

**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Frog - *Xenopus laevis*, *Rana pipiens* and *Pseudacris crucifer***

| Species          | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                     | Ref. No. | Used for Criteria Calculation/Reason |
|------------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|----------------------------------------------|----------|--------------------------------------|
| <i>X. laevis</i> | LC50   | 13.8                 | Embryo     | 4               | RM    | FW         | NR                | NR              | FETAX. South African Clawed Frog. Good test. | STS-113  | No<br>Non-native species             |
| <i>X. laevis</i> | LC50   | 17.6                 | Embryo     | 4               | RM    | FW         | NR                | NR              | FETAX. South African Clawed Frog. Good test. | STS-113  | No<br>Non-native species             |
| <i>X. laevis</i> | LC50   | 15.3                 | Embryo     | 4               | RM    | FW         | NR                | NR              | FETAX. South African Clawed Frog. Good test. | STS-113  | No<br>Non-native species             |
| <i>X. laevis</i> | EC50   | 12.1                 | Embryo     | 4               | RM    | FW         | NR                | NR              | FETAX. South African Clawed Frog. Good test. | STS-113  | No<br>Non-native species             |
| <i>X. laevis</i> | EC50   | 17.6                 | Embryo     | 4               | RM    | FW         | NR                | NR              | FETAX. South African Clawed Frog. Good test. | STS-113  | No<br>Non-native species             |
| <i>X. laevis</i> | EC50   | 16.8                 | Embryo     | 4               | RM    | FW         | NR                | NR              | FETAX. South African Clawed Frog. Good test. | STS-113  | No<br>Non-native species             |
| <i>X. laevis</i> | MCIG   | 7.97                 | Embryo     | 4               | RM    | FW         | NR                | NR              | FETAX. South African Clawed Frog. Good test. | STS-113  | No<br>Non-native species             |
| <i>X. laevis</i> | MCIG   | 8.26                 | Embryo     | 4               | RM    | FW         | NR                | NR              | FETAX. South African Clawed Frog. Good test. | STS-113  | No<br>Non-native species             |
| <i>X. laevis</i> | TI     | 1.1                  | Embryo     | 4               | RM    | FW         | NR                | NR              | FETAX. South African Clawed Frog. Good test. | STS-113  | No<br>Non-native species             |

NR - Not Recorded  
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**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Frog - *Xenopus laevis*, *Rana pipiens* and *Pseudacris crucifer***

| Species            | Effect | Concentration (mg/L) | Life Stage          | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                                | Ref. No. | Used for Criteria Calculation/Reason |
|--------------------|--------|----------------------|---------------------|-----------------|-------|------------|-------------------|-----------------|---------------------------------------------------------|----------|--------------------------------------|
| <i>X. laevis</i>   | TI     | 1                    | Embryo              | 4               | RM    | FW         | NR                | NR              | FETAX. South African Clawed Frog. Good test.            | STS-113  | No<br>Non-native species             |
| <i>X. laevis</i>   | TI     | 0.9                  | Embryo              | 4               | RM    | FW         | NR                | NR              | FETAX. South African Clawed Frog. Good test.            | STS-113  | No<br>Non-native species             |
| <i>R. pipiens</i>  | EC50   | >12.5                | Tadpoles            | Week 1          | RM    | FW         | 20                | NR              | Elev. Mortality of control animals noted after 6 weeks. | STS-114  | No<br>Method issues                  |
| <i>R. pipiens</i>  | EC50   | 11                   | Tadpoles            | Week 2          | RM    | FW         | 20                | NR              | Elev. Mortality of control animals noted after 6 weeks. | STS-114  | No<br>Method issues                  |
| <i>R. pipiens</i>  | EC50   | 7.71                 | Tadpoles            | Week 3          | RM    | FW         | 20                | NR              | Elev. Mortality of control animals noted after 6 weeks. | STS-114  | No<br>Method issues                  |
| <i>R. pipiens</i>  | EC50   | 6.59                 | Tadpoles            | Week 4          | RM    | FW         | 20                | NR              | Elev. Mortality of control animals noted after 6 weeks. | STS-114  | No<br>Method issues                  |
| <i>R. pipiens</i>  | EC50   | 6.21                 | Tadpoles            | Week 5          | RM    | FW         | 20                | NR              | Elev. Mortality of control animals noted after 6 weeks. | STS-114  | No<br>Method issues                  |
| <i>P. crucifer</i> | LC50   | >51                  | Tadpoles<br>0.030 g | 1               | RM    | FW         | 21.2-22.7         | 124-128         | GLP test                                                | STS-333  | No<br>Too short exposure duration    |
| <i>P. crucifer</i> | LC50   | >27                  | Tadpoles<br>0.030 g | 2               | RM    | FW         | 21.2-22.7         | 124-128         | GLP test                                                | STS-333  | No<br>Too short exposure duration    |
| <i>P. crucifer</i> | LC50   | 47                   | Tadpoles<br>0.030 g | 3               | RM    | FW         | 21.2-22.7         | 124-128         | GLP test                                                | STS-333  | No<br>Too short exposure duration    |
| <i>P. crucifer</i> | LC50   | 38                   | Tadpoles<br>0.030 g | 4               | RM    | FW         | 21.2-22.7         | 124-128         | GLP test                                                | STS-333  | Yes                                  |
| <i>P. crucifer</i> | NOEC   | 3.6                  | Tadpoles<br>0.030 g | 4               | RM    | FW         | 21.2-22.7         | 124-128         | GLP test                                                | STS-333  | Yes                                  |

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**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Eastern Oyster - *Crassostrea virginica***

| Species             | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments  | Ref. No.                         | Used for Criteria Calculation/Reason |
|---------------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-----------|----------------------------------|--------------------------------------|
| <i>C. virginica</i> | EC50   | >2.9                 | 33.8 mm    | 4               | SM    | SW         | 21.8-22.7         | NR              | Saltwater | AR226-0088, AR2260089, AR2261763 | No<br>Non-native species             |
| <i>C. virginica</i> | NOEC   | 1.8                  | 33.8 mm    | 4               | SM    | SW         | 21.8-22.7         | NR              | Saltwater | AR226-0088, AR2260089, AR2261763 | No<br>Non-native species             |
| <i>C. virginica</i> | LOEC   | 2.9                  | 33.8 mm    | 4               | SM    | SW         | 21.8-22.7         | NR              | Saltwater | AR226-0088, AR2260089, AR2261763 | No<br>Non-native species             |

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**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Amphipod - *Hyalella azteca***

| Species          | Effect | Concentration (mg/L) | Life Stage                | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments  | Ref. No. | Used for Criteria Calculation/Reason |
|------------------|--------|----------------------|---------------------------|-----------------|-------|------------|-------------------|-----------------|-----------|----------|--------------------------------------|
| <i>H. azteca</i> | LC50   | 161                  | 12 days-old at initiation | 1               | RM    | FW         | 22.2-23.8         | 132-136         | GLP study | STS-332  | No<br>Too short exposure duration    |
| <i>H. azteca</i> | LC50   | 93                   | 12 days-old at initiation | 2               | RM    | FW         | 22.2-23.8         | 132-136         | GLP study | STS-332  | No<br>Too short exposure duration    |
| <i>H. azteca</i> | LC50   | 29                   | 12 days-old at initiation | 3               | RM    | FW         | 22.2-23.8         | 132-136         | GLP study | STS-332  | No<br>Too short exposure duration    |
| <i>H. azteca</i> | LC50   | 15                   | 12 days-old at initiation | 4               | RM    | FW         | 22.2-23.8         | 132-136         | GLP study | STS-332  | Yes                                  |
| <i>H. azteca</i> | NOEC   | <13                  | 12 days-old at initiation | 4               | RM    | FW         | 22.2-23.8         | 132-136         | GLP study | STS-332  | Yes                                  |

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**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Oligochaete - *Lumbriculus variegatus***

| Species              | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments  | Ref. No. | Used for Criteria Calculation/Reason |
|----------------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-----------|----------|--------------------------------------|
| <i>L. variegatus</i> | LC50   | 11                   | Adult      | 1               | RM    | FW         | 22.4-24           | 128-138         | GLP Study | STS-334  | No<br>Too short exposure duration    |
| <i>L. variegatus</i> | LC50   | 7.9                  | Adult      | 2               | RM    | FW         | 22.4-24           | 128-138         | GLP Study | STS-334  | No<br>Too short exposure duration    |
| <i>L. variegatus</i> | LC50   | 6.5                  | Adult      | 3               | RM    | FW         | 22.4-24           | 128-138         | GLP Study | STS-334  | No<br>Too short exposure duration    |
| <i>L. variegatus</i> | LC50   | 5.6                  | Adult      | 4               | RM    | FW         | 22.4-24           | 128-138         | GLP Study | STS-334  | Yes                                  |
| <i>L. variegatus</i> | NOEC   | 2.8                  | Adult      | 4               | RM    | FW         | 22.4-24           | 128-138         | GLP Study | STS-334  | Yes                                  |

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**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Rainbow trout - *Onchorhynchus mykiss* (*Salma gairdneri*)**

| Species          | Effect | Concentration (mg/L) | Life Stage                | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                            | Ref. No.   | Used for Criteria Calculation/Reason |
|------------------|--------|----------------------|---------------------------|-----------------|-------|------------|-------------------|-----------------|-----------------------------------------------------|------------|--------------------------------------|
| <i>O. mykiss</i> | LC50   | 2500                 | Juveniles                 | 4               | SU    | FW         | 10                | NR              | Mixture concerns. Few water qual. Parameters noted. | STS-320    | No<br>Method issues                  |
| <i>O. mykiss</i> | LC50   | 11                   | Juveniles                 | 4               | SU    | FW         | 14-15             | NR              | Questionable methodology and details lacked.        | AR226-0123 | No<br>Method issues                  |
| <i>O. mykiss</i> | LC50   | >50                  | Juveniles<br>3.6cm, 0.34g | 1               | SM    | FW         | 11.3-12.9         | 130             | pH slightly out of range                            | STS-321    | No<br>Too short exposure duration    |
| <i>O. mykiss</i> | LC50   | >50                  | Juveniles<br>3.6cm, 0.34g | 2               | SM    | FW         | 11.3-12.9         | 130             | pH slightly out of range                            | STS-321    | No<br>Too short exposure duration    |
| <i>O. mykiss</i> | LC50   | >50                  | Juveniles<br>3.6cm, 0.34g | 3               | SM    | FW         | 11.3-12.9         | 130             | pH slightly out of range                            | STS-321    | No<br>Too short exposure duration    |
| <i>O. mykiss</i> | LC50   | 22                   | Juveniles<br>3.6cm, 0.34g | 4               | SM    | FW         | 11.3-12.9         | 130             | pH slightly out of range                            | STS-321    | Yes                                  |
| <i>O. mykiss</i> | NOEC   | 6.3                  | Juveniles<br>3.6cm, 0.34g | 4               | SM    | FW         | 11.3-12.9         | 130             | pH slightly out of range                            | STS-321    | Yes                                  |

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**Table 1: Toxicity Data**  
**PFOS - DEA Salt**  
**Bluegill sunfish - *Lepomis macrochirus***

| Species               | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                                                                | Ref. No.   | Used for Criteria Calculation/Reason |
|-----------------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-----------------------------------------------------------------------------------------|------------|--------------------------------------|
| <i>L. macrochirus</i> | NOEC   | 18                   | Juveniles  | 4               | SU    | FW         | 22                | 255             | Cation salt may be toxic. Only 1 replicate performed. Data between LOEC and NOEC large. | AR226-0115 | No Method issues                     |
| <i>L. macrochirus</i> | LC50   | 31                   | Juveniles  | 4               | SU    | FW         | 22                | 255             | Cation salt may be toxic. Only 1 replicate performed. Data between LOEC and NOEC large. | AR226-0115 | No Method issues                     |
| <i>L. macrochirus</i> | LC50   | 370                  | Juveniles  | 2               | SU    | FW         | 22                | 255             | Cation salt may be toxic. Only 1 replicate performed. Data between LOEC and NOEC large. | AR226-0115 | No Method issues                     |
| <i>L. macrochirus</i> | LC50   | 460                  | Juveniles  | 1               | SU    | FW         | 22                | 255             | Cation salt may be toxic. Only 1 replicate performed. Data between LOEC and NOEC large. | AR226-0115 | No Method issues                     |

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RU - Renewal Unmeasured  
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FU - Flow-through Unmeasured

