AGAT Laboratories

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Laboratory Use Only
Arrival Condition: ☐ Good ☐ Poor (See notes)
Arrival Temperature: _____ | _____ | _____
_____ | _____ | _____
AGAT Work Order # _____

Chain of Custody - Environmental Toxicology

Client Information

Company : _____
Contact: _____
Address : _____
_____
Telephone : _____ Fax : _____
Project Name/No: _____
Sampling Point : _____
Sampled by : _____
Quotation : _____
Sampling Method Grab ☐ Composite ☐

Comments:

Send Report To:

1. Name: _____
Email: _____
2. Name: _____
Email: _____

Matrix (Legend)

S	Soil	**SM**	Substance/Material	**SE**	Sediment	**SW**	Surface Water
SL	Solid	**WW**	Waste Water	**SD**	Sludge	**GW**	Ground Water

TAT Required

Regular 10 to 15 days for Regular Analyses using Acute Exposure (≤ 96 h)
15 - 21 days for Regular Analyses using 5 - 7 days exposure; ≥ 20 days for other analyses

Rush | Start test on Reception (≤24h) (applicable surcharge) | Preliminary report ≤24h after the end of test (applicable surcharge) | Certificate of Analysis ≤24h after the end of test (applicable surcharge) | Date Required: _____

Samples received after 4:00 PM will be recorded as received on next working day

Toxicity Parameters / Endpoints

Muliple Concentrations LC 50 IC50 IC25 ICp___ NOEC/LOEC
Analyse no: _____

Single Concentration
Analyse no: _____

Notes:

Regulation

- ☐ REFPP (Q-2, r.27)
- ☐ PPER (DORS/92-269
- ☐ MMER (DORS/2002-222)
- ☐ ROMAEU (Q-2, r.34.1)
- ☐ Other: _____

Sample Identifcation	Sample date & Time	Matrix	No. of Containers	Bioluminescence-Microtox (***V fisheri***) ☐15 mins ☐ 30 mins EPS 1/RM/24	Daphnia Lethality (***D magna***) - 48h ☐EPS 1/RM/14 ☐ MA.500.D.mag	Rainbow Trout Leathality (***O mykiss***) - 96h EPS 1/RM/13	Rainbow Trout Lethality (***O mykiss***) with pH stabilization EPS 1/RM/50	Fathead Minnow Lethality (***P promelas***) - 96h EPA-821-R-02-012	Algae Growth (***P subcapitata***) - 72h EPS 1/RM/25	Algae Growth (***P subcapitata***) - 96h MA.500.Psub	Aquatic Plant Lemna Growth (L minor) - 7d EPS 1/RM/37	Ceriodaphania Survival & Reproduction (***C dubia***) - 7d EPS1/RM/21	Fathhead Minnow Survival & Growth (***P promelas***) - 7d EPS 1/RM/22	Daphnia Survival & Reproduction (D magna) - 21d OECD 211	Mutagenicity - Fluctuation Test (***S tiphimurium***) - 5d Env Canada	Gentoxicity - SOS Chromotest (***E Coli***) - 2h Env Canada	Frog Embryo Teratogenesis (***X laevis***) FETAX-96h ASTM E2591	Biodegradability - 28d ☐OECD 301 ☐ OECD 302 ☐ _____	Other:	Native Plant Growth (_____) - _____ d EPS 1/RM/56	Terrestrial Plan Emergence & Growth (_____) - 14d EPS 1/RM/45	Terrestrial Plan Emergence & Growth (_____) - 14d OECD 208	Germination & Growth (***H vulgare***) - 7d MA.500-GCR	Terrestrial Plant Growth (_____) - 21d OECD 227	Terrestrial Plant Germination & Growth (_____) - 19d ASTM E1963	Earthworm Lethality on Filter Paper (***E andrei***) - 48h OECD 207	Earthworm Lethality (***E andrei***) - 14d EPS 1/RM/43	Earthworm Avoidance (***E andrei***) - 48h EPS 1/RM/43	Earthworm Growth & Reproduction (***E andrei***) - 56d☐ EPS 1/RM/43 ☐ _____	Springtail Survival & Reproduction (***F candida***) - 28d EPS 1-RM/47	Bioaccumulation - Earthworm - 28d ☐ OECD317 ☐ ASTM E1676	Other:	Bioluminescence - Solid Phase Mictrox (***V fisheri***) - 20 min EPS 1/RM/42	Amphipod Hyalella Survival & Growth (***H azteca***) - 14d EPS 1/RM/33	Hyalella Survival, Growth & Reproduction (***H azteca***) - 42d EPA 600/R-99/064	Chironomus Survival & Growth (***C dilutus / C tiparius***) 10d EPS 1/RM/32	Lumbriculus Survival (***L variegatus***) LC 50-96h EPA 600/R-99/064	Bioaccumulation (***L variegatus***) - 28d ☐ ASTM E1688 ☐ EPA 600/R-99-064	Amphibian Survival & Growth (***R pipiens / X leavis***) - 10d ASTM E2591	Other:

