# FDEP Biology Laboratory-Toxicity Section
## Chronic SRT Bench Sheet



**Start Date: _____ Time: _____** **Randomizer #_____**

**End Date: _____ Time: _____**

| Test Type |
|---|
| ☐ Screen |
| ☐ Definitive |
| ☐ Static |
| ☐ Flow-through |

Circle one:

***P. promelas*** (SOP:TA-07.09, Method: 1000.0)

***M. beryllina*** (SOP: TA-07.04, Method: 1006.0)

**Chamber Size 1000 mL**
**Test Volume 500 mL**

**Light Intensity: 50-100 ft candles (recommended)**
**Photoperiod:16 hr light, 8 hr dark (recommended)**

| Toxicant | Batch #/LIMS ID # | Days Used |
|---|---|---|
| | | |
| | | |

| Diluent | Batch #/LIMS ID # | Days Used |
|---|---|---|
| | | |
| | | |

**Organism Age:**
**_____**
**Batch #:**
**_____**

| Feeding Times | |
|---|---|
| First | Second |
| Day 0 * _____ | Day 0_____ |
| Day 1 _____ | Day 1 _____ |
| Day 2 _____ | Day 2 _____ |
| Day 3 _____ | Day 3 _____ |
| Day 4 _____ | Day 4 _____ |
| Day 5 _____ | Day 5 _____ |
| Day 6 _____ | Day 6 _____ |

*** Day 0 first feeding is 2 hours prior to test intiation.**

| *Artemia* Batch #'s |
|---|
| Day 0 _____ |
| Day 1 _____ |
| Day 2 _____ |
| Day 3 _____ |
| Day 4 _____ |
| Day 5 _____ |
| Day 6 _____ |
| *Artemia* Lot # |
| _____ |

**Stats run by/Date: _____**
**Stats verified by/Date: _____**

| Results | |
|---|---|
| Control % CV: | |
| Dunnetts PMSD (%): | |
| Growth $IC_{25}$ (g/L): | |
| Growth NOEC (g/L): | |
| Growth LOEC (g/L): | |
| Survival NOEC (g/L): | |
| Survival LOEC (g/L): | |

*P. promelas* PMSD Bounds for Growth: Lower 12 Upper 30

*M. beryllina* PMSD Bounds for Growth: Lower 11 Upper 28

| Test Validation | | |
|---|---|---|
| Control Survival ≥ 80%: | Yes | No |
| Temperature Range ≤ 3° C: | Yes | No |

**REVIEWER:_____**

**Comments:**

# FDEP Biology Laboratory-Toxicity Section
## SRT Water Quality Information Sheet

Method: EPA-821-R-02-012



| Water Quality Parameters | MHW<br>LIMS lab # _____<br>Batch # _____ | MHW<br>LIMS lab # _____<br>Batch # _____ | ASW<br>LIMS lab # _____<br>Batch # _____ | ASW<br>LIMS lab # _____<br>Batch # _____ | Method | SOP | Measured By: | Transcription Checked by: |
|---|---|---|---|---|---|---|---|---|
| **Lab Total Residual $Cl_2$** (mg/L) | | | | | HACH | TA-06.22 | | |
| **Alkalinity** (mg/L as $CaCO_3$) | | | | | HACH | TA-06.08 | | |
| **Hardness** (mg/L as $CaCO_3$) | | | | | HACH | TA-06.08 | | |
| **Total Ammonia** (mg/L as N) | | | | | HACH | TA-06.35 or TA-06.33 | | |
| **Conductivity** □ µmhos □ mmhos | | | | | FISCHER | TA-06.36 | | |
| **Salinity** (ppt) | | | | | FISCHER | TA-06.36 | | |
| **Days Used** | | | | | | | | |

| **Temperature Range** (°C) | |
|---|---|
| **Incubator #_____** | |
| **Min._____** | **Max._____** |
| **Test** | |
| **Min._____** | **Max._____** |
| **Room B246** | |
| **Min._____** | **Max._____** |

**Comments:**

# FDEP Biology Laboratory - Toxicicty Section
## Chronic SRT Survival Benchsheet



Circle one:
*P. promelas* (SOP:TA-07.09, Method: 1000.0)
*M. beryllina* (SOP: TA-07.14, Method: 1006.0)

D = dead M = missing

| Concentration (g/L) | Replicate | Chamber | TEST DAY | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Control | A | | 10 | | | | | | | |
| | B | | 10 | | | | | | | |
| | C | | 10 | | | | | | | |
| | D | | 10 | | | | | | | |
| | A | | 10 | | | | | | | |
| | B | | 10 | | | | | | | |
| | C | | 10 | | | | | | | |
| | D | | 10 | | | | | | | |
| | A | | 10 | | | | | | | |
| | B | | 10 | | | | | | | |
| | C | | 10 | | | | | | | |
| | D | | 10 | | | | | | | |
| | A | | 10 | | | | | | | |
| | B | | 10 | | | | | | | |
| | C | | 10 | | | | | | | |
| | D | | 10 | | | | | | | |
| | A | | 10 | | | | | | | |
| | B | | 10 | | | | | | | |
| | C | | 10 | | | | | | | |
| | D | | 10 | | | | | | | |
| | A | | 10 | | | | | | | |
| | B | | 10 | | | | | | | |
| | C | | 10 | | | | | | | |
| | D | | 10 | | | | | | | |
| | A | | 10 | | | | | | | |
| | B | | 10 | | | | | | | |
| | C | | 10 | | | | | | | |
| | D | | 10 | | | | | | | |
| Loaded by (0 hr): _____ | | Checked by: | | | | | | | | |
| Verified by (0 hr): _____ | | | | | | | | | | |
| Concentrations prepared by: | | | | | | | | | | |