**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Bluegill sunfish - *Lepomis macrochirus***

| Species               | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                                                                             | Ref. No.               | Used for Criteria Calculation/Reason |
|-----------------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------|
| <i>L. macrochirus</i> | NOEC   | <56                  | Juveniles  | 4               | SU    | FW         | 19-20             | NR              | Study lacks documentation. Some water qual. Parameters out of range. Loading exceeded test standard. | AR226-1755, AR226-1756 | No Method issues                     |
| <i>L. macrochirus</i> | LC50   | 68                   | Juveniles  | 4               | SU    | FW         | 19-20             | NR              | Study lacks documentation. Some water qual. Parameters out of range. Loading exceeded test standard. | AR226-1755, AR226-1756 | No Method issues                     |
| <i>L. macrochirus</i> | LC50   | 68                   | Juveniles  | 4               | SU    | FW         | 17-19             | NR              | Study lacks documentation. Some water qual. Parameters out of range. Loading exceeded test standard. | AR-226-0123            | No Method issues                     |

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**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Sheepshead minnow - *Cyprinodon variegatus***

| Species              | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments          | Ref. No. | Used for Criteria Calculation/Reason |
|----------------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-------------------|----------|--------------------------------------|
| <i>C. variegatus</i> | LC50   | >15                  | Juveniles  | 1               | RU    | SW         | 21.9-23.1         | NR              | Saltwater Species | STS-327  | No<br>Non-native species             |
| <i>C. variegatus</i> | LC50   | >15                  | Juveniles  | 2               | RU    | SW         | 21.9-23.1         | NR              | Saltwater Species | STS-327  | No<br>Non-native species             |
| <i>C. variegatus</i> | LC50   | >15                  | Juveniles  | 3               | RU    | SW         | 21.9-23.1         | NR              | Saltwater Species | STS-327  | No<br>Non-native species             |
| <i>C. variegatus</i> | LC50   | >15                  | Juveniles  | 4               | RU    | SW         | 21.9-23.1         | NR              | Saltwater Species | STS-327  | No<br>Non-native species             |
| <i>C. variegatus</i> | NOEC   | >15                  | Juveniles  | 4               | RU    | SW         | 21.9-23.1         | NR              | Saltwater Species | STS-327  | No<br>Non-native species             |

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**Table 1: Toxicity Data**  
**PFOS - Unknown Salt**  
**Fathead minnow - *Pimephales promelas***

| Species            | Effect | Concentration (mg/L) | Life Stage         | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                                                      | Ref. No.   | Used for Criteria Calculation/Reason |
|--------------------|--------|----------------------|--------------------|-----------------|-------|------------|-------------------|-----------------|-------------------------------------------------------------------------------|------------|--------------------------------------|
| <i>P. promelas</i> | MTC    | >20                  | Eggs at initiation | 30              | FU    | FW         | 23.5-26.5         | 31-38           | Water quality parameters out of range. Not enough detail on test methodology. | AR226-0358 | No Method issues                     |

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**Table 1: Toxicity Data**  
**PFOS - Lithium Salt**  
**Fathead minnow - *Pimephales promelas***

| Species            | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                                                              | Ref. No.   | Used for Criteria Calculation/Reason |
|--------------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|---------------------------------------------------------------------------------------|------------|--------------------------------------|
| <i>P. promelas</i> | LC50   | 4.7 (adjusted)       | Juveniles  | 4               | SU    | FW         | 19.2-19.5         | NR              | Temp. and pH out of range.<br>Tox. value adjusted based on actual conc. of 24.5% PFOS | AR226-0111 | No<br>Method issues                  |
| <i>P. promelas</i> | LC50   | 8.8 (adjusted)       | Juveniles  | 3               | SU    | FW         | 19.2-19.5         | NR              | Temp. and pH out of range.<br>Tox. value adjusted based on actual conc. of 24.5% PFOS | AR226-0111 | No<br>Method issues                  |
| <i>P. promelas</i> | LC50   | >13.7 (adjusted)     | Juveniles  | 2               | SU    | FW         | 19.2-19.5         | NR              | Temp. and pH out of range.<br>Tox. value adjusted based on actual conc. of 24.5% PFOS | AR226-0111 | No<br>Method issues                  |
| <i>P. promelas</i> | LC50   | >13.7 (adjusted)     | Juveniles  | 1               | SU    | FW         | 19.2-19.5         | NR              | Temp. and pH out of range.<br>Tox. value adjusted based on actual conc. of 24.5% PFOS | AR226-0111 | No<br>Method issues                  |

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FU - Flow-through Unmeasured

**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Fathead minnow - *Pimephales promelas***

| Species            | Effect           | Concentration (mg/L) | Life Stage                            | Duration (Days)         | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                                  | Ref. No.                                                                       | Used for Criteria Calculation/Reason             |
|--------------------|------------------|----------------------|---------------------------------------|-------------------------|-------|------------|-------------------|-----------------|-----------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------|
| <i>P. promelas</i> | LC10             | 3.5                  | Juveniles                             | 28                      | SU    | FW         | 22.7              | 89.9-148.8      | Some water qual. Parameters out of range.                 | STS-112                                                                        | No<br>Method issues                              |
| <i>P. promelas</i> | LC50             | 7.2                  | Juveniles                             | 28                      | SU    | FW         | 22.7              | 89.9-148.8      | Some water qual. Parameters out of range.                 | STS-112                                                                        | No<br>Method issues                              |
| <i>P. promelas</i> | LC50             | 37.6                 | NR                                    | 4                       | SU    | FW         | 17-19             | NR              | Summary report of old data.                               | AR226-0123                                                                     | No<br>Summary only                               |
| <i>P. promelas</i> | LC50             | 51                   | NR                                    | 4                       | SU    | FW         | 17-19             | NR              | Summary report of old data.                               | AR226-0123                                                                     | No<br>Summary only                               |
| <i>P. promelas</i> | LC50             | 9.1                  | Juveniles<br>0.36g, 25mm              | 4                       | SM    | FW         | 20.4-22.3         | 131             | GLP Study                                                 | AR226-0082, AR226-0083, AR226-1759<br>(all 3 studies variations of same study) | Yes                                              |
| <i>P. promelas</i> | NOEC             | 3.2                  | Juveniles<br>0.36g, 25mm              | 4                       | SM    | FW         | 20.4-22.3         | 131             | GLP Study                                                 | AR226-0082, AR226-0083, AR226-1759<br>(all 3 studies variations of same study) | Yes                                              |
| <i>P. promelas</i> | NOEC             | 0.29                 | Eggs <24 hours old at test initiation | 47 (42 days post hatch) | FM    | FW         | 24.3-24.7         | 136-144         | GLP Study                                                 | AR226-0082, AR226-0083, AR226-1759<br>(all 3 studies variations of same study) | Yes                                              |
| <i>P. promelas</i> | LOEC             | 0.58                 | Eggs <24 hours old at test initiation | 47 (42 days post hatch) | FM    | FW         | 24.3-24.7         | 136-144         | GLP Study                                                 | AR226-0082, AR226-0083, AR226-1759<br>(all 3 studies variations of same study) | No<br>Datapoint not used in criteria calculation |
| <i>P. promelas</i> | MATC             | 0.41                 | Eggs <24 hours old at test initiation | 47 (42 days post hatch) | FM    | FW         | 24.3-24.7         | 136-144         | GLP Study                                                 | AR226-0082, AR226-0083, AR226-1759<br>(all 3 studies variations of same study) | No<br>Datapoint not used in criteria calculation |
| <i>P. promelas</i> | NOEC             | 1                    | Eggs at initiation                    | 30                      | FM    | FW         | 22-26             | NR              | Questionable methodology. Superceded by more recent test. | AR226-0107, AR226-0108                                                         | No<br>Method issues                              |
| <i>P. promelas</i> | LOEC             | 1.9                  | Eggs at initiation                    | 30                      | FM    | FW         | 22-26             | NR              | Questionable methodology. Superceded by more recent test. | AR226-0107, AR226-0108                                                         | No<br>Method issues                              |
| <i>P. promelas</i> | MATC             | >1 and <1.9          | Eggs at initiation                    | 30                      | FM    | FW         | 22-26             | NR              | Questionable methodology. Superceded by more recent test. | AR226-0107, AR226-0108                                                         | No<br>Method issues                              |
| <i>P. promelas</i> | EC50 (fecundity) | 0.23                 | Sexually mature adults and eggs       | 21                      | FU    | FW         | 25                | NR              | Unknown methodology                                       | STS-326                                                                        | No<br>Method issues                              |

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RM - Renewal Measured  
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FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 1: Toxicity Data**  
**PFOS - Didecyldimethylammonium Salt**  
**Fathead minnow - *Pimephales promelas***

| Species            | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                                                                                                                               | Ref. No.   | Used for Criteria Calculation/Reason |
|--------------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------|
| <i>P. promelas</i> | LC50   | 618                  | Juveniles  | 1               | SU    | FW         | 20.8-20.9         | 48              | Dilution water source questionable. Some water qual. Parameters out of range. Only 4 test conc. Used. Cation salt may be toxic. Data based on mixture. | AR226-0534 | No<br>Method issues                  |
| <i>P. promelas</i> | LC50   | 607                  | Juveniles  | 2               | SU    | FW         | 20.8-20.9         | 48              | Dilution water source questionable. Some water qual. Parameters out of range. Only 4 test conc. Used. Cation salt may be toxic. Data based on mixture. | AR226-0534 | No<br>Method issues                  |
| <i>P. promelas</i> | LC50   | 595                  | Juveniles  | 3               | SU    | FW         | 20.8-20.9         | 48              | Dilution water source questionable. Some water qual. Parameters out of range. Only 4 test conc. Used. Cation salt may be toxic. Data based on mixture. | AR226-0534 | No<br>Method issues                  |
| <i>P. promelas</i> | LC50   | 562                  | Juveniles  | 4               | SU    | FW         | 20.8-20.9         | 48              | Dilution water source questionable. Some water qual. Parameters out of range. Only 4 test conc. Used. Cation salt may be toxic. Data based on mixture. | AR226-0534 | No<br>Method issues                  |
| <i>P. promelas</i> | LC50   | <490                 | Juveniles  | 4               | SU    | FW         | 20.8-20.9         | 48              | Dilution water source questionable. Some water qual. Parameters out of range. Only 4 test conc. Used. Cation salt may be toxic. Data based on mixture. | AR226-0534 | No<br>Method issues                  |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 1: Toxicity Data**  
**PFOS - Unknown Salt**  
**Fiddler crab - *Uca pugilator***

| Species             | Effect | Concentration (mg/L) | Life Stage        | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments          | Ref. No. | Used for Criteria Calculation/Reason |
|---------------------|--------|----------------------|-------------------|-----------------|-------|------------|-------------------|-----------------|-------------------|----------|--------------------------------------|
| <i>U. pugilator</i> | TL50   | >10,000              | Mean width = 20mm | 1               | SU    | SW         | 20                | NR              | Saltwater species | STS-325  | No<br>Non-native species             |
| <i>U. pugilator</i> | TL50   | 3260                 | Mean width = 20mm | 4               | SU    | SW         | 20                | NR              | Saltwater species | STS-325  | No<br>Non-native species             |
| <i>U. pugilator</i> | NOEL   | 2400                 | Mean width = 20mm | 4               | SU    | SW         | 20                | NR              | Saltwater species | STS-325  | No<br>Non-native species             |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Midge - *Chironomus tentans***

| Species           | Effect                 | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments   | Ref. No. | Used for Criteria Calculation/Reason              |
|-------------------|------------------------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|------------|----------|---------------------------------------------------|
| <i>C. tentans</i> | EC50 (survival)        | >0.150               | Larval     | 10              | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Non-specific data point                     |
| <i>C. tentans</i> | EC10 (survival)        | 0.1079               | Larval     | 10              | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Datapoint not used in criteria calculations |
| <i>C. tentans</i> | EC50 (growth)          | 0.0872               | Larval     | 10              | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Endpoint not used                           |
| <i>C. tentans</i> | EC10 (growth)          | 0.0492               | Larval     | 10              | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Datapoint not used in criteria calculations |
| <i>C. tentans</i> | NOEC (survival)        | 0.0491               | Larval     | 10              | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Endpoint not used                           |
| <i>C. tentans</i> | NOEC (growth)          | 0.0491               | Larval     | 10              | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Endpoint not used                           |
| <i>C. tentans</i> | EC50 (survival)        | 0.0922               | Larval     | 20              | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Endpoint not used                           |
| <i>C. tentans</i> | EC10 (survival)        | 0.0864               | Larval     | 20              | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Datapoint not used in criteria calculations |
| <i>C. tentans</i> | EC50 (growth)          | 0.0938               | Larval     | 20              | RM    | FW         | 23                | NR              | Good study | STS-110  | Yes                                               |
| <i>C. tentans</i> | EC10 (growth)          | 0.0882               | Larval     | 20              | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Datapoint not used in criteria calculations |
| <i>C. tentans</i> | NOEC (survival)        | 0.0949               | Larval     | 20              | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Not lowest value                            |
| <i>C. tentans</i> | NOEC (growth)          | 0.0217               | Larval     | 20              | RM    | FW         | 23                | NR              | Good study | STS-110  | Yes                                               |
| <i>C. tentans</i> | MATC (survival)        | 0.11891              | Larval     | 20              | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Not lowest value                            |
| <i>C. tentans</i> | LOEC (growth)          | 0.0949               | Larval     | 20              | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Not lowest value                            |
| <i>C. tentans</i> | MATC (growth)          | 0.04537              | Larval     | 20              | RM    | FW         | 23                | NR              | Good study | STS-110  | Yes                                               |
| <i>C. tentans</i> | LOEC (survival)        | 0.149                | Larval     | 20              | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Not lowest value                            |
| <i>C. tentans</i> | EC50 (total emergence) | 0.0945               |            |                 | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Not lowest value                            |
| <i>C. tentans</i> | EC10 (total emergence) | 0.0893               |            |                 | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Datapoint not used in criteria calculations |
| <i>C. tentans</i> | NOEC (total emergence) | <0.0023              |            |                 | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Datapoint not used in criteria calculations |
| <i>C. tentans</i> | EC50 (eggs-female)     | no effect            |            |                 | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Non-specific data point                     |
| <i>C. tentans</i> | EC10 (eggs-female)     | no effect            |            |                 | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Non-specific data point                     |
| <i>C. tentans</i> | NOEC (eggs-female)     | not calculated       |            |                 | RM    | FW         | 23                | NR              | Good study | STS-110  | No<br>Non-specific data point                     |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
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RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 1: Toxicity Data**  
**PFOS - Unknown Salt**  
**Mummichog - *Fundulus heteroclitus***