Sample(s) Released by (Print and Sign)	Date (MM/DD/YY)	Time	Samples Received by (Print and Sign)	Date (MM/DD/YY)	Time	Page _____ of _____
Sample(s) Released by (Print and Sign)	Date (MM/DD/YY)	Time	Samples Received by (Print and Sign)	Date (MM/DD/YY)	Time	N° :

SAMPLING PROCUDURE AND REQUIREMENTS

Chain of Custody

For chemical analses, use the Environmental COC. For toxicological analyses (Toxicity Tests):

1. **Section Information**: Enter the required information specifying quotation number, if available
2. **Section Sample ID**: Identify the samples indicating the date and time of sampling and the matrix;
3. **Turn Around Time (TAT Section)**: Specify whether you want regular or rush time (confirm TAT and price with the CPM);
4. **Section Parameters**: Identify the required parameters; when several methods are available, please specify. If the method is not listed, you can add it to ***Other*** (confirm with the CPM). Specify if you want a particular Endpoint for tests with multiple concentrations or the effect with a single concentration. If the information is lacking, the laboratory performs the analysis as suggested by the reference method or, several parameters might be used (e.g. single or multiple concentrations) and that the relevant regulations permit, the laboratory performs the simplest analysis (e.g. single concentration)
5. **Regulations Section**: To avoid errors, you can specify the applicable regulation
6. **Add necessary comments**

Sampling

The sampling kit (containers, cooler, traceability chain, plasitic bags, ties, labels) is provided by AGAT Laboratories

Water, Soil, Sediments

Samples are collected and transferred to clean plastic containers of sufficient size (see table) without preservative. For samles requiring 10 L or more, food grade plastic bags should be inserted in pails prior to sample transfer. For water samples, containers should be filled completely to capacity in order to avoid the presence of air.

The samples should be kept in the dark and held between 1˚ and 8˚C during transport, particularly if transport time is two days or more. Samples must not freeze during transport.

The Hold Times are calculated from the sampling.

To ensure compliance with the retention periods (see table) for toxicological analyses (toxicity tests), samples should be shipped by the customer directly to the laboratory in Montreal. In case a client uses the services of an AGAT branch, the time between sampling and receipt at the laboratory must be <24h and that the reservation must be confirmed so it can be transported and initiated on time in Montreal. A surcharge may apply for a RUSH analysis, i.e. start of a test the day of receipt, during a weekend or a statutory holiday to avoid recording of non-complaince (failure to meet Hold Time).

Please contact your CPM with any questions and to confirm space availablity for your analysis

