TNI PT for Accreditation

Fields of Proficiency Testing

Whole Effluent Toxicity Testing - Non-Potable Water

Effective Date April 1, 2009

Matrix	EPA [1] Test Code	EPA Method Reference	EPA [1] Analyte Code	Technology [2] (Organism, Test Type [duration, type, condition, temperature and dilution water])	Analyte [3] (Endpoint)	Reference Toxicants and Concentration [4,5] Potassium chloride (mg/L)	Zinc sulfate heptahydrate (mg/L)	Ammonium phosphate dibasic (mg/L)
NPW	0013	2000.0	754	Fathead minnow (Pimephales promelas), 48-hr Acute, nonrenewal, 25°C, MHSF	LC50	2000	-	400
NPW	0014	2000.0	755	Fathead minnow (Pimephales promelas), 48-hr Acute, nonrenewal, 25°C, 20% DMW	LC50	2000	8.8	300
NPW	0015	1000.0	756	Fathead minnow (Pimephales promelas), 7-day Chronic, daily renewal, MHSF	NOEC Survival	2000	2.2	150
NPW	0015	1000.0	808	Fathead minnow (Pimephales promelas), 7-day Chronic, daily renewal, MHSF	IC25 (ON) Growth	2000	2.2	150
NPW	0015	1000.0	810	Fathead minnow (Pimephales promelas), 7-day Chronic, daily renewal, MHSF	NOEC (ON) Growth	2000	2.2	150
NPW	0016	1000.0	759	Fathead minnow (Pimephales promelas), 7-day Chronic, daily renewal, 20% DMW	NOEC Survival	2000	4.4	150
NPW	0016	1000.0	812	Fathead minnow (Pimephales promelas), 7-day Chronic, daily renewal, 20% DMW	IC25 (ON) Growth	2000	4.4	150
NPW	0016	1000.0	814	Fathead minnow (Pimephales promelas), 7-day Chronic, daily renewal, 20% DMW	NOEC (ON) Growth	2000	4.4	150
NPW	0019	2002.0	764	Ceriodaphnia dubia, 48-hr Acute, renewal, 25°C, MHSF	LC50	1000	2.2	200
NPW	0020	2002.0	765	Ceriodaphnia dubia, 48-hr Acute, renewal, 25°C, 20% DMW	LC50	1000	2.2	200
NPW	0021	1002.0	766	Ceriodaphnia dubia, 7-day Chronic, daily renewal, MHSF	NOEC Survival	1000	1.5	200
NPW	0021	1002.0	767	Ceriodaphnia dubia, 7-day Chronic, daily renewal, MHSF	IC25 Reproduction	1000	1.5	200
NPW	0021	1002.0	768	Ceriodaphnia dubia, 7-day Chronic, daily renewal, MHSF	NOEC Reproduction	1000	1.5	200
NPW	0022	1002.0	769	Ceriodaphnia dubia, 7-day Chronic, daily renewal, 20% DMW	NOEC Survival	1000	1.5	200
NPW	0022	1002.0	770	Ceriodaphnia dubia, 7-day Chronic, daily renewal, 20% DMW	IC25 Reproduction	1000	1.5	200
NPW	0022	1002.0	771	Ceriodaphnia dubia, 7-day Chronic, daily renewal, 20% DMW	NOEC Reproduction	1000	1.5	200
NPW	0032	2021.0	788	Daphnia magna, 48-hr Acute, nonrenewal, 25°C, MHSF	LC50	1000	8.8	400
NPW	0038	2021.0	794	Daphnia pulex, 48-hr Acute, nonrenewal, 25°C, MHSF	LC50	1000	8.8	400
NPW	0042	2007.0	798	Mysid (Mysidopsis bahia, Americamysis bahia), 48-hr Acute, nonrenewal, 25°C, 40-fath SW	LC50	1200	17.6	-
NPW	0043	1007.0	799	Mysid (Mysidopsis bahia, Americamysis bahia), 7-day Chronic, daily renewal, 40-fath SW	NOEC Survival	1200	2.6	-
NPW	0043	1007.0	816	Mysid (Mysidopsis bahia, Americamysis bahia), 7-day Chronic, daily renewal, 40-fath SW	IC25 (ON) Growth	1200	2.6	-
NPW	0043	1007.0	818	Mysid (Mysidopsis bahia, Americamysis bahia), 7-day Chronic, daily renewal, 40-fath SW	NOEC (ON) Growth	1200	2.6	-
NPW	0044	2006.0	803	Inland silverside (Menidia beryllina), 48-hr Acute, nonrenewal, 25°C, 40-fath SW	LC50	1000	35.3	-
NPW	0045	1006.0	824	Inland silverside (Menidia beryllina), 7-day Chronic, daily renewal, 40-fath SW	NOEC Survival	1000	-	-
NPW	0045	1006.0	825	Inland silverside (Menidia beryllina), 7-day Chronic, daily renewal, 40-fath SW	IC25 (ON) Growth	1000	-	-
NPW	0045	1006.0	826	Inland silverside (Menidia beryllina), 7-day Chronic, daily renewal, 40-fath SW	NOEC (ON) Growth	1000	-	-
NPW	0046	2004.0	804	Sheapshead minnow (Cyprinodon variegatus), 48-hr Acute, nonrenewal, 25°C, 40-fath SW	LC50	6000	-	-
NPW	0047	1004.0	805	Sheapshead minnow (Cyprinodon variegatus), 7-day Chronic, daily renewal, 40-fath SW	NOEC Survival	3000	6.6	-
NPW	0047	1004.0	820	Sheapshead minnow (Cyprinodon variegatus), 7-day Chronic, daily renewal, 40-fath SW	IC25 (ON) Growth	3000	6.6	-
NPW	0047	1004.0	822	Sheapshead minnow (Cyprinodon variegatus), 7-day Chronic, daily renewal, 40-fath SW	NOEC (ON) Growth	3000	6.6	-