| Species                | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments          | Ref. No. | Used for Criteria Calculation/Reason |
|------------------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-------------------|----------|--------------------------------------|
| <i>F. heteroclitus</i> | TL50   | >1800                | Juveniles  | 1               | SU    | SW         | 20                | NR              | Saltwater species | STS-325  | No<br>Non-native species             |
| <i>F. heteroclitus</i> | TL50   | 1820                 | Juveniles  | 4               | SU    | SW         | 20                | NR              | Saltwater species | STS-325  | No<br>Non-native species             |
| <i>F. heteroclitus</i> | NOEL   | 1400                 | Juveniles  | 4               | SU    | SW         | 20                | NR              | Saltwater species | STS-325  | No<br>Non-native species             |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 1: Toxicity Data**  
**PFOS - Unknown Salt**  
**Grass shrimp - *Palaemonetes vulgaris***

| Species            | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments          | Ref. No. | Used for Criteria Calculation/Reason |
|--------------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-------------------|----------|--------------------------------------|
| <i>P. vulgaris</i> | TL50   | >1000                | Juveniles  | 1               | SU    | SW         | 20                | NR              | Saltwater Species | STS-325  | No<br>Non-native species             |
| <i>P. vulgaris</i> | TL50   | 280                  | Juveniles  | 4               | SU    | SW         | 20                | NR              | Saltwater Species | STS-325  | No<br>Non-native species             |
| <i>P. vulgaris</i> | NOEL   | 180                  | Juveniles  | 4               | SU    | SW         | 20                | NR              | Saltwater Species | STS-325  | No<br>Non-native species             |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Brine shrimp - *Artemia***

| Species        | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments          | Ref. No. | Used for Criteria Calculation/Reason |
|----------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-------------------|----------|--------------------------------------|
| <i>Artemia</i> | EC50   | 9.4                  | <24 hours  | 2               | SU    | SW         | 21                | NR              | Saltwater Species | STS-109  | No<br>Non-native species             |
| <i>Artemia</i> | EC50   | 9.4                  | <24 hours  | 2               | SU    | SW         | 21                | NR              | Saltwater Species | STS-109  | No<br>Non-native species             |
| <i>Artemia</i> | EC50   | 8.9                  | <24 hours  | 2               | SU    | SW         | 21                | NR              | Saltwater Species | STS-109  | No<br>Non-native species             |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Mussel - *Unio complamatus***

| Species               | Effect | Concentration (mg/L) | Life Stage    | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                        | Ref. No.                                                                   | Used for Criteria Calculation/Reason |
|-----------------------|--------|----------------------|---------------|-----------------|-------|------------|-------------------|-----------------|-------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------|
| <i>U. complamatus</i> | LC50   | 57                   | 48.7mm/ 76.5g | 4               | RM    | FW         | 21.4-23.7         | 132-144         | Water quality parameters slightly out of range. | AR226-0090, AR226-0091, AR226-1762 (all3 studies variations of same study) | Yes                                  |
| <i>U. complamatus</i> | NOEC   | 19                   | 48.7mm/ 76.5g | 4               | RM    | FW         | 21.4-23.7         | 132-144         | Water quality parameters slightly out of range. | AR226-0090, AR226-0091, AR226-1762 (all3 studies variations of same study) | Yes                                  |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 1: Toxicity Data**  
**PFOS - Lithium Salt**  
**Cladoceran - *Daphnia* spp.**

| Species         | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                        | Ref. No.   | Used for Criteria Calculation/Reason |
|-----------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-------------------------------------------------|------------|--------------------------------------|
| <i>D. magna</i> | EC50   | 80.9 (adjusted)      | <24 hours  | 1               | SU    | FW         | 20.1-21.0         | NR              | Adjusted based on a sample conc. of 24.5% PFOS. | AR226-0112 | No<br>Too short exposure duration    |
| <i>D. magna</i> | EC50   | 51.4 (adjusted)      | <24 hours  | 2               | SU    | FW         | 20.1-21.0         | NR              | Adjusted based on a sample conc. of 24.5% PFOS. | AR226-0112 | Yes                                  |
| <i>D. magna</i> | NOEC   | 24.5 (adjusted)      | <24 hours  | 2               | SU    | FW         | 20.1-21.0         | NR              | Adjusted based on a sample conc. of 24.5% PFOS. | AR226-0112 | Yes                                  |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 1: Toxicity Data**  
**PFOS - Didecyldimethylammonium Salt**  
**Cladoceran - *Daphnia* spp.**

| Species         | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                                                            | Ref. No. | Used for Criteria Calculation/Reason |
|-----------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-------------------------------------------------------------------------------------|----------|--------------------------------------|
| <i>D. magna</i> | EL50   | 27                   | <24 hours  | 1               | SU    | FW         | 20.9-21           | 41-44           | Cation salt may be toxic. Sample was liquid and no info regarding purity available. | STS-324  | No<br>Large cation salt moiety       |
| <i>D. magna</i> | EL50   | 11.3                 | <24 hours  | 2               | SU    | FW         | 20.9-21           | 41-44           | Cation salt may be toxic. Sample was liquid and no info regarding purity available. | STS-324  | No<br>Large cation salt moiety       |
| <i>D. magna</i> | NOEL   | 6.25                 | <24 hours  | 2               | SU    | FW         | 20.9-21           | 41-44           | Cation salt may be toxic. Sample was liquid and no info regarding purity available. | STS-324  | No<br>Large cation salt moiety       |

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FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Cladoceran - *Daphnia* spp.**

| Species         | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                                          | Ref. No.                                                                        | Used for Criteria Calculation/Reason           |
|-----------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------|
| <i>D. magna</i> | LC50   | 50                   | <24 hours  | 2               | SU    | FW         | NR                | NR              | Sample purity unknown. Methodology questions and lack of details. | AR226-0123                                                                      | No Method issues                               |
| <i>D. magna</i> | LC50   | 49.2                 | <24 hours  | 2               | SU    | FW         | NR                | NR              | Sample purity unknown. Methodology questions and lack of details. | AR226-0123                                                                      | No Method issues                               |
| <i>D. magna</i> | EC50   | 58                   | <24 hours  | 2               | SU    | FW         | NR                | NR              | Test summary - abbreviated due to a more recent test.             | STS-101                                                                         | No Method issues                               |
| <i>D. magna</i> | EC50   | 67                   | <24 hours  | 2               | SU    | FW         | NR                | NR              | Test summary - abbreviated due to a more recent test.             | STS-101                                                                         | No Method issues                               |
| <i>D. magna</i> | EC50   | 59                   | <24 hours  | 2               | SM    | FW         | 19.3-20.2         | 132             | GLP Study                                                         | AR226-0086, AR226-0087, AR226-1761 (all 3 studies variations of the same study) | Yes                                            |
| <i>D. magna</i> | NOEC   | 32                   | <24 hours  | 2               | SM    | FW         | 19.3-20.2         | 132             | GLP Study                                                         | AR226-0086, AR226-0087, AR226-1761 (all 3 studies variations of the same study) | Yes                                            |
| <i>D. magna</i> | LOEC   | 23                   | <24 hours  | 21              | RM    | FW         | 19.4-20.1         | 124             | GLP Study                                                         | AR226-0098, AR226-0099, AR226-1766 (all 3 studies variations of the same study) | No Data point not used in criteria calculation |
| <i>D. magna</i> | NOEC   | 12                   | <24 hours  | 21              | RM    | FW         | 19.4-20.1         | 124             | GLP Study                                                         | AR226-0098, AR226-0099, AR226-1766 (all 3 studies variations of the same study) | Yes                                            |
| <i>D. magna</i> | MATC   | 17                   | <24 hours  | 21              | RM    | FW         | 19.4-20.1         | 124             | GLP Study                                                         | AR226-0098, AR226-0099, AR226-1766 (all 3 studies variations of the same study) | No Data point not used in criteria calculation |
| <i>D. magna</i> | EC50   | 27                   | <24 hours  | 2               | RM    | FW         | 19.4-20.1         | 124             | Temps out of range                                                | AR226-0110                                                                      | No Method issues                               |
| <i>D. magna</i> | EC50   | 14.7                 | <24 hours  | 14              | RM    | FW         | 19.4-20.1         | 124             | Temps out of range                                                | AR226-0110                                                                      | No Method issues                               |
| <i>D. magna</i> | EC50   | 12.4                 | <24 hours  | 21              | RM    | FW         | 19.4-20.1         | 124             | Temps out of range                                                | AR226-0110                                                                      | No Method issues                               |
| <i>D. magna</i> | EC50   | 11.4                 | <24 hours  | 28              | RM    | FW         | 19.4-20.1         | 124             | Temps out of range                                                | AR226-0110                                                                      | No Method issues                               |
| <i>D. magna</i> | NOEC   | 7                    | <24 hours  | 28              | RM    | FW         | 19.4-20.1         | 124             | Temps out of range                                                | AR226-0110                                                                      | No Method issues                               |
| <i>D. magna</i> | MATC   | 11.2                 | <24 hours  | 14, 21 & 28     | RM    | FW         | 19.4-20.1         | 124             | Temps out of range                                                | AR226-0110                                                                      | No Method issues                               |
| <i>D. magna</i> | EC50   | 67.2                 | <24 hours  | 2               | SU    | FW         | 21                | 200-225         | Good Study                                                        | STS-104                                                                         | Yes                                            |

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FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Cladoceran - *Daphnia* spp.**