PARMETER - EXPOSURE PERIOD	METHOD	MATRIX	VOLUME (L)	CONTAINER	HOLD TIME (DAYS)	TURN AROUND TIME (DAYS)
Aquatic Toxicity						
Bioluminescence - Microtox (***V fisheri***)-5/30 min	EPS 1/RM/24	Water[1], extract	1	PB	3	10-15
Activated sludge - Inhibition respiration test-3h	OECD 209	Water[1], extract	1	PB	5	10-15
Algae Growth (***P subcapitata***)-72h	SPE 1/RM/25	Water[1], extract	1	PB	3	10-15
Algae Growth (***P subcapitata***)-96h	MA.500.P.SUB	Water[1], extract	1	PB	3	10-15
Aquatic Plant-Lemna Growth (***L minor***) -7d	EPS 1/RM/37	Water[1], extract	4	PB	3	10-15
Daphnia Lethality (***D magna***)-48h	EPS 1/RM/14	Water[1], extract	1	PB	5	10-15
Daphnia Lethality (***D magna***)-48h	MA.500.D.MAG	Water[1], extract	1	PB	5	10-15
Daphnia Survival & Reproduction (***D magna***)-21d	OECD 211	Water[1], extract	10	PB	5	31-35
Ceriodaphnia Survival & Reproduction (***C dubia***)-7d	EPS 1/RM/21	Water[1], extract	6	PB (3 x 2L)	3	15-20
Rainbow Trout Lethality (***O mykiss***)-96h	EPS 1/RM/13	Water[1], extract	20*/40	PB (2)	5	10-15
Rainbow Trout Lethality with pH stabilization (***O mykiss***) -96h	EPS 1/RM/50	Water[1], extract	20*/40	PB (2)	5	10-15
Fathead Minnow Lethality (***P promelas***)-96h	EPA-821-R-02-012	Water[1], extract	10	PB (2)	3	10-15
Fathead Minnow Survival & Growth (***P promelas***)-7d	EPS 1/RM/22	Water[1], extract	20	PB (2)	3	15-20
Terrestrial Toxicity						
Lettuce Seed Germination (***L sativa***)-5d	600/3-88/029	Soil	2	PB	42	30-50
Lettuce Root Elongation (***L sativa***)-5d	600/3-88/029	Soil	0.25	PB	42	15-20
Native Plant Growth - 28 to 42d	EPS 1/RM/56	Soil	10	PP	42	40-80
Terrestrial Plant Emergence & Growth -14d	EPS 1/RM/45	Soil	10	PP	42	40-60
Terrestrial Plant Emergence & Growth -14d	OECD 208	Soil	10	PP	42	25-60
Germination & Growth (***H vulgare***) -7d	MA. 500 – GCR.	Soil	2	PB	42	30-50
Terrestrial Plant Growth -21d	OCDE 227	Soil	10	PP	42	30-60
Terrestrial Plant Germination & Growth	ASTM E1963	Soil	10	PP	42	30-60
Earthworm Lethality on Filter paper (***E andrei***)-48h	OECD 207	Soil	10	PP	42	10-45
Earthworm Lethality -14d	OECD 207	Soil	10	PP	42	40-60
Earthworm Lethality -14d	ISO 11268-1	Soil	10	PP	42	40-60
Earthworm Lethality -14d	EPA 600/3-88/029	Soil	10	PP	42	40-60
Earthworm Lethality -14d	EPS 1/RM/43	Soil	10	PP	42	40-60
Earthworm Avoidance -48h	EPS 1/RM/43	Soil	10	PP	42	40-50
Earthworm Survival Growth & reproduction (***E andrei***)-56d	EPS 1/RM/43	Soil	10	PP	42	70-100
Earthworm Survival Growth & reproduction (***E andrei***)-56d	ISO 11268-2	Soil	10	PP	42	70-100
Springtail Survival & reproduction (***F candida***) LC50/ICp-28d	EPS 1/RM/47	Soil	1	PB	42	60-80
Aquatic Toxicity - Sedminents						
Bioluminescence-Solid Phase Microtox (***V fisheri***) -20 min	EPS 1/RM/42	Sediment	0.1	PB	42	40-50
Amphipod Hyalella Survival & Growth (***H azteca***) -14d	EPS 1/RM/33	Sediment	5	PP	42	50-60
Hyalella Survival, Growth & reproduction (***H azteca***)-42d	EPA 600/R-99/064	Sediment	10	PP	56	80-120
Chironomus Survival & Growth (***C dilutus***)-10d	EPS 1/RM/32	Sediment	5	PP	42	50-60
Lumbriculus Survival (***L variegatus***) LC50-96h	EPA 600/R-99/064	Sediment	2	PP	56	50-60
Amphibian Survival & Growth (***R pipiens***)-10d	ASTM E2591	Sediment	4	PB	ND	40-60
Genotoxicity						
Mutagenicity- Fluctuation Test (***S tiphimurium***)-5d	ENV CANADA, 1997	Water[1], extract	1	PB	3 [2]	30-90
Genotoxicity-SOS Chromotest (***E coli***)-2h	Env Canada, 1997	Water[1], extract	1	PB	3 [2]	30-90
Mutagenicity-Bacterial Reverse Mutation Test (***S tiphimurium***)-72h	OECD 471	Water[1], extract	1	PB	3 [2]	30-90
Frog Embryo Teratogenesis (***X laevis***) FETAX-96h	ASTM E1439	Water[1], extract	0.1	PB	ND	30-90
Biodegradation						
Ready Biodegradability 28d	OECD 301A	Water[1], extract	1	PB	ND	40-60
Ready Biodegradability 28d	OECD 301B	Water[1], extract	1	PB	ND	40-60
Ready Biodegradability 28d	OECD 301D	Water[1], extract	0.1	PB	ND	40-60
Inherent Biodegradability 28d	OECD 302B	Water[1], extract	1	PB	ND	40-60
Bioaccumulation						
Bioaccumulation-Lumbriculus (***L variegatus***)-28d	EPA 600/R-99/064	Sediment	10	PP	42	40-70
Bioaccumulation-Lumbriculus (***L variegatus***)-28d	ASTM E1688	Sediment	10	PP	42	40-70
Bioaccumulation-Earthworm (***E andrei***)-28d	OECD 317	Soil	10	PP	42	40-70
Bioaccumulation-Earthworm (***E andrei***)-28d	ASTM E1676	Soil	10	PP	42	40-70

PB - Plastic Bottle
PP - Pail with Plastic Bag

* Single Concentration [1] Hold time may be longer for prepared solutions or soluble substances [2] Held at 4˚C; Three months if Frozen at -20˚C