



Microchem Lab Services (Pty) Ltd

Cape Town (Head Office)

5 Dairy Street, Stikland Industrial, Stikland, 7530

Cape Town, South Africa

Tel: +27 (21) 465-6996

Website: www.microchem.co.za

Microchem Gauteng (Pty.) Ltd.

41 Golden Drive

Morehill, Benoni, South Africa, 1501

Tel: +27 (11) 425-3775

General Submission Guideline – Chemistry, Pesticides and Microbiology

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A) GENERAL - Client Submission Requirements
Payment Terms

30 Day Account: A valid Purchase Order (PO) number is required to commence testing.
 COD: Proof of payment is required for release of results.

Request Forms

Complete all information required on the Microchem Request Form.

Note: Each department has specific Request Forms to be completed:

- Microbiology – Foodstuffs, Shelf-life ,Hygiene (swabs, water, air plates)
- Chemistry – Foodstuffs/Water
- Pesticides – Fruit/Water/Rooibos, alternatively a Microchem Sample Request Sticker can be completed (*pesticides only*).

Client Specifications

- Submit your product specification/limits. Refer to department guidelines below.
- Specify if composite sampling is required (where multiple identical samples are submitted).

Minimum Product Sample Size:

	Foodstuffs	Water	Swabs
Chemistry	<u>Nutritional/ Routine Testing</u> Minimum 350g (liquid/solid) <u>Rancidity</u> Minimum 500g (liquid) <u>Heavy Metals</u> 100g <u>Azo dyes</u> 10g	<u>Routine Testing</u> Minimum 1L <u>SANS 241</u> Minimum 1L	n/a
Microbiology	<u>Routine Testing</u> Minimum 100g (liquid/solid) <u>Pathogens</u> Additional 25g per pathogen	<u>Routine Testing</u> 1L in a sterile container <u>SANS 241</u> 1L in a sterile container (Routine Micro) <i>PLUS</i> 10L in a sterile container/s (Parasites and Viruses)	<u>Routine Testing</u> 1x swab for a maximum of 5 routine analyses. <u>Pathogens</u> 1x swab per pathogen analysis
Pesticides	<u>Routine Testing</u> Minimum 1-2kg	n/a	n/a

**Note: Water samples cannot be outsourced on a Friday or the day prior to a public holiday.*

Consumables

- Consumables are not provided if testing is not returned to Microchem. If consumables are not returned for testing, the client will be billed for consumable cost.
Swabs/Buffer: Sterile swabs and neutralizing buffer may be requested from the lab 24 hours in advance at no additional cost.
Water testing: Sterile 1L water sample bags may be requested from the lab 24 hours in advance at no additional cost.
SANS 241: 10L containers are to be supplied by the client.

Outsourced Analysis:

- Outsourced analysis will be indicated on the quotation. Acceptance of this quotation will be regarded as acceptance of outsourcing of the analysis to a different laboratory.

Discounts:

- Please note that any discount quoted will only be valid upon early settlement of your account, within 30 days from date of statement.

Cancellation Policy:

- Any instruction regarding the cancellation of analysis or work in progress shall be made to the laboratory in writing. The lab will confirm receipt of cancellation request in writing.
- Clients who request to cancel work in progress shall be liable for any portion of the work that has already been completed at the time that the request for cancellation is received.

B) CHEMISTRY: General Guidelines**Minimum Product Sample Size:**

- See 'General Guidelines'

Client Submission Requirements

- **Vitamins** - State the expected vitamin quantities in your samples for us to determine whether we should incorporate a dilution factor during analysis.
- Composite sampling -Indicate if composite sampling is required.

C) PESTICIDE SUBMISSION: General Guidelines**Minimum Product Sample Size:**

- Minimum sample size of 1-2 kg is required.
- Please provide the samples in individual bags/containers to avoid cross-contamination.

D) MICROBIOLOGY: General Guidelines**Client Specifications**

- Supply your microbiological guidelines/specification for each product submitted to ensure analysis is performed in your required range.
- Where no guidelines are provided, Microchem will use internal guidelines for enumeration.
Note: Additional costs will apply where additional dilutions are requested for a wider range of results. Please ask for a quotation to update your PO number.

