

IV Public Health

1 Contact information

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| General enquiries | 2319 8327 2319 8323 |
| Handling complaint articles | 2319 8308 2319 8310 |
| Food-poisoning / cholera case investigation | 2319 8327 2319 8322 |
| Water samples for bacteriological examination | 2319 8327 |
| Water samples for <i>Legionella</i> examination | 2319 8322 2319 8295 |
| Consultant Medical Microbiologist (2) | 2319 8303 |
| Senior Medical and Health Officer | 2319 8300 |
| Facsimile | 2776 1446 |

2 Guideline for specimen collection, storage and transportation

(a) Complaint articles

Notes on handling complaint articles

1. These notes are about conditions necessary for a valid bacteriological examination.
2. For the other instructions, please refer to your departmental guidelines.

Collection of article

1. Mark and seal the complaint article in a plastic bag in front of the complainant. Take care not to contaminate the sample.
2. If possible, collect a control sample of the same batch for bacteriological examination.
3. Fill out the label. Attach the label firmly to the outside of the plastic bag containing the complaint article or control sample. Labels are not sterile. Do not place them in direct contact with the sample / article under investigation.

Storage of article before delivery

1. For examination of fungal elements, store the sealed article at below 10°C (but not frozen) until delivery.
2. For examination of food-poisoning organisms, store the sealed article at below 10°C if it can reach the laboratory within 24 hours from time of collection. Otherwise, store the sealed article at frozen temperature preferably below -18°C.

Delivery of article

1. Contact the laboratory before delivering any complaint article.
2. Deliver the article personally to the laboratory as soon as possible.
3. Maintain the sealed article at below 10°C (but not frozen) in an insulated container during transport. Place a calibrated thermometer inside the insulated container to note the temperature. Do not put the sensor of the thermometer in direct contact with the cold pack.
4. Accompany each article with the original copy of request forms (FEHB 33).

Post-examination arrangements

1. On completion of testing, the laboratory will notify the Health Inspector by FAX to collect the article and report from the laboratory.

- ✓ **Mark & seal article**
- ✓ **Phone the laboratory before sending sample**
- ✓ **Maintain article at appropriate temperature**
- ✓ **Collect article & report**

(b) Food-poisoning investigation samples

Collection of samples

1. If possible, contact the laboratory before collecting samples. Inform the laboratory if formal samples will be involved.
2. Use appropriate containers. In doubt, please contact the laboratory.
3. Fill out the labels. Attach a label to each sample. For food samples, labels should be attached firmly to the outside of the plastic bag. Labels are not sterile. Do not place them in direct contact with the sample under investigation.

Delivery of samples

1. Contact the laboratory before delivering samples.
2. Have information about the food-poisoning case. Symptoms and case information are useful for deciding on tests required.
3. For follow-up food samples, collect at least 200 grams for complete investigation.
4. Maintain the samples at below 10°C (but not frozen) in an insulated container during transport. Place a calibrated thermometer inside the insulated container to note the temperature. Do not put the sensor of the thermometer in direct contact with the cold pack.
5. Accompany each formal sample with the original copy of request form (FEHB 33).
6. Accompany each informal sample with request form (FEHE 97 / DH 75). **Do not group different types of samples in a single request form.**

Laboratory reports

1. On completion of testing, the laboratory will FAX reports to FIRMU*, copy to the Health Inspector who collected the samples. The laboratory will notify FIRMU / SEB* of any significant findings as soon as available.
2. The laboratory will also notify the Health Inspector by FAX to collect substandard formal samples and related reports from the laboratory.

- ✓ **Contact the laboratory**
- ✓ **Follow-up food at least 200 grams**
- ✓ **Have information about the food-poisoning case**
- ✓ **Maintain samples at below 10°C (but not frozen)**

*FIRMU Food Incidents Response & Management Unit of Food and Environmental Hygiene Department
SEB Surveillance and Epidemiology Branch of Department of Health

(c) Cholera case investigation samples

Collection of samples

1. If possible, contact the laboratory before collecting samples.

2. Use appropriate containers. In doubt, please contact the laboratory.
3. Fill out the label. Attach a label to the container of each sample. For food samples, labels should be attached firmly to the outside of the plastic bag. Labels are not sterile. Do not place them in direct contact with the samples under investigation.

Delivery of samples

1. Contact the laboratory before delivering samples.
2. Maintain the samples at below 10°C (but not frozen) in an insulated container during transport. Place a calibrated thermometer inside the insulated container to note the temperature. Do not put the sensor of the thermometer in direct contact with the cold pack.
3. Accompany each formal sample with the original copy of request form (FEHB 33).
4. Accompany each informal sample with request form (FEHE 97 / DH 75). **Do not group different types of samples in a single request form.**

Laboratory reports

1. On completion of testing, the laboratory will FAX reports to FIRMU, copy to the Health Inspector who collected the samples. The laboratory will notify FIRMU / SEB on any significant findings as soon as available.
2. The laboratory will also notify the Health Inspector by FAX to collect substandard formal samples and related reports from the laboratory.

