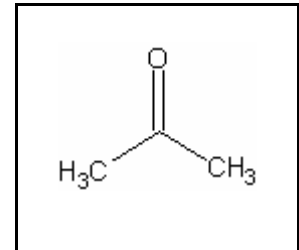




## TIER I ACUTE AND TIER II CHRONIC AQUATIC LIFE VALUES

### ACETONE

CAS RN: 67-64-1  
Water Solubility: water soluble  
Log  $K_{ow}$ : -0.24<sup>P</sup>



### Standard

The procedures described in the Tier I and Tier II methodologies indicate that, except possibly where a locally important species is very sensitive, aquatic organisms should not be affected unacceptably if the four (4) day average concentration of acetone does not exceed 1700  $\mu\text{g/L}$  more than once every three (3) years on the average and if the one (1) hour average concentration does not exceed 15,000  $\mu\text{g/L}$  more than once every three (3) years on the average.

### Calculations

#### Acute Aquatic Life:

#### Four Lowest GMAVs:

Bluegill	100,000	$\mu\text{g/L}$
Brook Trout	100,000	$\mu\text{g/L}$
Amphipod	100,000	$\mu\text{g/L}$
Mussel	33,830	$\mu\text{g/L}$

$$S^2 = 20.60$$

$$S = 4.539$$

$$L = 2.400$$

$$A = 3.415$$

$$FAV = 30.41$$

$$CMC = FAV/2 = \mathbf{15,000 \mu g/L}$$

Chronic Aquatic Life:

$$SCC = FAV/SACR$$

$$SACR = 18$$

$$SCC = 30.41/18 = \mathbf{1,700 \mu g/L}$$

**Data**

Table 1. GMAVs and SMAVs for Acetone

<u>Genus Mean Acute Value (<math>\mu\text{g/L}</math>)</u>	<u>Species</u>	<u>Species Mean Acute Value (<math>\mu\text{g/L}</math>)</u>	<u>Acute- Chronic Ratio</u>	<u>Reference Number</u>
33,830	Mussel <u>Anodonta imbecilis</u>	33,830		1
>100,000	Amphipod <u>Gammarus fasciatus</u>	>100,000		2
>100,000	Snail <u>Helisoma</u>	>100,000		2
>100,000	Aquatic Sowbug <u>Asellus intermedius</u>	>100,000		2
>100,000	Planarian <u>Dugesia tigrina</u>	>100,000		2
>100,000	Annelid <u>Lumbriculus variegatus</u>	>100,000		2
5,315,235	Rainbow Trout <u>Oncorhynchus mykiss</u>	5,315,235		3

6,070,000	Brook Trout <u>Salvelinus fontinalis</u>	6,070,000	4
7,300,000	Bluegill <u>Lepomis macrochirus</u>	7,300,000	4
7,903,650	Fathead Minnow <u>Pimephales promelas</u>	7,903,650	4,5, 6, 7, 8
17,970,728	Daphnid <u>Daphnia magna</u>	17,970,728	9,10,11,12,13
46,900,000	Midge <u>Chironomous tentans</u>	46,900,000	11

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### Acronyms/Abbreviations

CAS RN	Chemical Abstract Service Registry Number
K <sub>ow</sub>	Octanol-Water Partition Coefficient
P (superscript)	Predicted value
SAV	Secondary Acute Value
GMAV	Genus Mean Acute Value
SAF	Secondary Acute Factor
SMC	Secondary Maximum Concentration
SCC	Secondary Continuous Concentration
SACR	Secondary Acute-Chronic Ratio
FT	Flow-through
S	Static

U	Unmeasured
M	Measured
EVISTRA	Evaluation and Interpretation of Suitable Test Results in AQUIRE (EPA quality checking method/database)

## Revision History

May 4, 1998            Values first developed  
August 17, 2000      New search for data. No new studies added.

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