Confirmation Testing:

- The quoted confirmation tests for pathogens are mandatory when presumptive positive results are reported (as per our SANAS accredited methods and international standard requirements).

- The cost is only applied if the confirmation is required.
Note: Additional costs are quoted but not included in the final tariff.
- Kindly update your PO number accordingly.

Swab Submissions:

- Swabs are to be submitted immediately after swabbing for testing to be completed within 24 hours.
- Note that swabs need to be transported refrigerated (not frozen).
- Find our 'Swab and Water Sample Guideline' video at the following link: <http://www.microchem.co.za/sample-preparation/>

Shelf-Life Analysis:

- Complete the Shelf-life Request Form which makes provision for your required test dates.
- Supply a separate sample for each test date (1x sample per test date).
- If the sample weight is below the required weight for analyses requested (<100g), submit additional samples to provide the required weight.
- Kindly request a quotation if assistance is needed to compile a shelf-life plan.

Packaged Testing

- You will be billed for the total of both analyses for packaged offers:
 - Yeast and Moulds
 - *Listeria* species and *Listeria monocytogenes*

Note: The *Listeria* spp. cost is discounted as it is a continuation of the *L. monocytogenes* analysis. If only the *Listeria* spp. is required, the cost will remain the total of BOTH the analyses. Please advise the lab if only the *Listeria* spp. result is required for the final report.

E) MICROBIOLOGY- Procedures and Submissions**E1) Preparation: Before Performing Food, Water, Air Plate Sampling**

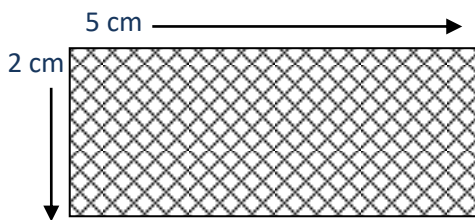
1. Wash your hands.
2. Gather consumables needed: your marker, swabs, neutralizing buffer, sterile food bag, sterile water bag, air plates, storage bag and cooler box with ice bricks.
3. Complete the appropriate Request Form. Include your PO number (30 day accounts).
4. Record the sample description and all details required for the final report on the request form. Record each sample name on a separate line. List the test types you require for each sample.
(Example of completed Request Form at end of document)
5. Label the swabs, foodstuffs, water bags and air plates with a marker e.g. SS1, SS2, HS1, HS2, F1, A1, W1.
6. The number on the foodstuff/water, e.g. F1, must match up with the 'Client Sample ID' number recorded on the request form.
7. Submit final products or transfer sub-sampled products into sterile bags using clean utensils.
8. Label the transport container or bag with **Company Name, Date and Contact Name**

E2) Surface Swab Testing Procedure (Routine)

(e.g. TVC, E. coli, S. aureus) (to be tested within 24 hours of taking swab)

Instructions at <http://www.microchem.co.za/sample-preparation/>

1. After swab preparation, remove the labelled swab from the tube by only holding the outer cap of the swab. Do not contaminate the swab by touching the swab anywhere below the swab cap.
2. Verify the number on the swab matches the number and description on the Request Form .
3. Swab an area that is approximately 5cm x 2cm in size (according to R638 requirement).
<https://www.foodfocus.co.za/assets/documents/Regulation%20638.pdf>).
4. Rotate the swab while swabbing to use the entire surface area to collect the sample. Carefully put the used swab back into the tube.



5. Swab the next area with a fresh swab in the same way.
6. After the assessment, place swabs into the labelled bag and refrigerate in a cooler box below 8°C. Do not freeze.
7. Transport swabs in a cooler box with frozen ice bricks. Ensure the temperature is less than 8°C. Do not allow the swabs to have direct contact with the ice-brick.
8. Submit samples and the Request Form/s to the lab immediately to allow testing to start as soon as possible.
9. When using a courier service to deliver swabs, ensure the swabs are suitably packaged for travel.

NB: Label swab container or bag with **Company Name**

Use a different numbers for each swab e.g. (Surface swabs SS1, Hand swabs HS1, Listeria swabs L1).

Submit a control swab (only dipped in buffer) as well as the buffer used along with your swabs.