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| <ul style="list-style-type: none">✓ Contact the laboratory✓ Maintain samples at below 10°C (but not frozen) |
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(d) Water Samples

Notes about sending water samples

1. This information is for water samples for **general bacteriological tests**. For *Legionella* testing, please refer to section (e).

Sampling bottles

1. The laboratory provides two types of sterile bottles. Use bottles with sodium thiosulphate for collecting chlorinated water.
2. Do not use bottles after the expiry date. Return expired bottles to the laboratory.

Sample collection

1. Collect representative sample, taking care to avoid contamination.
2. Fill out the label and attached it securely to the bottle.
3. Mark and seal formal water samples.

Sample delivery

1. Maintain the sample at below 10°C (but not frozen) in an insulated container during transport. Place a calibrated thermometer inside the insulated container to note the temperature. Do not put the sensor of the thermometer in direct contact with the cold pack.
2. Send the sample to the laboratory as soon as possible. The water sample will be invalid 6 hours after collection.
3. Accompany each formal sample with the original copy of request form (FEHB 33).

4. Accompany each informal sample with a request form (FEHE 97 / FEHB 33 / DH75 / DH 132 / DH 2544 / DH 2546). **Do not group different types of samples in a single request form.**

Laboratory reports

1. The laboratory will sent out reports of informal samples and good formal samples to the requesting Health Inspector.
2. The laboratory will notify the Health Inspector by FAX to collect substandard formal samples and related reports from the laboratory.
3. For samples sent by other institutions, the laboratory will notify the sender of substandard results by phone / FAX and send out reports to the sender.

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| <ul style="list-style-type: none">✓ Chlorinated water in sodium thiosulphate bottle✓ Deliver within 6 hours✓ Maintain sample at below 10°C (but not frozen) |
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(e) Water Samples for *Legionella* examination

Sampling bottles

1. The laboratory provides sterile plain bottles for sampling all kinds of water for *Legionella* examination in relation to Legionnaires' disease case investigation.
2. Do not use bottles after the expiry date. Return expired bottles to the laboratory.

Sample collection

1. Record the temperature of the water at the point of sampling.
2. Collect representative sample, taking care to avoid contamination.
3. Collect at least 500 ml sample in plain sterile bottle.
4. Fill out the label and attach it securely to the bottle.
5. For water samples other than tap water, provide information on type, level and treatment schedule of disinfectant / biocide used prior to sample collection.

Sample delivery

1. Contact the laboratory before delivering samples.
2. Maintain the sample at below 10°C (but not frozen) in an insulated container during transport. Place a calibrated thermometer inside the insulated container to note the temperature. Do not put the sensor of the thermometer in direct contact with the cold pack.
3. Send the sample within 6 hours after collection. Store sample at below 10°C (but not frozen) when prompt delivery is not possible.
4. Accompany each sample with a request form (DH75). **Do not group different types of samples in a single request form.**

Laboratory reports

1. On completion of testing, the laboratory will send out reports to SEB. The laboratory will notify the SEB on any significant finding as soon as available.

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| <ul style="list-style-type: none">✓ Contact the laboratory✓ Have information about disinfectant/biocide used✓ Deliver within 6 hours✓ Maintain sample at below 10°C (but not frozen) |
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3 Test methods

The laboratory method employed for individual test will be reported as a code in brackets preceding each result of examination. Please refer the codes to the below table for the test methods used and contact the laboratory for unlisted codes if they are crucial for result interpretation.

| Code | Test / organisms | Test method |
|-------------|--------------------------------------|--|
| 000 | | In-house method under development |
| 101 | Total bacterial count | Environment Agency "The Microbiology of Drinking Water" (2002) Part 7 (Pour-plate method at 37°C) |
| 103 | Total bacterial count | CLSI document C3-A4 Section 7.2.1 (Spread-plate method at 25°C for 5 days) |
| 111 | Total bacterial count | AOAC Official Methods 986.33 (Revised: March 1998) (Petriefilm Method) |
| 112 | Total bacterial count | AOAC Official Methods 989.10 (Revised: March 1998) (Petriefilm Method) |
| 113 | Colony count | BS 4285:1968 Section B.3 |
| 121 | Total bacterial count | Health Protection Agency (2004) National Standard Method F11 Issue 1 (Spiral Plate Method at 30°C) |
| 201 | Coliform count | DoE (1983) The Bacteriological Examination of Drinking Water Supplies, 1982 (Membrane Filtration Procedure: Sections 7.8, 7.9.4.1; Bacterial Confirmation: Section 7.9.4.3) |
| 202 | Presumptive <i>E. coli</i> count | DoE (1983) The Bacteriological Examination of Drinking Water Supplies, 1982 (Membrane Filtration Procedure: Section 7.8, 7.9.4.2; Bacterial Confirmation: in-situ urease test) |
| 203 | <i>E. coli</i> count | DoE (1983) The Bacteriological Examination of Drinking Water Supplies, 1982 (Membrane Filtration Procedure: Sections 7.8, 7.9.4.2; Bacterial Confirmation: Section 7.9.4.4) |
| 204 | <i>E. coli</i> count | DoE (1983) The Bacteriological Examination of Drinking Water Supplies, 1982, Sections 7.6 & 7.7 (MPN method) |
| 205 | <i>E. coli</i> detection | APHA 20e 9221D & 9221F (Presence-Absence Coliform Test followed by <i>E. coli</i> identification with EC-MUG) |
| 206 | Coliform detection | APHA 20e 9221D & 9221B.3 (Presence-Absence Coliform Test) |
| 211 | Coliform detection | AOAC Official Methods 986.33 (Revised: March 1998) (Petriefilm Method) |
| 212 | Coliform count / detection | AOAC Official Methods 989.10 (Revised: March 1998) (Petriefilm Method) |
| 221 | <i>E. coli</i> count | AOAC Official Methods 991.14 (Revised: March 1998) (Petriefilm Method) |
| 222 | Generic <i>E. coli</i> count | AOAC Official Method 998.08 |
| 231 | Coliform bacteria count (per 100 ml) | ISO 9308-1:2000(E) |
| 232 | <i>E. coli</i> count (per 100 ml) | ISO 9308-1:2000(E) |

