OHIO EPA SURFACE WATER QUALITY CRITERION FACT SHEET

Chemical Name: 2,4-Dichlorophenol Developed by: Chris J. Skalski
CAS # 120-83-2 Data Retrieval Date: 9-05-97
Internal Code # 58 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 | 2,600 | S,U | 48 | 2,118 | 2,118 | 1 |
| *Daphnia magna* | 2,610 | S,U | 48 | | | 2 |
| | 1,400 | S,U | 48 | | | 3 |
| | 2,600[c] | S,U | 48 | | | 4 |
| Rainbow Trout | 2,600 | F,M | 96 | 2,600 | 2,600 | 5 |
| *Oncorhynchus mykiss* | | | | | | |
| Bluegill | 2,000 | S,U | 96 | 2,000 | 2,000 | 6 |
| *Lepomis macrochirus* | | | | | | |
| Fathead Minnow | 8,200 | F,M | 96 | 8,080 | 8,080 | 7 |
| *Pimephales promelas* | 8,300 | F,M | 96 | | | 7 |
| | 7,750 | F,M | 96 | | | 8 |
| Channel Catfish | 1,700 | F,M | 96 | 1,773 | 1,773 | 9 |
| *Ictalurus punctatus* | 1,850 | F,M | 96 | | | 9 |
| Goldfish | 1,240 | F,M | 96 | 1,477 | 1,477 | 9 |
| *Carassius auratus* | 1,760 | F,M | 96 | | | 9 |

[a] S = static; F= flow through; U = unmeasured; M = measured.
[b] SMAV = Species Mean Acute Value; GMAV = Genus Mean Acute Value.
[c] Duplicate data noot uused to calculate the SMAV.

# CHRONIC DATA

| SPECIES | CHRONIC VALUE (µg/l) | METHOD | SMCV[a] (µg/l) | GMCV[a] (µg/l) | REFERENCE NUMBER |
|---|---|---|---|---|---|
| Fathead Minnow | 290-460 | Early Life Stage | 365 | 365 | 10 |
| *Pimephales promelas* | 365 | | | | |

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

# REFERENCES

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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 | 2,600 |
| (b) | Channel Catfish | 1,773 |
| (c) | Goldfish | 1,477 |
| (d) | *Daphnia magna* | 2,118 |

Secondary Acute Factor (SAF) = 7.0

Secondary Acute Value (SAV) = Lowest GMAV ÷ SAF
= 1,477 ÷ 7.0
= 211 = 210 µg/l

Tier II Acute Aquatic Value (AAV) = SAV ÷ 2
= 211 ÷ 2
= 106 = 110 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 |
|---|---|---|---|---|
| Fathead Minnow *Pimephales promelas* | 8,250 | 365 | 22.60 | 22.60 |

Secondary Acute-Chronic Ratio (SACR) = $\sqrt[3]{(22.60)(18)(18)} = 19.42$

Chronic Aquatic Value (CAV) = SAV ÷ SACR
= 211 ÷ 19.42
= 11 µg/l

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