E3) Hand Swab Procedure (Routine) (e.g. TVC, E. coli, S. aureus) (to be tested within 24-48 hours of taking swab)

Instructions at <http://www.microchem.co.za/sample-preparation/>

1. After preparation, remove the labelled swab from the tube by only holding the outer cap of the swab. Do not contaminate the swab by touching the swab anywhere below the swab cap.
2. Verify the number on the swab matches the number and description on the form.
3. Swab the personnel member's dominant hand.
4. Swab the hand by tracing from the wrist, over the nails and inbetween the fingers, up to the opposite wrist area. Complete by swabbing the palm of the hand. Remember to rotate the swab while swabbing. Carefully put the used swab back into the tube.
5. Swab the next personnel member's hand in the same way.
6. After the assessment, place swabs into the labelled bag and refrigerate in a cooler box below 8°C. Do not freeze.
7. Transport swabs in a cooler box with frozen ice bricks. Ensure the temperature is less than 8°C. Do not allow the swabs to have direct contact with the ice-brick.
8. Submit samples and the Request Form/s to the lab immediately to allow testing to start as soon as possible.
9. When using a courier service to deliver swabs, ensure the swabs are suitably packaged for travel.

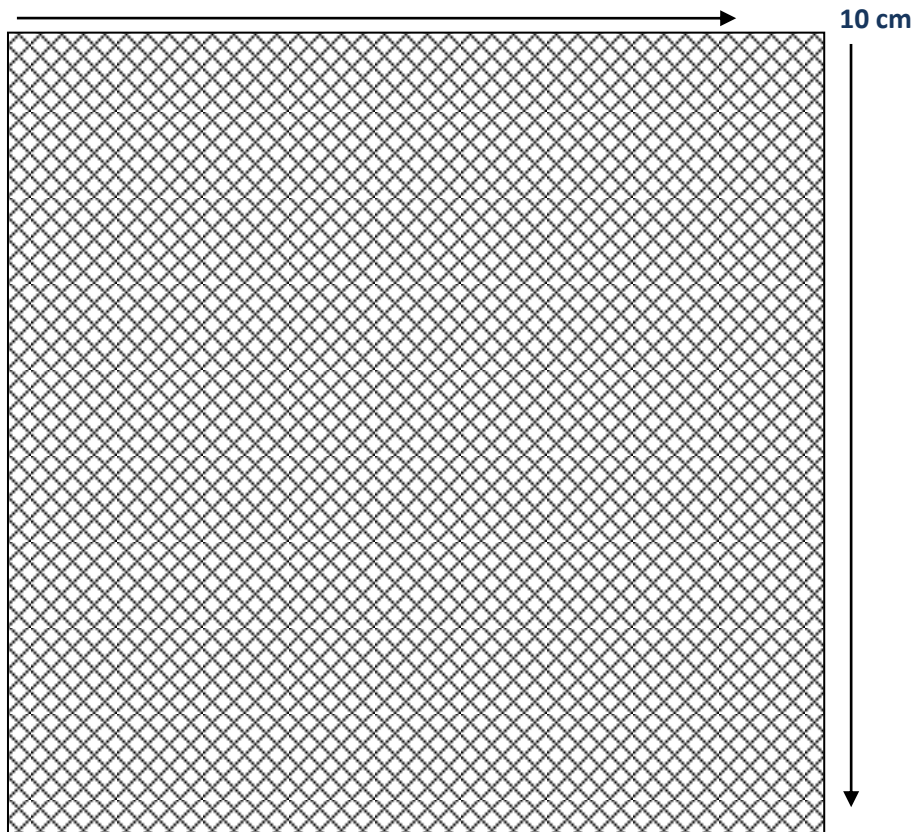
E4) Pathogen Swab Procedure (e.g. *L. monocytogenes*, *Salmonella*)

(Each pathogen requires a separate swab)

Instructions at <http://www.microchem.co.za/sample-preparation/>

Sponge swabs: <https://www.youtube.com/watch?v=JEpmjdL0D2M>

1. 1 sponge swab **OR** 1-3 composite bud swabs can be used for pathogen swab testing for one result. Results are reported per area swabbed (using more swabs maximizes the area that is being tested).
2. Unlike bud swabs, sponge swabs are provided pre-wetted in neutralizing buffer. Use as is.
3. After preparation, swab an area that is approximately 10 cm x 10 cm in size.