**Comments:**

# FDEP Biology Laboratory - Toxicicty Section
# Chronic SRT Parameters Benchsheet



Circle one:
*P. promelas* (SOP:TA-07.09, Method: 1000.0)

*M. beryllina* (SOP: TA-07.14, Method: 1006.0)

Rep = replicate  Temp = Temperature  DO = Dissolved oxygen  Conc. = Concentration  circle umhos or mmhos

| ← Test Day | Conc. (g/L) | Before Renewal: Test Rep. | pH (su) | Temp (°C) | DO (mg/L) | Conductivity (umhos / mmhos) | Salinity (ppth) | After Renewal: Test Rep. | pH (su) | Temp (°C) | DO (mg/L) | Conductivity (umhos / mmhos) | Salinity (ppth) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Day 0 | Control | A | | | | | | | | | | | |
| | | A | | | | | | | | | | | |
| | | A | | | | | | | | | | | |
| | | A | | | | | | | | | | | |
| | | A | | | | | | | | | | | |
| | | A | | | | | | | | | | | |
| | | A | | | | | | | | | | | |
| | Measured by | | | | | | | | | | | | |
| | Recorded by | | | | | | | | | | | | |
| | | Rep | pH | Temp | DO | Conductivity | Salinity | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 1 | Control | B | | | | | | B | | | | | |
| | | B | | | | | | B | | | | | |
| | | B | | | | | | B | | | | | |
| | | B | | | | | | B | | | | | |
| | | B | | | | | | B | | | | | |
| | | B | | | | | | B | | | | | |
| | | B | | | | | | B | | | | | |
| | Measured by | | | | | | | | | | | | |
| | Recorded by | | | | | | | | | | | | |
| | | Rep | pH | Temp | DO | Conductivity | Salinity | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 2 | Control | C | | | | | | C | | | | | |
| | | C | | | | | | C | | | | | |
| | | C | | | | | | C | | | | | |
| | | C | | | | | | C | | | | | |
| | | C | | | | | | C | | | | | |
| | | C | | | | | | C | | | | | |
| | | C | | | | | | C | | | | | |
| | Measured by | | | | | | | | | | | | |
| | Recorded by | | | | | | | | | | | | |
| | | Rep | pH | Temp | DO | Conductivity | Salinity | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 3 | Control | D | | | | | | D | | | | | |
| | | D | | | | | | D | | | | | |
| | | D | | | | | | D | | | | | |
| | | D | | | | | | D | | | | | |
| | | D | | | | | | D | | | | | |
| | | D | | | | | | D | | | | | |
| | | D | | | | | | D | | | | | |
| | Measured by | | | | | | | | | | | | |
| | Recorded by | | | | | | | | | | | | |

**Comments:**

# FDEP Biology Laboratory - Toxicicty Section
## Chronic SRT Parameters Benchsheet



Circle one:
*P. promelas* (SOP:TA-07.09, Method: 1000.0)

*M. beryllina* (SOP: TA-07.14, Method: 1006.0)

Rep = replicate  Temp = Temperature  DO = Dissolved oxygen  Conc. = Concentration  circle umhos or mmhos

| ← Test Day | Conc. (g/L) | Before Renewal: Test Rep. | pH (su) | Temp (°C) | DO (mg/L) | Conductivity (umhos / mmhos) | Salinity (ppth) | After Renewal: Test Rep. | pH (su) | Temp (°C) | DO (mg/L) | Conductivity (umhos / mmhos) | Salinity (ppth) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Day 4 | Control | A | | | | | | A | | | | | |
| | | A | | | | | | A | | | | | |
| | | A | | | | | | A | | | | | |
| | | A | | | | | | A | | | | | |
| | | A | | | | | | A | | | | | |
| | | A | | | | | | A | | | | | |
| | | A | | | | | | A | | | | | |
| | Measured by | | | | | | | | | | | | |
| | Recorded by | | | | | | | | | | | | |
| | | Rep | pH | Temp | DO | Conductivity | Salinity | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 5 | Control | B | | | | | | B | | | | | |
| | | B | | | | | | B | | | | | |
| | | B | | | | | | B | | | | | |
| | | B | | | | | | B | | | | | |
| | | B | | | | | | B | | | | | |
| | | B | | | | | | B | | | | | |
| | | B | | | | | | B | | | | | |
| | Measured by | | | | | | | | | | | | |
| | Recorded by | | | | | | | | | | | | |
| | | Rep | pH | Temp | DO | Conductivity | Salinity | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 6 | Control | C | | | | | | C | | | | | |
| | | C | | | | | | C | | | | | |
| | | C | | | | | | C | | | | | |
| | | C | | | | | | C | | | | | |
| | | C | | | | | | C | | | | | |
| | | C | | | | | | C | | | | | |
| | | C | | | | | | C | | | | | |
| | Measured by | | | | | | | | | | | | |
| | Recorded by | | | | | | | | | | | | |
| | | Rep | pH | Temp | DO | Conductivity | Salinity | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 7 | Control | D | | | | | | D | | | | | |
| | | D | | | | | | D | | | | | |
| | | D | | | | | | D | | | | | |
| | | D | | | | | | D | | | | | |
| | | D | | | | | | D | | | | | |
| | | D | | | | | | D | | | | | |
| | | D | | | | | | D | | | | | |
| | Measured by | | | | | | | | | | | | |
| | Recorded by | | | | | | | | | | | | |

