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Distribution:

Microbiology Specimen Processing

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Document Name: Water Testing – Colilert -18

Approved By:

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Status: **APPROVED**

PURPOSE: Colilert-18 detects the presence of coliforms as well as *E.coli*. The reagent powder contains the nutrient-indicators ONPG and MUG. When the ONPG is metabolized by coliforms, the sample will turn yellow. If *E.coli* is also present, MUG is metabolized and the sample fluoresces under a UV light.

SAMPLE INFORMATION:

Type	Water
Volume	100mL minimum
Storage Requirements	Refrigerated
Criteria for rejection and follow up action	Received >48 hours after collection

REAGENTS and/or MEDIA:

Type	Colilert-18 kit by IDEXX
Storage Requirements	<ul style="list-style-type: none">• Store at 2-25°C away from light

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SUPPLIES:

- UV lamp
- Colilert Presence/Absence Comparator

SPECIAL SAFETY PRECAUTIONS:

Containment Level 2 facilities, equipment, and operational practices for work involving infectious or potential infectious materials or cultures.

- Lab gown must be worn when performing activities with potential pathogens.
- Gloves must be worn when direct skin contact with infected materials is unavoidable.
- Eye protection must be used when there is a known or potential risk of exposure of splashes.
- All procedures that may produce aerosols, or involve high concentrations or large volumes should be conducted in a biological safety cabinet (BSC).
- The use of needles, syringes and other sharp objects should be strictly limited.

All patient specimens are assumed to be potentially infectious. Universal precautions must be followed. Since viable micro-organisms are used, all cultures must be handled with appropriate precautions. All equipment in contact with cultures should be decontaminated by appropriate methods.

QUALITY CONTROL:

Performed per shipment or lot number:

- Refer to QC Procedure MIC60500 – Water quality control.
- A TQC order is automatically generated when new kit is entered into TQC to record the QC results.

PROCEDURE INSTRUCTIONS:

Step	Action
Performing Total Coliform and <i>E. coli</i> Water Testing	
1	Accession waters and generate labels.
2	Label requisition and sample containers.
3	If HPC or Endotoxin Testing is also required – they must be performed prior to the addition of the Colilert-18 reagent.
4	Pour off excess water until the volume is ~100mLs.
5	Incubate at 35°C for 1 hour – write the time of day on one of the water vessels.
6	Add Colilert-18 reagent powder to each water vessel – look for a blue flash – if seen this indicates excessive chlorine and the test is invalid.
7	Shake to mix well.
8	Incubate for 18-22 hours at 35°C (included in the 18 hours is the 1 hour pre-incubation period).
9	Compare each water sample against the Colilert Presence/Absence Comparator.
10	<p>If the sample is equally or more yellow than the comparator – it is considered POSITIVE for coliforms:</p> <ul style="list-style-type: none"> • It must then be viewed under the UV light for the presence of <i>E.coli</i>. • Add WKLDC using the keypad while on the PACOL media line to capture workload units.
11	<p>Results are definitive at 18-22 hours:</p> <ul style="list-style-type: none"> • Positives observed BEFORE 18 hours are valid. • Negatives observed AFTER 22 hours are valid.
12	See below for interpretation and reporting.

INTERPRETATION AND REPORTING:

IF	THEN
Less yellow than comparator	Negative for Coliforms and <i>E.coli</i> (Colilert A/A) Report: “TOTAL COLIFORM: absent, E.COLI: absent”
Equally Yellow or Greater than comparator No UV fluorescence	Positive for Coliforms, Negative for <i>E.coli</i> (Colilert P/A) Report: “TOTAL COLIFORM: present, E.COLI: absent” * For samples from the NWT: Positive TOTAL COLIFORM water samples (with the exception of private residences and raw water) must have the result phoned to the EHO at 867-445-8761 during regular office hours. For results to be called after hours (after 5 pm and weekends) contact the Office of the Chief Public Health Officer of Health at 867-767-9066 X49256 to determine who the on-call communicable disease consultant is and then phone this person with the results. Refer to MIC35000 - Reportable and Communicable Diseases Notification. Log the call into the Call Box. * For samples from the Kitikmeot Region: Positive TOTAL COLIFORM water samples (with the exception of private residences and raw water) must have the result phoned to the Kitikmeot Region EHO, Wilfred Ntiamoah, at 867-983-5241. Log the call into the Call box.
Equally Yellow or Greater than comparator Positive UV fluorescence	Positive for Coliforms and <i>E.coli</i> (Colilert P/P) Report: “TOTAL COLIFORM: present, E.COLI: present” * For samples from the NWT: Positive TOTAL COLIFORM and <i>E.coli</i> water samples (with the exception of private residences and raw water) must have the result phoned to the EHO at 867-445-8761 during regular office hours. For results to be called after hours (after 5 pm and weekends) contact the Office of the Chief Public Health Officer of Health at 867-767-9066 X49256 to determine who the on-call communicable disease consultant is and then phone this person with the results. Refer to MIC35000 - Reportable and Communicable Diseases Notification. Log the call into the Call Box. * For samples from the Kitikmeot Region: Positive TOTAL COLIFORM and <i>E.coli</i> water samples (with the exception of private residences and raw water) must have the result phoned to the Kitikmeot Region EHO, Wilfred Ntiamoah, at 867-983-5241. Log the call into the Call box.

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REFERENCES:

- IDEXX. (2011). Colilert-18 Test Kit.

REVISION HISTORY:

REVISION	DATE	Description of Change	REQUESTED BY
1.0	31Dec2013	Initial Release	A.Darrach
1.1	31Mar2016	Reviewed – Minor Formatting Changes	C. Russell
2.0	12-May-2017	Reviewed and revised; Reagent storage requirements added; Formatted for new header; New document number assigned (old number MIC52630)	L. Steven
3.0	06-Nov-2017	Added call notification for water samples positive for Total Coliforms	L. Steven
4.0	10-Jul-2018	Added contact information for positive water samples from Kitikmeot Region	L. Steven

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