4. Verify the number on the swab matches the number and description on the Request Form.
5. After the assessment, place swabs into the labelled bag and refrigerate in a cooler box below 8°C. Do not freeze.
6. Transport swabs in a cooler box with frozen ice bricks. Ensure the temperature is less than 8°C. Do not allow the swabs to have direct contact with the ice-brick.
7. Submit swabs and the Request Form/s to the lab immediately to allow testing to start as soon as possible.
8. When using a courier service to deliver swabs, ensure the swabs are suitably packaged for travel.

Note: When requesting >1 pathogen test, a separate swab is needed for each pathogen submitted.

NB: Do not re-use the same number or description when labelling, except where the swabs are to be tested as one sample. Swabs labelled with the same number will be treated as composite samples.

E5) Product Procedure (Single Test Date Requests)

1. Submit at least 100g of final product. Submit additional samples if the weight is insufficient. For additional pathogen tests submit additional sample volume of at least 25g per pathogen.
2. Submit sub-samples in sterile, sealed packaging. Seal the sample to ensure no leakage will occur. Store sub-sample bags upright.
3. Clearly label the samples in numerical order on the sample packaging (e.g. 1, 2, 3, 4).
4. Complete your Request Form by recording this number, together with any other details required for your report e.g. sample description, batch date, production date etc..
Note: Record each sample on a separate line as each sample is issued a unique laboratory sample ID number.
5. Select and Record all test types required in the fields next to the sample detail on the Request Form.
6. Provide the product specification of your product (acceptable ranges). If additional dilutions are required, please liaise with the lab as this will be at an additional cost.
7. For large submissions, package samples on the same Request Form together (e.g. 20 samples per cooler) in separate bags/containers if possible.
8. Transport samples refrigerated in a cooler box with sufficient frozen ice-bricks.
9. Submit Request Forms together with the transported samples, and electronically if possible to:
CPT SUBMISSIONS (admin@microchem.co.za).
JHB SUBMISSIONS (reception.JHB@microchem.co.za; admin.JHB@microchem.co.za).

E6) Shelf-Life Products Procedure (Multiple test dates)

1. Submit at least 100g of sealed end product for each test date. For additional pathogen tests submit additional sample volume.
2. Complete a **Shelf-life Request Form** per product.
3. Record the test dates and tests types requested for each test date.
4. Record any other details required for your report on the Request Form e.g. batch date and sample ID and description.
Note: The sample for each test date needs to be on a separate line as each sample is issued a unique laboratory sample ID number for reporting.
5. Provide the product specification of your product (acceptable ranges). If additional dilutions are required, please liaise with lab as this will be at an additional cost.
6. Transport samples refrigerated in a cooler box with frozen ice-bricks.
Submit Request Forms together with the transported samples, and electronically if possible to:
CPT SUBMISSIONS (admin@microchem.co.za).
JHB SUBMISSIONS (reception.JHB@microchem.co.za; admin.JHB@microchem.co.za).

E7) Water Sample Procedure (to be forwarded immediately and tested within 24 hours of taking sample)

Instructions at <http://www.microchem.co.za/sample-preparation/>

1. After preparation, allow the tap to run for at least 30 seconds before collecting a sample into a labelled Whirlpak water bag.
2. Submit 500ml to 1 litre in a sterile container (depending on number of analyses requested). Do not fill the bag more than $\frac{3}{4}$ full.
3. Verify the number on the bag/container matches the Client Sample ID number and description on the form.

4. Ensure sample bags are tightly sealed and cannot leak. Tightly roll/fold the wires over multiple times until no further folds are possible, loop the wires to form a circle and twist the end points closed to ensure a tight seal. DO NOT REMOVE THE WIRE.
5. Ensure samples bags are upright during transport (If sealed correctly the bag will stand upright). Transport samples refrigerated in a cooler box with frozen ice-bricks.
6. NOTE: The annual SANS 241 has specific volume requirements. Please request a quotation for micro and chemistry testing.
7. Ensure samples bags are upright during transport (If sealed correctly, and not overfilled, the bag will stand upright and not leak).
8. Transport samples refrigerated in a cooler box with frozen ice-bricks.
9. Submit Request Forms together with the transported samples, and electronically if possible to:
CPT SUBMISSIONS (admin@microchem.co.za).
JHB SUBMISSIONS (reception.JHB@microchem.co.za; admin.JHB@microchem.co.za).