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1) EPA Test Code and Analyte Code are Technology and Analyte specific.

2) Dilution Water definition:

MHSF = Moderately Hard Synthetic Freshwater

20% DMW - 20% Diluted Mineral Water

40 fath SW - 40 fathoms seawater

3) Analyte definitions:

LC50 = Concentration where 50% of the organisms do not survive.

NOEC = No Observable Effects Concentration

IC25 = Concentration where there is 25% reduction in growth or reproduction.

ON = Calculation based on Original Number of organisms used to start the test.

4) Reference Toxicant Concentrations are shown as guidance.

5) Reference Toxicant Concentrations shown above are as the toxicant salt or compound.

6) Proficiency Study Assigned Values (AV):

NOEC Analytes: AV should be set to the Study Median of the data reported by laboratories; reported values are <6.25%, 6.25%, 12.5%, 25%, 50%, 100%, or >100%. If the Median falls between two of these values, then the AV is set at the higher value.

Non-NOEC Analytes: AV should be set to the Study Mean, calculated using reported values from 6.25% and 100%, inclusive.

Robust Study Mean and Standard Deviation are generated using appropriate statistical analysis of study data set. (ie Bi-weight, Grubbs, Dixon, ISO 13528, etc.)

7) Profiency Testing Acceptance Limits:

NOEC Analytes: Lower Acceptance Limit is the test dilution below the Median (or <6.25%, whichever is higher); Upper Acceptance Limit is the test dilution above the Median (or >100%, whichever is lower).

If the Median is between two test dilutions, then the Lower Acceptance Limit is the second test dilution below the Median, and the Upper Acceptance Limit is the second test dilution above the Median.

Non-NOEC Analytes: Mean +/- 2 Standard Deviations. If the upper limit is greater than 100%, then set the Upper Acceptance Limit at ">100%." If the lower limit is less than 6.25%, then set the Lower Acceptance Limit to "<6.25%."