| Species             | Effect             | Concentration (mg/L) | Life Stage                                   | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                             | Ref. No. | Used for Criteria Calculation/Reason |
|---------------------|--------------------|----------------------|----------------------------------------------|-----------------|-------|------------|-------------------|-----------------|--------------------------------------|----------|--------------------------------------|
| <i>D. magna</i>     | LC50               | 130                  | <24 hours                                    | 2               | SU    | FW         | 21                | 200-225         | Good Study                           | STS-104  | No<br>Not lowest value               |
| Species             | Effect             | Concentration (mg/L) | Life Stage                                   | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                             | Ref. No. | Used for Criteria Calculation/Reason |
| <i>D. magna</i>     | NOEC (survival)    | 33.1                 | <24 hours                                    | 2               | SU    | FW         | 21                | 200-225         | Good Study                           | STS-104  | No<br>Not lowest value               |
| <i>D. magna</i>     | NOEC (immobility ) | 0.8                  | <24 hours                                    | 2               | SU    | FW         | 21                | 200-225         | Good Study                           | STS-104  | Yes                                  |
| <i>D. magna</i>     | LC50               | 42.3                 | adult (initiated with neonates <24 hrs. old) | 21              | SU    | FW         | 21                | 200-225         | Good Study                           | STS-104  | Yes                                  |
| <i>D. magna</i>     | NOEC (survival)    | 5.3                  | adult (initiated with neonates <24 hrs. old) | 21              | SU    | FW         | 21                | 200-225         | Good Study                           | STS-104  | Yes                                  |
| <i>D. pulicaria</i> | EC50               | 134                  | <24 hours                                    | 2               | SU    | FW         | 21                | 200-225         | Good Study                           | STS-104  | Yes                                  |
| <i>D. pulicaria</i> | LC50               | 169                  | <24 hours                                    | 2               | SU    | FW         | 21                | 200-225         | Good Study                           | STS-104  | No<br>Not lowest value               |
| <i>D. pulicaria</i> | NOEC (survival)    | 46.9                 | <24 hours                                    | 2               | SU    | FW         | 21                | 200-225         | Good Study                           | STS-104  | No<br>Not lowest value               |
| <i>D. pulicaria</i> | NOEC (immobility ) | 13.6                 | <24 hours                                    | 2               | SU    | FW         | 21                | 200-225         | Good Study                           | STS-104  | Yes                                  |
| <i>D. magna</i>     | NOEC               | 25                   | adult (initiated with neonates <24 hrs. old) | 21              | RU    | FW         | 21                | NR              | Neonates too old at test initiation  | STS-201  | No<br>Method issues                  |
| <i>D. magna</i>     | LOEC               | 50                   | adult (initiated with neonates <24 hrs. old) | 21              | RU    | FW         | 21                | NR              | Neonates too old at test initiation  | STS-201  | No<br>Method issues                  |
| <i>D. pulicaria</i> | NOEC               | 6                    | adult (initiated with neonates <24 hrs. old) | 21              | RU    | FW         | 21                | NR              | Neonates too old at test initiation  | STS-201  | No<br>Method issues                  |
| <i>D. pulicaria</i> | LOEC               | 13                   | adult (initiated with neonates <24 hrs. old) | 21              | RU    | FW         | 21                | NR              | Neonates too old at test initiation  | STS-201  | No<br>Method issues                  |
| <i>D. magna</i>     | EC50               | >150                 | <24 hours                                    | 1               | SU    | FW         | 21                | NR              | Reported tox. values due to mixture. | STS-322  | No<br>Method issues                  |
| <i>D. magna</i>     | EC50               | 49                   | <24 hours                                    | 2               | SU    | FW         | 21                | NR              | Reported tox. values due to mixture. | STS-322  | No<br>Method issues                  |
| <i>D. magna</i>     | EC50               | >42 (adjusted)       | <24 hours                                    | 1               | SU    | FW         | 21                | NR              | Reported tox. values due to mixture. | STS-322  | No<br>Method issues                  |
| <i>D. magna</i>     | EC50               | 14 (adjusted)        | <24 hours                                    | 2               | SU    | FW         | 21                | NR              | Reported tox. values due to mixture. | STS-322  | No<br>Method issues                  |
| <i>D. magna</i>     | LC50               | 76                   | <24 hours                                    | 2               | SU    | FW         | 21                | NR              | Reported tox. values due to mixture. | STS-323  | No<br>Method issues                  |
| <i>D. magna</i>     | LC50               | 73                   | <24 hours                                    | 2               | SU    | FW         | 21                | NR              | Reported tox. values due to mixture. | STS-323  | No<br>Method issues                  |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 1: Toxicity Data**  
**PFOS - Potassium Salt**  
**Saltwater Mysid - *Mysidopsis bahia***

| Species         | Effect                             | Concentration (mg/L) | Life Stage                  | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                      | Ref. No.                           | Used for Criteria Calculation/Reason |
|-----------------|------------------------------------|----------------------|-----------------------------|-----------------|-------|------------|-------------------|-----------------|-------------------------------|------------------------------------|--------------------------------------|
| <i>M. bahia</i> | EC50 (cell dry weight)             | 3.5                  | <24 hrs. at test initiation | 4               | SM    | SW         | 238-254           | NR              | Good test. Saltwater species. | AR226-0094, AR226-0095, AR226-1758 | No<br>Non-native species             |
| <i>M. bahia</i> | EC50 (cell dry weight)             | 1.1                  | <24 hrs. at test initiation | 4               | SM    | SW         | 238-254           | NR              | Good test. Saltwater species. | AR226-0094, AR226-0095, AR226-1758 | No<br>Non-native species             |
| <i>M. bahia</i> | NOEC survival (pre-pairing)        | 0.55                 | <24 hrs. at test initiation | 20              | FM    | SW         | 24.4-25.2         | NR              | Good test. Saltwater species. | AR226-0100, AR226-0101             | No<br>Non-native species             |
| <i>M. bahia</i> | NOEC survival (post-pairing)       | 0.55                 | <24 hrs. at test initiation | 35              | FM    | SW         | 24.4-25.2         | NR              | Good test. Saltwater species. | AR226-0100, AR226-0101             | No<br>Non-native species             |
| <i>M. bahia</i> | NOEC reproduction                  | 0.25                 | <24 hrs. at test initiation | 35              | FM    | SW         | 24.4-25.2         | NR              | Good test. Saltwater species. | AR226-0100, AR226-0101             | No<br>Non-native species             |
| <i>M. bahia</i> | NOEC growth                        | 0.25                 | <24 hrs. at test initiation | 35              | FM    | SW         | 24.4-25.2         | NR              | Good test. Saltwater species. | AR226-0100, AR226-0101             | No<br>Non-native species             |
| <i>M. bahia</i> | LOEC reproduction & growth         | 0.55                 | <24 hrs. at test initiation | 35              | FM    | SW         | 24.4-25.2         | NR              | Good test. Saltwater species. | AR226-0100, AR226-0101             | No<br>Non-native species             |
| <i>M. bahia</i> | NOEC 2nd generation acute survival | 0.55                 | <24 hrs. at test initiation | 35              | FM    | SW         | 24.4-25.2         | NR              | Good test. Saltwater species. | AR226-0100, AR226-0101             | No<br>Non-native species             |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 2a: Acceptable Chronic Data**  
**PFOS - All Salts**

| Data Requirement Category | Species            | Effect              | Concentration (mg/L) | Life Stage                                   | PFOS Salt      | Ex Ty | Ref. No.                           | Used for Criteria Database/Comments                                                                                                                                   |
|---------------------------|--------------------|---------------------|----------------------|----------------------------------------------|----------------|-------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Osteichthyes              | <i>P. promelas</i> | MATC                | 0.41                 | Eggs <24 hours old at test initiation        | Potassium salt | FM    | AR226-0096, AR226-0097, AR226-1765 | Yes / however, acute test reference for acute/chronic ratio not from same chronic test. Based on a NOEC of 0.29 mg/L and a LOEC of 0.58 mg/L (42-day larval survival) |
| Planktonic crustacean     | <i>D. magna</i>    | NOEC                | 12                   | <24 hours                                    | Potassium salt | RM    | AR226-0098, AR226-0099, AR226-1766 | No / Based on a NOEC of 12 mg/L (based on survival)                                                                                                                   |
|                           | <i>D. magna</i>    | LC50                | 42.3                 | adult (initiated with neonates <24 hrs. old) | Potassium salt | SU    | STS-104                            | No / data point not used for acute/chronic ratio                                                                                                                      |
|                           | <i>D. magna</i>    | MATC (reproduction) | 35.35                | adult (initiated with neonates <24 hrs. old) | Potassium salt | SU    | STS-104                            | Yes / Based on a NOEC of 50 mg/L and a LOEC of 25 mg/L (based on reproductive endpoint)                                                                               |
|                           | <i>D. magna</i>    | NOEC (survival)     | 5.3                  | adult (initiated with neonates <24 hrs. old) | Potassium salt | SU    | STS-104                            | No / Based on IC 10                                                                                                                                                   |
| Aquatic insect            | <i>C. tentans</i>  | EC50 (growth)       | 93.8                 | Larval                                       | Potassium salt | RM    | STS-110                            | No                                                                                                                                                                    |
|                           | <i>C. tentans</i>  | NOEC (survival)     | 94.9                 | Larval                                       | Potassium salt | RM    | STS-110                            | No                                                                                                                                                                    |
|                           | <i>C. tentans</i>  | LOEC (survival)     | 149                  | Larval                                       | Potassium salt | RM    | STS-110                            | No                                                                                                                                                                    |
|                           | <i>C. tentans</i>  | MATC (survival)     | 118.91               | Larval                                       | Potassium salt | RM    | STS-110                            | No                                                                                                                                                                    |
|                           | <i>C. tentans</i>  | NOEC (growth)       | 21.7                 | Larval                                       | Potassium salt | RM    | STS-110                            | No                                                                                                                                                                    |
|                           | <i>C. tentans</i>  | LOEC (growth)       | 94.9                 | Larval                                       | Potassium salt | RM    | STS-110                            | No                                                                                                                                                                    |
|                           | <i>C. tentans</i>  | MATC (growth)       | 45.37                | Larval                                       | Potassium salt | RM    | STS-110                            | No                                                                                                                                                                    |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 2b: Acceptable Acute-to-Chronic Ratio (ACR) Data**

| <b>Species</b>  | <b>Acute Value (mg/L)</b> | <b>Chronic Value (mg/L)</b> | <b>ACR</b> |
|-----------------|---------------------------|-----------------------------|------------|
| Osteichthyes    | 9.1 (LC <sub>50</sub> )   | 0.41 (MATC)                 | 22.19      |
| <i>D. magna</i> | 67.2 (EC <sub>50</sub> )  | 35.35 (MATC)                | 1.90       |
| Generic ACR     |                           |                             | 18         |

Geometric Mean = 9.12

Final ACR = 9.12

**Table 3a: Acceptable Acute Data  
PFOS - All Salts**

| Data Requirement Category                       | Species               | Effect | Concentration (mg/L) | Life Stage                 | PFOS Salt      | Ex Ty | Ref. No.                           | SMAV | GMAV | Used for Criteria Database/Comments                      |
|-------------------------------------------------|-----------------------|--------|----------------------|----------------------------|----------------|-------|------------------------------------|------|------|----------------------------------------------------------|
| Chordata (amphibian)                            | <i>P. crucifer</i>    | LC50   | 38                   | Tadpoles (0.030 g)         | Potassium salt | RM    | STS-333                            | 38   | 38   | Yes                                                      |
| Benthic crustacean                              | <i>H. azteca</i>      | LC50   | 15                   | 12 days-old at initiation  | Potassium salt | RM    | STS-332                            | 15   | 15   | Yes                                                      |
| Second insect or phylum not already represented | <i>L. variegatus</i>  | LC50   | 5.6                  | Adult                      | Potassium salt | RM    | STS-334                            | 5.6  | 5.6  | Yes                                                      |
| Salmonid                                        | <i>O. mykiss</i>      | LC50   | 22                   | Juveniles (0.36 g, 3.6 cm) | Potassium salt | SM    | STS-321                            | 22   | 22   | Yes                                                      |
| Osteichthyes                                    | <i>P. promelas</i>    | LC50   | 9.1                  | Juveniles (0.36 g, 35 mm)  | Potassium salt | SM    | AR226-0082, AR226-0083, AR226-1759 | 9.1  | 9.1  | Yes (all three studies are variations of the same study) |
| Phylum other than Arthropoda or Chordata        | <i>U. complanatus</i> | LC50   | 57                   | 48.7 mm/ 76.5 g            | Potassium salt | SM    | AR226-0090, AR226-0091, AR226-1762 | 57   | 57   | Yes (all three studies are variations of the same study) |
| Planktonic crustacean                           | <i>D. magna</i>       | EC50   | 51.4 (adjusted)      | <24 hours                  | Lithium salt   | SU    | AR226-0112                         | 58.8 | 88.7 | Yes                                                      |
|                                                 | <i>D. magna</i>       | EC50   | 59                   | <24 hours                  | Potassium salt | SM    | AR226-0086, AR226-0087, AR226-1761 |      |      | Yes (all three studies are variations of the same study) |
|                                                 | <i>D. magna</i>       | EC50   | 67.2                 | <24 hours                  | Potassium salt | SU    | STS-104                            |      |      | Yes                                                      |
|                                                 | <i>D. pulicaria</i>   | EC50   | 134                  | <24 hours                  | Potassium salt | SU    | STS-104                            | 134  |      | Yes                                                      |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater

SM - Static Measured  
SU - Static Unmeasured  
RM - Renewal Measured  
RU - Renewal Unmeasured

FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 3b: GMAV Ranking of Acute Data and Final Acute Value**

| <b>Species</b>                   | <b>GMAV (mg/L)</b> |
|----------------------------------|--------------------|
| <i>C. tentans</i> (extrapolated) | 0.170              |
| <i>Daphnia</i> spp.              | 88.7               |
| <i>U. complamatus</i>            | 57.0               |
| <i>P. Crucifer</i>               | 38.0               |
| <i>O. mykiss</i>                 | 22.0               |
| <i>H. azteca</i>                 | 15.0               |
| <i>P. promelas</i>               | 9.1                |
| <i>L. variegatus</i>             | 5.6                |

Final Acute Value = 0.170 mg/L (lowered from 1.302 mg/L, see Section 5.1.1 and Page 3 of Summary Sheets)

