP 802, W.E. Bishop, R.D. Cardwell and B.B. Heidolph (Eds.). American Society of Testing and Materials, Philadelphia, PA.

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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 | 688,790 |
| (d) | *Daphnia magna* | 170,000 |

Secondary Acute Factor (SAF) = 13

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 170,000 ÷ 13
= 13,077 = 13,000 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 13,077 ÷ 2
= 6,538 = 6,500 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 |
|---|---|---|---|---|

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

Chronic Aquatic Value (CAV) = SAV ÷ SACR
= 13,077 ÷ 18
= 726 = 730 µg/l

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

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