**Comments:**

# FDEP Biology Laboratory-Toxicity Section
## Chronic SRT Weight Benchsheet



Circle one:
*Pimephales promelas* : SOP TA-7.09; EPA-821-R-01-013; Method 1000.0
*Menidia beryllina: SOP TA-7.14; EPA-821-R-014; Method 1006.0*

wt.= Weight Conc. = Concentration

| Concentration ( g/L ) Concentration | Replicate | Pan # * | Mean wt. = Fish wt. divided by 10: Pan wt. (g) | Pan + Fish (g) | Fish wt. (g) | Original # of fish | Mean wt. (mg.) | Mean wt./Conc. (mg) |
|---|---|---|---|---|---|---|---|---|
| Control | A | | | | | 10 | | |
| | B | | | | | 10 | | |
| | C | | | | | 10 | | |
| | D | | | | | 10 | | |
| | A | | | | | 10 | | |
| | B | | | | | 10 | | |
| | C | | | | | 10 | | |
| | D | | | | | 10 | | |
| | A | | | | | 10 | | |
| | B | | | | | 10 | | |
| | C | | | | | 10 | | |
| | D | | | | | 10 | | |
| | A | | | | | 10 | | |
| | B | | | | | 10 | | |
| | C | | | | | 10 | | |
| | D | | | | | 10 | | |
| | A | | | | | 10 | | |
| | B | | | | | 10 | | |
| | C | | | | | 10 | | |
| | D | | | | | 10 | | |
| | A | | | | | 10 | | |
| | B | | | | | 10 | | |
| | C | | | | | 10 | | |
| | D | | | | | 10 | | |
| | A | | | | | 10 | | |
| | B | | | | | 10 | | |
| | C | | | | | 10 | | |
| | D | | | | | 10 | | |
| | Weighed by initials: | | | | | | | |

* Pan # refers to actual pan # and corresponding chamber #

**Comments:**

# FDEP Biology Laboratory-Toxicicty Section
## Chronic SRT Benchsheet
## Weight Quality Control



Circle one:

*Pimephales promelas* : SOP TA-7.09; EPA-821-R-01-013; Method 1000.0

*Menidia beryllina* : SOP TA-7.14; EPA-821-R-014; Method 1006.0

**Empty Pan Weights** Date: _____ Weighed by:_____

| Weights in grams | Pan 1 wt. | Pan 1 initial wt. |
|---|---|---|
| after Pan 5 | @ | |
| after Pan 10 | @ | |
| after Pan 15 | @ | |
| after Pan 20 | @ | |
| after Pan 24 | @ | |

| | Measured Value (g) | S-weight Value (g) |
|---|---|---|
| S-weights | @ | |
| | @ | |

**S-Weights**: BIO-S-WEIGHTS-01

**Balance:** Mettler Toledo XA105

Ser# B314195659

**Fish + Pan Weights** Date: _____ Weighed by:_____

| Weights in grams | Pan 1 wt. | Pan 1 initial wt. |
|---|---|---|
| after Pan 5 | @ | |
| after Pan 10 | @ | |
| after Pan 15 | @ | |
| after Pan 20 | @ | |
| after Pan 24 | @ | |

| | Measured Value (g) | S-weight Value (g) |
|---|---|---|
| S-weights | @ | |
| | @ | |

Drying Oven ID: _____

Temperature $^{o}$C: _____

Drying Hours: _____

Date/Time Organisms in oven: _____

Date/Time Organisms out of oven: _____

Note: Pan number (5, 10, etc.) refers to sequence of weighing as actual Pan #s may differ.

**Comments:**

# Instrument Code Sheet

Test ID: Dates:

| METER / DEVICE | Instrument Code |
|---|---|
| DO Meter | |
| pH Meter | |
| Conductivity Meter | |
| Ammonia Kit | |
| Traceable Thermometer | |
| Chlorine Kit | |
| Alkalinity Kit | |
| Hardness Kit | |
| Balances used | |
| Weights used | |
| | |
| | |
| Entered by and date: | |

**Comments:**