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Diatom - *Skeletonoma costatum***

| Species            | Effect | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments          | Ref. No. | Used for Criteria Calculation/Reason |
|--------------------|--------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-------------------|----------|--------------------------------------|
| <i>S. costatum</i> | EC50   | >3.20                |            | 3               | SM    | SW         | 20.2-21.4         | NR              | Saltwater species | STS-117  | No<br>Non-native species             |
| <i>S. costatum</i> | EC50   | >3.20                |            | 4               | SM    | SW         | 20.2-21.4         | NR              | Saltwater species | STS-117  | No<br>Non-native species             |
| <i>S. costatum</i> | EC10   | >3.20                |            | 4               | SM    | SW         | 20.2-21.4         | NR              | Saltwater species | STS-117  | No<br>Non-native species             |
| <i>S. costatum</i> | EC90   | >3.20                |            | 4               | SM    | SW         | 20.2-21.4         | NR              | Saltwater species | STS-117  | No<br>Non-native species             |
| <i>S. costatum</i> | NOAEC  | 3.2                  |            | 3               | SM    | SW         | 20.2-21.4         | NR              | Saltwater species | STS-117  | No<br>Non-native species             |
| <i>S. costatum</i> | NOAEC  | 3.2                  |            | 4               | SM    | SW         | 20.2-21.4         | NR              | Saltwater species | STS-117  | No<br>Non-native species             |

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SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Didecyldimethylammonium Salt**  
**Alga - *Selenastrum capricornutum***

| Species                 | Effect                 | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                                               | Ref. No.   | Used for Criteria Calculation/Reason |
|-------------------------|------------------------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|------------------------------------------------------------------------|------------|--------------------------------------|
| <i>S. capricornutum</i> | EC50<br>(cell density) | 55.8                 |            | 1               | SU    | FW         | 24.6-25.6         | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | AR226-0536 | No<br>Method issues                  |
| <i>S. capricornutum</i> | EC50<br>(cell density) | <51.8                |            | 2               | SU    | FW         | 24.6-25.6         | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | AR226-0536 | No<br>Method issues                  |
| <i>S. capricornutum</i> | EC50<br>(cell density) | <51.8                |            | 3               | SU    | FW         | 24.6-25.6         | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | AR226-0536 | No<br>Method issues                  |
| <i>S. capricornutum</i> | EC50<br>(cell density) | <51.8                |            | 4               | SU    | FW         | 24.6-25.6         | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | AR226-0536 | No<br>Method issues                  |
| <i>S. capricornutum</i> | NOEL<br>(cell density) | 7.7                  |            | 4               | SU    | FW         | 24.6-25.6         | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | AR226-0536 | No<br>Method issues                  |
| <i>S. capricornutum</i> | ErL50<br>(growth rate) | 57.7                 |            | 1               | SU    | FW         | 24.6-25.6         | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | AR226-0536 | No<br>Method issues                  |
| <i>S. capricornutum</i> | ErL50<br>(growth rate) | 54.8                 |            | 2               | SU    | FW         | 24.6-25.6         | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | AR226-0536 | No<br>Method issues                  |
| <i>S. capricornutum</i> | ErL50<br>(growth rate) | 61.4                 |            | 3               | SU    | FW         | 24.6-25.6         | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | AR226-0536 | No<br>Method issues                  |
| <i>S. capricornutum</i> | ErL50<br>(growth rate) | 64.6                 |            | 4               | SU    | FW         | 24.6-25.6         | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | AR226-0536 | No<br>Method issues                  |
| <i>S. capricornutum</i> | NOEL<br>(growth rate)  | 29.3                 |            | 4               | SU    | FW         | 24.6-25.6         | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | AR226-0536 | No<br>Method issues                  |

NR - Not Recorded  
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RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Alga - *Selenastrum capricornutum***

| Species                 | Effect                 | Concentration (mg/L) | Life Stage        | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                                                               | Ref. No.                           | Used for Criteria Calculation/Reason              |
|-------------------------|------------------------|----------------------|-------------------|-----------------|-------|------------|-------------------|-----------------|------------------------------------------------------------------------|------------------------------------|---------------------------------------------------|
| <i>S. capricornutum</i> | EC50 (cell dry weight) | 115                  | 7-day old culture | 4               | SU    | FW         | NR                | NR              | pH out of range                                                        | AR226-0106                         | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (cell dry weight) | 122                  | 7-day old culture | 7               | SU    | FW         | NR                | NR              | pH out of range                                                        | AR226-0106                         | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (cell dry weight) | 128                  | 7-day old culture | 10              | SU    | FW         | NR                | NR              | pH out of range                                                        | AR226-0106                         | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (cell dry weight) | 146                  | 7-day old culture | 14              | SU    | FW         | NR                | NR              | pH out of range                                                        | AR226-0106                         | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (cell count)      | 82                   | 7-day old culture | 4               | SU    | FW         | NR                | NR              | pH out of range                                                        | AR226-0106                         | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (cell count)      | 99                   | 7-day old culture | 7               | SU    | FW         | NR                | NR              | pH out of range                                                        | AR226-0106                         | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (cell count)      | 98                   | 7-day old culture | 10              | SU    | FW         | NR                | NR              | pH out of range                                                        | AR226-0106                         | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (cell count)      | 95                   | 7-day old culture | 14              | SU    | FW         | NR                | NR              | pH out of range                                                        | AR226-0106                         | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (growth rate)     | <62.5 (reported)     | NR                | 1               | SU    | FW         | 23                | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | STS-319                            | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (growth rate)     | 707 (reported)       | NR                | 2               | SU    | FW         | 23                | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | STS-319                            | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (growth rate)     | 284 (reported)       | NR                | 3               | SU    | FW         | 23                | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | STS-319                            | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (growth rate)     | 255 (reported)       | NR                | 4               | SU    | FW         | 23                | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | STS-319                            | No<br>Method issues                               |
| <i>S. capricornutum</i> | NOEC (growth rate)     | 125 (reported)       | NR                | 4               | SU    | FW         | 23                | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | STS-319                            | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (growth rate)     | <17.5 (adjusted)     | NR                | 1               | SU    | FW         | 23                | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | STS-319                            | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (growth rate)     | 198 (adjusted)       | NR                | 2               | SU    | FW         | 23                | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | STS-319                            | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (growth rate)     | 80 (adjusted)        | NR                | 3               | SU    | FW         | 23                | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | STS-319                            | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (growth rate)     | 71 (adjusted)        | NR                | 4               | SU    | FW         | 23                | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | STS-319                            | No<br>Method issues                               |
| <i>S. capricornutum</i> | NOEC (growth rate)     | 35 (adjusted)        | NR                | 4               | SU    | FW         | 23                | NR              | Water quality parameters out of range. Toxicity may be due to mixture. | STS-319                            | No<br>Method issues                               |
| <i>S. capricornutum</i> | EC50 (cell density)    | 67                   | NR                | 3               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control                                    | AR226-0084, AR226-0085, AR226-1760 | No<br>Not lowest value                            |
| <i>S. capricornutum</i> | EC10 (cell density)    | 47                   | NR                | 4               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control                                    | AR226-0084, AR226-0085, AR226-1760 | No<br>Data point not used in criteria calculation |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Alga - *Selenastrum capricornutum***

| Species                 | Effect                              | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                            | Ref. No.                           | Used for Criteria Calculation/Reason              |
|-------------------------|-------------------------------------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-------------------------------------|------------------------------------|---------------------------------------------------|
| Species                 | Effect                              | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                            | Ref. No.                           | Used for Criteria Calculation/Reason              |
| <i>S. capricornutum</i> | EC50 (cell density)                 | 68                   | NR         | 4               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | Yes                                               |
| <i>S. capricornutum</i> | EC90 (cell density)                 | 132                  | NR         | 4               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | No<br>Data point not used in criteria calculation |
| <i>S. capricornutum</i> | NOAEC (cell density)                | 42                   | NR         | 3               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | No<br>Data point not used in criteria calculation |
| <i>S. capricornutum</i> | NOAEC (cell density)                | 42                   | NR         | 4               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | Yes                                               |
| <i>S. capricornutum</i> | EC50 (area under the growth curve)  | 71                   | NR         | 3               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | No<br>Data point not used in criteria calculation |
| <i>S. capricornutum</i> | EC10 (area under the growth curve)  | 47                   | NR         | 4               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | No<br>Data point not used in criteria calculation |
| <i>S. capricornutum</i> | EC50 (area under the growth curve)  | 68                   | NR         | 4               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | Yes                                               |
| <i>S. capricornutum</i> | EC90 (area under the growth curve)  | 139                  | NR         | 4               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | No<br>Data point not used in criteria calculation |
| <i>S. capricornutum</i> | NOAEC (area under the growth curve) | 42                   | NR         | 3               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | No<br>Data point not used in criteria calculation |
| <i>S. capricornutum</i> | NOAEC (area under the growth curve) | 42                   | NR         | 4               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | Yes                                               |
| <i>S. capricornutum</i> | EC50 (growth rate)                  | 115                  | NR         | 3               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | No<br>Data point not used in criteria calculation |
| <i>S. capricornutum</i> | EC10 (growth rate)                  | 57                   | NR         | 4               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | No<br>Data point not used in criteria calculation |
| <i>S. capricornutum</i> | EC50 (growth rate)                  | 121                  | NR         | 4               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | No<br>Not lowest value                            |
| <i>S. capricornutum</i> | EC90 (growth rate)                  | >172                 | NR         | 4               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | No<br>Data point not used in criteria calculation |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Alga - *Selenastrum capricornutum***

| Species                 | Effect                 | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                            | Ref. No.                                 | Used for Criteria Calculation/Reason              |
|-------------------------|------------------------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-------------------------------------|------------------------------------------|---------------------------------------------------|
| <i>S. capricornutum</i> | NOAEC<br>(growth rate) | 42                   | NR         | 3               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084,<br>AR226-0085,<br>AR226-1760 | No<br>Data point not used in criteria calculation |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Alga - *Selenastrum capricornutum***

| Species                 | Effect                 | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                            | Ref. No.                                 | Used for Criteria Calculation/Reason |
|-------------------------|------------------------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-------------------------------------|------------------------------------------|--------------------------------------|
| Species                 | Effect                 | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                            | Ref. No.                                 | Used for Criteria Calculation/Reason |
| <i>S. capricornutum</i> | NOAEC<br>(growth rate) | 42                   | NR         | 4               | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084,<br>AR226-0085,<br>AR226-1760 | Yes                                  |
| <i>S. capricornutum</i> | IC50 (cell<br>density) | 48.2                 | NR         | 4               | SU    | FW         | 23                | NR              | Temp. out of range                  | STS-104                                  | Yes                                  |
| <i>S. capricornutum</i> | NOEC (cell<br>density) | 5                    | NR         | 4               | SU    | FW         | 23                | NR              | Temp. out of range                  | STS-104                                  | Yes                                  |
| <i>S. capricornutum</i> | IC50<br>(chlorophyll)  | 59.2                 | NR         | 4               | SU    | FW         | 23                | NR              | Temp. out of range                  | STS-104                                  | No<br>Not lowest value               |
| <i>S. capricornutum</i> | NOEC<br>(chlorophyll)  | 16.6                 | NR         | 4               | SU    | FW         | 23                | NR              | Temp. out of range                  | STS-104                                  | No                                   |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Diatom - *Navicula pelliculosa***

| Species               | Effect                              | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments  | Ref. No. | Used for Criteria Calculation/Reason              |
|-----------------------|-------------------------------------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|-----------|----------|---------------------------------------------------|
| <i>N. pelliculosa</i> | EC50 (cell density)                 | 242                  | NR         | 3               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Data point not used in criteria calculation |
| <i>N. pelliculosa</i> | EC10 (cell density)                 | <62.3                | NR         | 4               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Data point not used in criteria calculation |
| <i>N. pelliculosa</i> | EC50 (cell density)                 | 263                  | NR         | 4               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Not lowest value                            |
| <i>N. pelliculosa</i> | EC90 (cell density)                 | 322                  | NR         | 4               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Data point not used in criteria calculation |
| <i>N. pelliculosa</i> | NOAEC (cell density)                | <62.3                | NR         | 3               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Data point not used in criteria calculation |
| <i>N. pelliculosa</i> | NOAEC (cell density)                | 150                  | NR         | 4               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Not lowest value                            |
| <i>N. pelliculosa</i> | EC50 (area under the growth curve)  | 246                  | NR         | 3               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Data point not used in criteria calculation |
| <i>N. pelliculosa</i> | EC10 (area under the growth curve)  | <62.3                | NR         | 4               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Unspecified data point                      |
| <i>N. pelliculosa</i> | EC50 (area under the growth curve)  | 252                  | NR         | 4               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Unspecified data point                      |
| <i>N. pelliculosa</i> | EC90 (area under the growth curve)  | 319                  | NR         | 4               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Data point not used in criteria calculation |
| <i>N. pelliculosa</i> | NOAEC (area under the growth curve) | <62.3                | NR         | 3               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Unspecified data point                      |
| <i>N. pelliculosa</i> | NOAEC (area under the growth curve) | <62.3                | NR         | 4               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Unspecified data point                      |
| <i>N. pelliculosa</i> | EC50 (growth rate)                  | 295                  | NR         | 3               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Data point not used in criteria calculation |
| <i>N. pelliculosa</i> | EC10 (growth rate)                  | 243                  | NR         | 4               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Data point not used in criteria calculation |
| <i>N. pelliculosa</i> | EC50 (growth rate)                  | 305                  | NR         | 4               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Not lowest value                            |
| <i>N. pelliculosa</i> | EC90 (growth rate)                  | >335                 | NR         | 4               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Data point not used in criteria calculation |
| <i>N. pelliculosa</i> | NOAEC (growth rate)                 | 206                  | NR         | 3               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Data point not used in criteria calculation |
| <i>N. pelliculosa</i> | NOAEC (growth rate)                 | 206                  | NR         | 4               | SM    | FW         | 23.1-24.6         | NR              | GLP Study | STS-118  | No<br>Not lowest value                            |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Alga - *Chlorella vulgaris***