| Code | Test / organisms | Test method |
|------|---------------------------------------|---|
| 233 | Coliform bacteria count (per 250 ml) | ISO 9308-1:2000(E) |
| 234 | <i>E. coli</i> count (per 250 ml) | ISO 9308-1:2000(E) |
| 301 | <i>Bacillus cereus</i> count | Health Protection Agency (2004) National Standard Method F15 issue 1 |
| 401 | <i>Staphylococcus aureus</i> count | ISO 6888-2:1999(E) |
| 402 | <i>Staphylococcus aureus</i> count | AOAC Official Method 2003.11 |
| 404 | Staphylococcal enterotoxins detection | bioMérieux VIDAS SET2 kit |
| 502 | <i>Clostridium perfringens</i> count | Health Protection Agency (2004) National Standard Method F14 issue 2 |
| 601 | <i>Salmonella</i> | Health Protection Agency (2004) National Standard Method F13 issue 1 |
| 702 | <i>Vibrio parahaemolyticus</i> count | In-house method |
| 703 | <i>Vibrio parahaemolyticus</i> count | Health Products and Food Branch, Ottawa (2004) Method MFLP-37, Part 1: Detection of Halophilic of <i>Vibrio</i> species in Seafood |
| 704 | <i>Vibrio cholerae</i> | U. S. Center for Disease Control and Prevention (1994) Examination of food and environmental samples, p. 33-44. In Laboratory methods for the diagnosis of <i>Vibrio cholerae</i> . |
| 705 | <i>Vibrio vulnificus</i> | Health Products and Food Branch, Ottawa (2004) Method MFLP-37, Part 1: Detection of Halophilic of <i>Vibrio</i> species in Seafood |
| 801 | <i>Listeria monocytogenes</i> | Health Protection Agency (2004) National Standard Method F19 issue 1 |
| 802 | <i>Shigella</i> | APHA (2001) Compendium of Methods for the Microbiological Examination of Foods. 4 th ed. Chapter 38 |
| 805 | <i>Legionella</i> count | AS/NZS 3896: 1998 |
| 806 | <i>Legionella</i> count | ISO 11731:1998 |
| 807 | <i>Legionella</i> | In-house method |
| 808 | <i>E. coli</i> O157 | bioMérieux VIDAS ECO kit |
| 809 | Thermotolerant <i>Campylobacter</i> | In-house method |
| 810 | <i>Pseudomonas aeruginosa</i> | ISO 16266:2006(E); Bacterial Confirmation: Vitek GN |
| 811 | Faecal streptococci | ISO 7899-2:2000(E) |
| 812 | Sulphite-reducing anaerobes | ISO 6461-2:1986(E) |
| 912 | Yeast and mould count | APHA (2001) Compendium of Methods for the Microbiological Examination of Foods. 4 th ed. Section 20.52. |
| 913 | Canned food | APHA (2001) Compendium of Methods for the Microbiological Examination of Foods. 4 th ed. Chapter 61. |
| 914 | Environmental swab | In-house method |
| 915 | Ciguatoxin | IOC Manual and Guides 33 (1995) Manual on Harmful Marine Microalgae, Chapter 8 |
| 916 | Paralytic shellfish poison | AOAC Official Method 959.08 (Biological Method) |

| Code | Test / organisms | Test method |
|-------------|---|--|
| 917 | Fungal elements microscopy | In-house method |
| 920 | Paralytic shellfish poison screening test | IOC Manual and Guides 33 (1995) Manual on Harmful Marine Microalgae, Chapter 5 |
| 921 | Paralytic shellfish poison screening test | Jellett PSP rapid kit |
| 922 | <i>Enterobacter sakazakii</i> (<i>Cronobacter</i> spp) | ISO/TS 22964:2006(E) |