| Species            | Effect              | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments   | Ref. No. | Used for Criteria Calculation/Reason |
|--------------------|---------------------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|------------|----------|--------------------------------------|
| <i>C. vulgaris</i> | IC50 (cell density) | 81.6                 |            | 4               | SU    | FW         | 23                | NR              | Good study | STS-104  | Yes                                  |
| <i>C. vulgaris</i> | NOEC (cell density) | 8.2                  |            | 4               | SU    | FW         | 23                | NR              | Good study | STS-104  | Yes                                  |
| <i>C. vulgaris</i> | IC50 (chlorophyll)  | 88.1                 |            | 4               | SU    | FW         | 23                | NR              | Good study | STS-104  | No<br>Not lowest value               |
| <i>C. vulgaris</i> | NOEC (chlorophyll)  | 9.6                  |            | 4               | SU    | FW         | 23                | NR              | Good study | STS-104  | No<br>Not lowest value               |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Milfoil - *Myriophyllum sibiricum***

| Species             | Effect              | Concentration (mg/L) | Life Stage           | Duration (days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments           | Ref. No. | Used for Criteria Calculation/Reason              |
|---------------------|---------------------|----------------------|----------------------|-----------------|-------|------------|-------------------|-----------------|--------------------|----------|---------------------------------------------------|
| <i>M. sibiricum</i> | EC10 (plant length) | 4.3                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10 (plant length) | 6.5                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10 (plant length) | 1.4                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (plant length) | 21.3                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (plant length) | 9.8                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (plant length) | 6.6                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Not lowest value                            |
| <i>M. sibiricum</i> | NOEC (plant length) | 32.3                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC (plant length) | 2.9                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC (plant length) | 0.3                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | Yes                                               |
| <i>M. sibiricum</i> | EC10 (root number)  | 0.4                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10 (root number)  | 2.5                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10 (root number)  | 1.2                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (root number)  | 3.3                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (root number)  | 6.8                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (root number)  | 5.2                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Not lowest value                            |
| <i>M. sibiricum</i> | NOEC (root number)  | 2.9                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |

NR - Not Recorded  
FW - Freshwater  
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SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Milfoil - *Myriophyllum sibiricum***

| Species             | Effect              | Concentration (mg/L) | Life Stage           | Duration (days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments           | Ref. No. | Used for Criteria Calculation/Reason              |
|---------------------|---------------------|----------------------|----------------------|-----------------|-------|------------|-------------------|-----------------|--------------------|----------|---------------------------------------------------|
| <i>M. sibiricum</i> | NOEC (root number)  | 2.9                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC (root number)  | 2.9                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Not lowest value                            |
| <i>M. sibiricum</i> | EC10 (root length)  | 0.6                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10 (root length)  | 2.8                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10 (root length)  | 0.7                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (root length)  | 2.7                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (root length)  | 14.1                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (root length)  | 2.4                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Not lowest value                            |
| <i>M. sibiricum</i> | NOEC (root length)  | 2.9                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC (root length)  | 0.3                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC (root length)  | 0.3                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | Yes                                               |
| <i>M. sibiricum</i> | EC10 (longest root) | 0.5                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10 (longest root) | 1.8                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10 (longest root) | 0.1                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (longest root) | 4.4                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (longest root) | 10.2                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Milfoil - *Myriophyllum sibiricum***

| Species             | Effect              | Concentration (mg/L) | Life Stage           | Duration (days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments           | Ref. No. | Used for Criteria Calculation/Reason              |
|---------------------|---------------------|----------------------|----------------------|-----------------|-------|------------|-------------------|-----------------|--------------------|----------|---------------------------------------------------|
| <i>M. sibiricum</i> | EC50 (longest root) | 1.6                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | Yes                                               |
| <i>M. sibiricum</i> | NOEC (longest root) | 2.9                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC (longest root) | 0.3                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC (longest root) | 0.3                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | Yes                                               |
| <i>M. sibiricum</i> | EC10 (Node number)  | 1.7                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10 (Node number)  | 4.7                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10 (Node number)  | 1.2                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (Node number)  | 11.4                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (Node number)  | 11.9                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (Node number)  | 7.1                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Not lowest value                            |
| <i>M. sibiricum</i> | NOEC (Node number)  | 32.3                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC (Node number)  | 2.9                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC (Node number)  | 2.9                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Not lowest value                            |
| <i>M. sibiricum</i> | EC10 (Wet mass)     | 0.7                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10 (Wet mass)     | 1.9                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10 (Wet mass)     | 0.6                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Milfoil - *Myriophyllum sibiricum***

| Species             | Effect             | Concentration (mg/L) | Life Stage           | Duration (days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments           | Ref. No. | Used for Criteria Calculation/Reason              |
|---------------------|--------------------|----------------------|----------------------|-----------------|-------|------------|-------------------|-----------------|--------------------|----------|---------------------------------------------------|
| <i>M. sibiricum</i> | EC50 (Wet mass)    | 2.9                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (Wet mass)    | 4.6                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (Wet mass)    | 2.2                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Not lowest value                            |
| <i>M. sibiricum</i> | NOEC (Wet mass)    | 2.9                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC (Wet mass)    | 2.9                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC (Wet mass)    | 2.9                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Not lowest value                            |
| <i>M. sibiricum</i> | EC10 (Dry mass)    | 2.7                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10 (Dry mass)    | 2.7                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10 (Dry mass)    | 1.5                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (Dry mass)    | 13.4                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (Dry mass)    | 13.7                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50 (Dry mass)    | 3.4                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Not lowest value                            |
| <i>M. sibiricum</i> | NOEC (Dry mass)    | 2.9                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC (Dry mass)    | 2.9                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC (Dry mass)    | 2.9                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Not lowest value                            |
| <i>M. sibiricum</i> | EC10 Chlorophyll-a | 4.2                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor Microcosms | STS-108  | No<br>Data point not used in criteria calculation |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Milfoil - *Myriophyllum sibiricum***

| Species             | Effect                | Concentration (mg/L) | Life Stage              | Duration (days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments              | Ref. No. | Used for Criteria Calculation/Reason              |
|---------------------|-----------------------|----------------------|-------------------------|-----------------|-------|------------|-------------------|-----------------|-----------------------|----------|---------------------------------------------------|
| <i>M. sibiricum</i> | EC10<br>Chlorophyll-a | 4.8                  | Apical shoots<br>(5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10<br>Chlorophyll-a | 3.5                  | Apical shoots<br>(5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50<br>Chlorophyll-a | 21                   | Apical shoots<br>(5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50<br>Chlorophyll-a | 18.8                 | Apical shoots<br>(5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50<br>Chlorophyll-a | 17.7                 | Apical shoots<br>(5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Not lowest value                            |
| <i>M. sibiricum</i> | NOEC<br>Chlorophyll-a | 11.4                 | Apical shoots<br>(5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC<br>Chlorophyll-a | 2.9                  | Apical shoots<br>(5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC<br>Chlorophyll-a | 0.3                  | Apical shoots<br>(5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | Yes                                               |
| <i>M. sibiricum</i> | EC10<br>Chlorophyll-b | 4.4                  | Apical shoots<br>(5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10<br>Chlorophyll-b | 5.6                  | Apical shoots<br>(5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10<br>Chlorophyll-b | 3.6                  | Apical shoots<br>(5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50<br>Chlorophyll-b | 22.2                 | Apical shoots<br>(5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50<br>Chlorophyll-b | 22.2                 | Apical shoots<br>(5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50<br>Chlorophyll-b | 17.8                 | Apical shoots<br>(5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Not lowest value                            |
| <i>M. sibiricum</i> | NOEC<br>Chlorophyll-b | 11.4                 | Apical shoots<br>(5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC<br>Chlorophyll-b | 11.4                 | Apical shoots<br>(5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Milfoil - *Myriophyllum sibiricum***

| Species             | Effect                | Concentration (mg/L) | Life Stage              | Duration (days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments              | Ref. No. | Used for Criteria Calculation/Reason              |
|---------------------|-----------------------|----------------------|-------------------------|-----------------|-------|------------|-------------------|-----------------|-----------------------|----------|---------------------------------------------------|
| <i>M. sibiricum</i> | NOEC<br>Chlorophyll-b | 2.9                  | Apical shoots<br>(5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Not lowest value                            |
| <i>M. sibiricum</i> | EC10<br>Carotenoids   | 4.8                  | Apical shoots<br>(5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10<br>Carotenoids   | 5.7                  | Apical shoots<br>(5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC10<br>Carotenoids   | 6.4                  | Apical shoots<br>(5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50<br>Carotenoids   | 24.2                 | Apical shoots<br>(5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50<br>Carotenoids   | 28.5                 | Apical shoots<br>(5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | EC50<br>Carotenoids   | 32.1                 | Apical shoots<br>(5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Not lowest value                            |
| <i>M. sibiricum</i> | NOEC<br>Carotenoids   | 32.3                 | Apical shoots<br>(5 cm) | 14              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC<br>Carotenoids   | 2.9                  | Apical shoots<br>(5 cm) | 28              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | No<br>Data point not used in criteria calculation |
| <i>M. sibiricum</i> | NOEC<br>Carotenoids   | 0.3                  | Apical shoots<br>(5 cm) | 42              | SM    | FW         | NR                | NR              | Outdoor<br>Microcosms | STS-108  | Yes                                               |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Duckweed - *Lemna gibba***

| Species         | Effect              | Concentration (mg/L) | Life Stage | Duration (Days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments   | Ref. No. | Used for Criteria Calculation/Reason |
|-----------------|---------------------|----------------------|------------|-----------------|-------|------------|-------------------|-----------------|------------|----------|--------------------------------------|
| <i>L. gibba</i> | IC50 (frond number) | 59.1                 | NR         | 4               | SU    | FW         | 25                | NR              | Good Study | STS-104  | No<br>Not lowest value               |
| <i>L. gibba</i> | NOEC (frond number) | 29.2                 | NR         | 4               | SU    | FW         | 25                | NR              | Good Study | STS-104  | No<br>Not lowest value               |
| <i>L. gibba</i> | IC50 (wet weight)   | 31.1                 | NR         | 4               | SU    | FW         | 25                | NR              | Good Study | STS-104  | Yes                                  |
| <i>L. gibba</i> | NOEC (wet weight)   | 6.6                  | NR         | 4               | SU    | FW         | 25                | NR              | Good Study | STS-104  | Yes                                  |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Ammonium Salt**  
*Photobacterium phosphoreum*

| Species               | Effect | Concentration (mg/L) | Life Stage | Duration   | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments           | Ref. No.   | Used for Criteria Calculation/Reason |
|-----------------------|--------|----------------------|------------|------------|-------|------------|-------------------|-----------------|--------------------|------------|--------------------------------------|
| <i>P. phosphoreum</i> | EC50   | 600                  | NR         | 5 minutes  | SU    | SW         | 15                | NR              | Microtox Procedure | AR226-0538 | No<br>Non-native species             |
| <i>P. phosphoreum</i> | EC50   | 510                  | NR         | 15 minutes | SU    | SW         | 15                | NR              | Microtox Procedure | AR226-0538 | No<br>Non-native species             |
| <i>P. phosphoreum</i> | EC50   | 350                  | NR         | 30 minutes | SU    | SW         | 15                | NR              | Microtox Procedure | AR226-0538 | No<br>Non-native species             |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Lithium Salt**  
*Photobacterium phosphoreum*

| Species               | Effect | Concentration (mg/L) | Life Stage | Duration   | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments           | Ref. No.   | Used for Criteria Calculation/Reason |
|-----------------------|--------|----------------------|------------|------------|-------|------------|-------------------|-----------------|--------------------|------------|--------------------------------------|
| <i>P. phosphoreum</i> | EC10   | 564                  | NR         | 15 minutes | SU    | SW         | NR                | NR              | Microtox Procedure | AR226-0113 | No<br>Non-native species             |
| <i>P. phosphoreum</i> | EC50   | >1000                | NR         | 15 minutes | SU    | SW         | NR                | NR              | Microtox Procedure | AR226-0113 | No<br>Non-native species             |
| <i>P. phosphoreum</i> | EC10   | 487                  | NR         | 30 minutes | SU    | SW         | NR                | NR              | Microtox Procedure | AR226-0113 | No<br>Non-native species             |
| <i>P. phosphoreum</i> | EC50   | >1000                | NR         | 30 minutes | SU    | SW         | NR                | NR              | Microtox Procedure | AR226-0113 | No<br>Non-native species             |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Milfoil - *Myriophyllum spicatum***

| Species            | Effect              | Concentration (mg/L) | Life Stage           | Duration (days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments         | Ref. No. | Used for Criteria Calculation/Reason |
|--------------------|---------------------|----------------------|----------------------|-----------------|-------|------------|-------------------|-----------------|------------------|----------|--------------------------------------|
| <i>M. spicatum</i> | EC10 (plant length) | 4.8                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (plant length) | 13.8                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (plant length) | 9.9                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (plant length) | 24                   | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (plant length) | 22.7                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (plant length) | 20.4                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (plant length) | 11.4                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (plant length) | 11.4                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (plant length) | 11.4                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (root number)  | 4.9                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (root number)  | 4.7                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (root number)  | 14.8                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (root number)  | 24.5                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (root number)  | 23.6                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (root number)  | 23                   | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |

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RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Milfoil - *Myriophyllum spicatum***

| Species            | Effect              | Concentration (mg/L) | Life Stage           | Duration (days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments         | Ref. No. | Used for Criteria Calculation/Reason |
|--------------------|---------------------|----------------------|----------------------|-----------------|-------|------------|-------------------|-----------------|------------------|----------|--------------------------------------|
| <i>M. spicatum</i> | NOEC (root number)  | 11.4                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (root number)  | 11.4                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (root number)  | 11.4                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (root length)  | 10.2                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (root length)  | 10                   | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (root length)  | 10                   | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (root length)  | 17.6                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (root length)  | 17.3                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (root length)  | 16.7                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (root length)  | 32.3                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (root length)  | 11.4                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (root length)  | 11.4                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (longest root) | 14.6                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (longest root) | 4.6                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (longest root) | 9.4                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |

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SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Milfoil - *Myriophyllum spicatum***

| Species            | Effect              | Concentration (mg/L) | Life Stage           | Duration (days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments         | Ref. No. | Used for Criteria Calculation/Reason |
|--------------------|---------------------|----------------------|----------------------|-----------------|-------|------------|-------------------|-----------------|------------------|----------|--------------------------------------|
| <i>M. spicatum</i> | EC50 (longest root) | 24.5                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (longest root) | 22.8                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (longest root) | 19.9                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (longest root) | 11.4                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (longest root) | 11.4                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (longest root) | 11.4                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (Node number)  | 4.1                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (Node number)  | 9.9                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (Node number)  | 11.3                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (Node number)  | 20.3                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (Node number)  | 20.6                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (Node number)  | 20.3                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (Node number)  | 32.3                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (Node number)  | 11.4                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (Node number)  | 11.4                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |

NR - Not Recorded  
FW - Freshwater  
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SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Milfoil - *Myriophyllum spicatum***

| Species            | Effect          | Concentration (mg/L) | Life Stage           | Duration (days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments         | Ref. No. | Used for Criteria Calculation/Reason |
|--------------------|-----------------|----------------------|----------------------|-----------------|-------|------------|-------------------|-----------------|------------------|----------|--------------------------------------|
| <i>M. spicatum</i> | EC10 (Wet mass) | 8.2                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (Wet mass) | 3.6                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (Wet mass) | 3.5                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (Wet mass) | 15                   | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (Wet mass) | 17.8                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (Wet mass) | 17.5                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (Wet mass) | 32.3                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (Wet mass) | 11.4                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (Wet mass) | 11.4                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (Dry mass) | 8.3                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (Dry mass) | 3.3                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 (Dry mass) | 4.3                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (Dry mass) | 14                   | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (Dry mass) | 16.6                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 (Dry mass) | 12.5                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Milfoil - *Myriophyllum spicatum***

| Species            | Effect             | Concentration (mg/L) | Life Stage           | Duration (days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments         | Ref. No. | Used for Criteria Calculation/Reason |
|--------------------|--------------------|----------------------|----------------------|-----------------|-------|------------|-------------------|-----------------|------------------|----------|--------------------------------------|
| <i>M. spicatum</i> | NOEC (Dry mass)    | 32.3                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (Dry mass)    | 11.4                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC (Dry mass)    | 11.4                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 Chlorophyll-a | 7.7                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 Chlorophyll-a | 6.1                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 Chlorophyll-a | 5.1                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 Chlorophyll-a | 38.3                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 Chlorophyll-a | 30.7                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 Chlorophyll-a | 25.3                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC Chlorophyll-a | 11.4                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC Chlorophyll-a | 11.4                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC Chlorophyll-a | 11.4                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 Chlorophyll-b | nc                   | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 Chlorophyll-b | 6.7                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 Chlorophyll-b | 5                    | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4a: Toxicity Data**  
**PFOS - Potassium Salt**  
**Milfoil - *Myriophyllum spicatum***

| Species            | Effect             | Concentration (mg/L) | Life Stage           | Duration (days) | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments         | Ref. No. | Used for Criteria Calculation/Reason |
|--------------------|--------------------|----------------------|----------------------|-----------------|-------|------------|-------------------|-----------------|------------------|----------|--------------------------------------|
| <i>M. spicatum</i> | EC50 Chlorophyll-b | nc                   | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 Chlorophyll-b | 33.3                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 Chlorophyll-b | 25                   | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC Chlorophyll-b | 32.3                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC Chlorophyll-b | 11.4                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC Chlorophyll-b | 11.4                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 Carotenoids   | 8.4                  | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 Carotenoids   | 7.9                  | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC10 Carotenoids   | 8.6                  | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 Carotenoids   | 42                   | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 Carotenoids   | 39.4                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | EC50 Carotenoids   | 43.2                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC Carotenoids   | 11.4                 | Apical shoots (5 cm) | 14              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC Carotenoids   | 11.4                 | Apical shoots (5 cm) | 28              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |
| <i>M. spicatum</i> | NOEC Carotenoids   | 11.4                 | Apical shoots (5 cm) | 42              | SM    | FW         | NR                | NR              | Eurasian milfoil | STS-108  | No Non-native species                |

NR - Not Recorded  
FW - Freshwater  
SW - Saltwater  
SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 4b: Usable Plant Toxicity Data  
PFOS - All Salts**

| Species                 | Effect                              | Concentration (mg/L) | Life Stage           | Duration | Ex Ty | Salt/Fresh | Temperature ( C ) | Hardness (mg/L) | Comments                            | Ref. No.                           | Used for Criteria Calculation/Reason |
|-------------------------|-------------------------------------|----------------------|----------------------|----------|-------|------------|-------------------|-----------------|-------------------------------------|------------------------------------|--------------------------------------|
| <i>S. capricornutum</i> | EC50 (cell density)                 | 68                   | NR                   | 4        | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | Yes                                  |
| <i>S. capricornutum</i> | NOAEC (cell density)                | 42                   | NR                   | 4        | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | Yes                                  |
| <i>S. capricornutum</i> | EC50 (area under the growth curve)  | 68                   | NR                   | 4        | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | Yes                                  |
| <i>S. capricornutum</i> | NOAEC (area under the growth curve) | 42                   | NR                   | 4        | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | Yes                                  |
| <i>S. capricornutum</i> | NOAEC (growth rate)                 | 42                   | NR                   | 4        | SM    | FW         | 23.6-25.8         | NR              | pH slightly out of range in control | AR226-0084, AR226-0085, AR226-1760 | Yes                                  |
| <i>S. capricornutum</i> | IC50 (cell density)                 | 48.2                 | NR                   | 4        | SU    | FW         | 23                | NR              | Temp. out of range                  | STS-104                            | Yes                                  |
| <i>S. capricornutum</i> | NOEC (cell density)                 | 5                    | NR                   | 4        | SU    | FW         | 23                | NR              | Temp. out of range                  | STS-104                            | Yes                                  |
| <i>N. pelliculosa</i>   | EC50 (area under the growth curve)  | 252                  | NR                   | 4        | SM    | FW         | 23.1-24.6         | NR              | GLP Study                           | STS-118                            | Yes                                  |
| <i>C. vulgaris</i>      | IC50 (cell density)                 | 81.6                 |                      | 4        | SU    | FW         | 23                | NR              | Good study                          | STS-104                            | Yes                                  |
| <i>C. vulgaris</i>      | NOEC (cell density)                 | 8.2                  |                      | 4        | SU    | FW         | 23                | NR              | Good study                          | STS-104                            | Yes                                  |
| <i>M. sibiricum</i>     | NOEC (plant length)                 | 0.3                  | Apical shoots (5 cm) | 42       | SM    | FW         | NR                | NR              | Outdoor Microcosms                  | STS-108                            | Yes                                  |
| <i>M. sibiricum</i>     | NOEC (root length)                  | 0.3                  | Apical shoots (5 cm) | 42       | SM    | FW         | NR                | NR              | Outdoor Microcosms                  | STS-108                            | Yes                                  |
| <i>M. sibiricum</i>     | EC50 (longest root)                 | 1.6                  | Apical shoots (5 cm) | 42       | SM    | FW         | NR                | NR              | Outdoor Microcosms                  | STS-108                            | Yes                                  |
| <i>M. sibiricum</i>     | NOEC (longest root)                 | 0.3                  | Apical shoots (5 cm) | 42       | SM    | FW         | NR                | NR              | Outdoor Microcosms                  | STS-108                            | Yes                                  |
| <i>M. sibiricum</i>     | NOEC Chlorophyll-a                  | 0.3                  | Apical shoots (5 cm) | 42       | SM    | FW         | NR                | NR              | Outdoor Microcosms                  | STS-108                            | Yes                                  |
| <i>M. sibiricum</i>     | NOEC Carotenoids                    | 0.3                  | Apical shoots (5 cm) | 42       | SM    | FW         | NR                | NR              | Outdoor Microcosms                  | STS-108                            | Yes                                  |
| <i>L. gibba</i>         | IC50 (wet weight)                   | 31.1                 | NR                   | 4        | SU    | FW         | 25                | NR              | Good Study                          | STS-104                            | Yes                                  |
| <i>L. gibba</i>         | NOEC (wet weight)                   | 6.6                  | NR                   | 4        | SU    | FW         | 25                | NR              | Good Study                          | STS-104                            | Yes                                  |

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SM - Static Measured  
RM - Renewal Measured  
SU - Static Unmeasured  
RU - Renewal Unmeasured  
FM - Flow-through Measured  
FU - Flow-through Unmeasured

**Table 5a: Bioconcentration/Bioaccumulation Data**  
**PFOS**

| Species Latin Name/Species Common Name                                  | Effect Type | BCF/BAF Value (L/kg)                      | Tissue Type    | Life Stage/Age              | Duration (days) | Exp. Type    | Salt/Fresh | Comments                                                                                               | Ref. No.                       |
|-------------------------------------------------------------------------|-------------|-------------------------------------------|----------------|-----------------------------|-----------------|--------------|------------|--------------------------------------------------------------------------------------------------------|--------------------------------|
| <i>Lepomis macrochirus</i> /bluegill sunfish                            | BCF         | 1124                                      | Edible portion | Juveniles (7 mo.)           | 62              | FM           | FW         | Laboratory test, kinetic extrapolation                                                                 | STS-328                        |
| <i>Oncorhynchus mykiss</i> /rainbow trout                               | BCF         | 1100 ± 150                                | Edible portion | Juveniles                   | 12              | FM           | FW         | Laboratory test, kinetic extrapolation                                                                 | Martin et al., 2003 (STS-160)  |
| <i>Lepomis macrochirus</i> /bluegill sunfish                            | BAF         | 1645.455 - 3390.909 (geometric mean 2802) | Edible portion | 2-3 yrs.                    | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Lake Calhoun)                                                           | MPCA, 2006                     |
| <i>Lepomis macrochirus</i> /bluegill sunfish                            | BAF         | 4060.15 - 16541.35 (geometric mean 6761)  | Edible portion | 3 yrs.                      | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3)                                               | MPCA, 2006                     |
| <i>Morone chrysops</i> / white bass                                     | BAF         | 3259.398 - 5789.474 (geometric mean 4861) | Edible portion | Juvenile (1 yr.)            | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3)                                               | MPCA, 2006                     |
| <i>Catostomus commersonii</i> / white sucker                            | BAF         | 446.3636                                  | Edible portion | 2-3 yrs.                    | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Lake Calhoun)                                                           | MPCA, 2006                     |
| <i>Catostomus commersonii</i> / white sucker                            | BAF         | 14.81818-16.09091 (artificially derived)  | Edible portion | 2-3 yrs.                    | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Lake Calhoun). Values artificially derived based on 1/2 detection level | MPCA, 2006                     |
| <i>Micropterus dolomieu</i> / smallmouth bass                           | BCF/BAF     | 1,000-3,000                               | Whole fish     | variable                    | variable        | Field Survey | FW         | Food Web Study                                                                                         | Kannan et al., 2005 (226-8000) |
| <i>Apollonia melanostomus</i> / round goby                              | BCF/BAF     | 2,000-4,000                               | Whole fish     | variable                    | variable        | Field Survey | FW         | Food Web Study                                                                                         | Kannan et al., 2005 (226-8000) |
| <i>Lepomis macrochirus</i> /bluegill sunfish                            | BCF         | 2796                                      | Whole fish     | Juveniles (7 mo.)           | 62              | FM           | FW         | Laboratory test, kinetic extrapolation                                                                 | STS-328                        |
| <i>Salvelinus namaycush</i> / lake trout                                | BAF         | 20,000                                    | Whole fish     | 4 years                     | variable        | Field Survey | FW         | Lake Superior                                                                                          | Furdui et al., 2007 (STS-330)  |
|                                                                         | BAF         | 6,300                                     | Whole fish     | 4 years                     | variable        | Field Survey | FW         | Lake Michigan                                                                                          | Furdui et al., 2007 (STS-330)  |
|                                                                         | BAF         | 16,000                                    | Whole fish     | 4 years                     | variable        | Field Survey | FW         | Lake Huron                                                                                             | Furdui et al., 2007 (STS-330)  |
|                                                                         | BAF         | 25,000                                    | Whole fish     | 4 years                     | variable        | Field Survey | FW         | Lake Erie                                                                                              | Furdui et al., 2007 (STS-330)  |
|                                                                         | BAF         | 8,000                                     | Whole fish     | 4 years                     | variable        | Field Survey | FW         | Lake Ontario                                                                                           | Furdui et al., 2007 (STS-330)  |
| Benthic algae                                                           | BCF/BAF     | 1,000                                     | Whole organism | variable                    | variable        | Field Survey | FW         | Food Web Study                                                                                         | Kannan et al., 2005 (226-8000) |
| Amphipods                                                               | BCF/BAF     | 1,000                                     | Whole organism | variable                    | variable        | Field Survey | FW         | Food Web Study                                                                                         | Kannan et al., 2005 (226-8000) |
| <i>Dreissena polymorpha</i> / zebra mussel                              | BCF/BAF     | 1,000                                     | Whole organism | variable                    | variable        | Field Survey | FW         | Food Web Study                                                                                         | Kannan et al., 2005 (226-8000) |
| <i>Pimephales promelas</i> /fathead minnow                              | BCF         | 1167-1300 (males) 1600-1750 (females)     | Plasma         | Adults (6-7 mo.)            | 21              | FM           | FW         | Laboratory test                                                                                        | Ankley et al., 2005 (STS-318)  |
|                                                                         | BCF         | 250-400 (males) 900-1333 (females)        | Liver          | Adults (6-7 mo.)            | 21              | FM           | FW         | Laboratory test                                                                                        | Ankley et al., 2005 (STS-318)  |
|                                                                         | BCF         | 167-367 (males) 800-1000 (females)        | Gonads         | Adults (6-7 mo.)            | 21              | FM           | FW         | Laboratory test                                                                                        | Ankley et al., 2005 (STS-318)  |
| <i>Oncorhynchus mykiss</i> /rainbow trout                               | BCF         | 4300 ± 570                                | Blood          | Juveniles                   | 12              | FM           | FW         | Laboratory test, kinetic extrapolation                                                                 | Martin et al., 2003 (STS-160)  |
|                                                                         | BCF         | 5400 ± 860                                | Liver          | Juveniles                   | 12              | FM           | FW         | Laboratory test, kinetic extrapolation                                                                 | Martin et al., 2003 (STS-160)  |
| Fishes                                                                  | BCF         | 1400-21,100 (geometric mean = 5500)       | Liver          | variable                    | variable        | Field Survey | SW         | Tokyo Bay                                                                                              | STS-137                        |
| <i>Lepomis macrochirus</i> /bluegill sunfish                            | BCF         | 41,600                                    | Liver          | variable                    | variable        | Field Survey | FW         | Lake Biwa (highest BCF reported)                                                                       | STS-137                        |
| Fishes                                                                  | BCF         | 274-41,600 (geometric mean = 8540)        | Liver          | variable                    | variable        | Field Survey | FW/SW      | Japan                                                                                                  | STS-137                        |
| <i>Trachemys scripta elegans</i> and <i>Chinemys reevesii</i> / turtles | BCF         | 10,000-38,000 (geometric mean = 10,964)   | Serum          | variable (average 8.3 yrs.) | variable        | Field Survey | FW         | Japan                                                                                                  | STS-314                        |

Table 5b: Usable Bioconcentration/Bioaccumulation Data

| PFOS                                          |             |                                |                |                   |                 |              |            |                                                          |                                |
|-----------------------------------------------|-------------|--------------------------------|----------------|-------------------|-----------------|--------------|------------|----------------------------------------------------------|--------------------------------|
| Species Latin Name/Species Common Name        | Effect Type | BCF/BAF Value (L/kg)           | Tissue Type    | Life Stage/Age    | Duration (days) | Exp. Type    | Salt/Fresh | Comments                                                 | Ref. No.                       |
| <i>Lepomis macrochirus</i> / bluegill sunfish | BCF         | 1124                           | Edible portion | Juveniles (7 mo.) | 62              | FM           | FW         | Laboratory test, kinetic extrapolation                   | STS-328                        |
| <i>Oncorhynchus mykiss</i> / rainbow trout    | BCF         | 1100 ± 150                     | Edible portion | Juveniles         | 12              | FM           | FW         | Laboratory test, kinetic extrapolation                   | Martin et al., 2003 (STS-160)  |
| <i>Lepomis macrochirus</i> / bluegill sunfish | BAF         | 1645.455 (geometric mean 2802) | Edible portion | 2-3 yrs.          | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Lake Calhoun)             | MPCA, 2006                     |
|                                               | BAF         | 2827.273 (geometric mean 2802) | Edible portion | 2-3 yrs.          | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Lake Calhoun)             | MPCA, 2006                     |
|                                               | BAF         | 3236.364 (geometric mean 2802) | Edible portion | 2-3 yrs.          | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Lake Calhoun)             | MPCA, 2006                     |
|                                               | BAF         | 3390.909 (geometric mean 2802) | Edible portion | 2-3 yrs.          | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Lake Calhoun)             | MPCA, 2006                     |
|                                               | BAF         | 3390.909 (geometric mean 2802) | Edible portion | 2-3 yrs.          | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Lake Calhoun)             | MPCA, 2006                     |
| <i>Lepomis macrochirus</i> / bluegill sunfish | BAF         | 4060.15 (geometric mean 6771)  | Edible portion | 3 yrs.            | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006                     |
|                                               | BAF         | 4624.06 (geometric mean 6771)  | Edible portion | 3 yrs.            | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006                     |
|                                               | BAF         | 16541.35 (geometric mean 6771) | Edible portion | 3 yrs.            | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006                     |
| <i>Morone chrysops</i> / white bass           | BAF         | 3259.398 (geometric mean 4861) | Edible portion | Juvenile (1 yr.)  | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006                     |
|                                               | BAF         | 4586.466 (geometric mean 4861) | Edible portion | Juvenile (1 yr.)  | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006                     |
|                                               | BAF         | 5563.91 (geometric mean 4861)  | Edible portion | Juvenile (1 yr.)  | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006                     |
|                                               | BAF         | 5639.098 (geometric mean 4861) | Edible portion | Juvenile (1 yr.)  | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006                     |
|                                               | BAF         | 5789.474 (geometric mean 4861) | Edible portion | Juvenile (1 yr.)  | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006                     |
| <i>Micropterus dolomieu</i> / smallmouth bass | BCF/BAF     | 1,000-3,000                    | Whole fish     | variable          | variable        | Field Survey | FW         | Food Web Study                                           | Kannan et al., 2005 (226-8000) |
| <i>Apollonia melanostomus</i> / round goby    | BCF/BAF     | 2,000-4,000                    | Whole fish     | variable          | variable        | Field Survey | FW         | Food Web Study                                           | Kannan et al., 2005 (226-8000) |
| <i>Lepomis macrochirus</i> / bluegill sunfish | BCF         | 2796                           | Whole fish     | Juveniles (7 mo.) | 62              | FM           | FW         | Laboratory test, kinetic extrapolation                   | STS-328                        |
| <i>Salvelinus namaycush</i> / lake trout      | BAF         | 20,000                         | Whole fish     | 4 years           | variable        | Field Survey | FW         | Lake Superior                                            | Furdui et al., 2007 (STS-330)  |
|                                               | BAF         | 6,300                          | Whole fish     | 4 years           | variable        | Field Survey | FW         | Lake Michigan                                            | Furdui et al., 2007 (STS-330)  |
|                                               | BAF         | 16,000                         | Whole fish     | 4 years           | variable        | Field Survey | FW         | Lake Huron                                               | Furdui et al., 2007 (STS-330)  |
|                                               | BAF         | 25,000                         | Whole fish     | 4 years           | variable        | Field Survey | FW         | Lake Erie                                                | Furdui et al., 2007 (STS-330)  |
|                                               | BAF         | 8,000                          | Whole fish     | 4 years           | variable        | Field Survey | FW         | Lake Ontario                                             | Furdui et al., 2007 (STS-330)  |
| Benthic algae                                 | BCF/BAF     | 1,000                          | Whole organism | variable          | variable        | Field Survey | FW         | Food Web Study                                           | Kannan et al., 2005 (226-8000) |
| Amphipods                                     | BCF/BAF     | 1,000                          | Whole organism | variable          | variable        | Field Survey | FW         | Food Web Study                                           | Kannan et al., 2005 (226-8000) |
| <i>Dreissena polymorpha</i> / zebra mussel    | BCF/BAF     | 1,000                          | Whole organism | variable          | variable        | Field Survey | FW         | Food Web Study                                           | Kannan et al., 2005 (226-8000) |

**Table 5c: Final Chosen Bioconcentration/Bioaccumulation Data  
PFOS**

| Species Latin Name/Species Common Name        | Effect Type | BCF/BAF Value (L/kg)           | Tissue Type    | Life Stage/Age   | Duration (days) | Exp. Type    | Salt/Fresh | Comments                                                 | Ref. No.   |
|-----------------------------------------------|-------------|--------------------------------|----------------|------------------|-----------------|--------------|------------|----------------------------------------------------------|------------|
| <i>Lepomis macrochirus</i> / bluegill sunfish | BAF         | 1645.455 (geometric mean 2802) | Edible portion | 2-3 yrs.         | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Lake Calhoun)             | MPCA, 2006 |
|                                               | BAF         | 2827.273 (geometric mean 2802) | Edible portion | 2-3 yrs.         | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Lake Calhoun)             | MPCA, 2006 |
|                                               | BAF         | 3236.364 (geometric mean 2802) | Edible portion | 2-3 yrs.         | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Lake Calhoun)             | MPCA, 2006 |
|                                               | BAF         | 3390.909 (geometric mean 2802) | Edible portion | 2-3 yrs.         | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Lake Calhoun)             | MPCA, 2006 |
|                                               | BAF         | 3390.909 (geometric mean 2802) | Edible portion | 2-3 yrs.         | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Lake Calhoun)             | MPCA, 2006 |
| <i>Lepomis macrochirus</i> / bluegill sunfish | BAF         | 4060.15 (geometric mean 6771)  | Edible portion | 3 yrs.           | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006 |
|                                               | BAF         | 4624.06 (geometric mean 6771)  | Edible portion | 3 yrs.           | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006 |
|                                               | BAF         | 16541.35 (geometric mean 6771) | Edible portion | 3 yrs.           | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006 |
| <i>Morone chrysops</i> / white bass           | BAF         | 3259.398 (geometric mean 4861) | Edible portion | Juvenile (1 yr.) | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006 |
|                                               | BAF         | 4586.466 (geometric mean 4861) | Edible portion | Juvenile (1 yr.) | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006 |
|                                               | BAF         | 5563.91 (geometric mean 4861)  | Edible portion | Juvenile (1 yr.) | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006 |
|                                               | BAF         | 5639.098 (geometric mean 4861) | Edible portion | Juvenile (1 yr.) | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006 |
|                                               | BAF         | 5789.474 (geometric mean 4861) | Edible portion | Juvenile (1 yr.) | variable        | Field Survey | FW         | Minnesota Site-Specific Study (Mississippi River Pool 3) | MPCA, 2006 |