E8) Air Plate Procedure

1. Request sterile air plates from the laboratory collections department (collection@microchem.co.za).
JHB REQUESTS (reception.JHB@microchem.co.za).
2. Air plates are performed for Total Viable Counts (TVC) and/or Yeast& Moulds (Y&M) only.
Plates will be labelled with a coloured sticker/name and will also include an expiry date:
Black =TVC
Blue = Y&M Plates
3. Before exposure of plates, ensure plates are dry and without visible microbial contamination. Allow plates to come to room temperature to dissipate moisture if needed.
4. Refrigerate plates before and after use.
5. Clearly label the air plates in numerical order on the air plate (e.g. A1, A2, A3).
Note: TVC and Y&M from the same area can be labelled with the same number.
6. Record the number on the Request Form, together with any other details required for your report, e.g. sample description, batch date, exposure time.
7. Expose air plates according to internal company procedures and time specifications.
Note: Extended exposure or exposure to fans for extended periods will cause the plates to become dehydrated and unsuitable for further evaluation. If an extended/concentrated reading is needed, please enquire about testing using an air sampler instead.
8. Once exposure is complete, tape the plate on each end to ensure the lid does not fall off. Alternatively, use elastic bands to secure the lid to the bottom plate.
9. Transport samples refrigerated in a cooler box with frozen ice-bricks.
Note: Do not freeze plates or allow plates to make direct contact with ice-bricks. This will negatively affect the integrity of the agar in the plates and they will be unsuitable for further evaluation.

E9) Example - Cover Page of Request Form

Microbiology Request Form

 Cape Town
 Johannesburg

Customer Information
PLEASE COMPLETE ALL FIELDS

Company Name	MICROCHEM LAB SERVICES
Company Address	DAIRY STREET, STIKLAND
Technical Contact Person	NAME SURNAME
Requested By	NAME SURNAME
Requestor Email	EMAIL@COMPANY.CO.ZA; EMAIL2@COMPANY.CO.ZA
Telephone	021 123 4567
Date Requested	10/01/2021
Accounts Contact Person	NAME SURNAME
Accounts Email	EMAIL@COMPANY.CO.ZA
PO Number*	635241

**Required for 30-day account clients*

Client Special Instructions for Samples Submitted	Please provide your product specification/s
<hr/> <hr/> <hr/>	

Full Sample Submission Guidelines available on Request.

Submit a minimum of 100g sample for testing, with an additional 25g per pathogen (e.g. 125g).

Please Tick the Following Option:

 Collected

 Food and Water Lab Analysis

 Delivered

 Pharmaceutical Lab Analysis (Pharmaceutical Grade)

 Other, Please Specify _____

Client Date and Time Samples Taken	9/01/2020
Storage Temperature (Client)	REFRIGERATED
MICROCHEM USE ONLY:	
MICROCHEM REFERENCE NUMBER	RECEIPT TEMPERATURE

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E10) Example - Hygiene Request Form (Swabs, Water, Air Plates)

INCLUDE ALL INFORMATION REQUIRED ON FINAL REPORT BELOW			COUNT (CFUs/g or ml)							DETECTION (presence/absence)					Microchem Use Only	
No.	Product Description	List Product Submitted S - Swab SP - Sponge W - Water A - Air Plate	*1x swab for max. 5x tests							**1x swab per test					Sample ID	
			Coliforms	E. coli	Enterobacteriaceae	Faecal Coliforms (water)	Pseudomonas spp.	Staph. aureus	Total Plate Count	Yeast and Moulds	E. coli O157	Listeria monocytogenes	Listeria spp. & L. mono	Salmonella spp.		Vibrio spp.
BATCH NUMBER: 06/01/2021																
1	Cutting Board (Yellow) - Deli	S						X								Other Analysis (Use ABBR below) BC - B. cereus CP - C. perfringens LAB - Lactic acid bac Pseudo -Pseudo spp. Ps.a - Ps.aeruginosa Shigella Vibrio spp. VC - V. cholera SANS 241 (water) Specify OTHER TESTS
2	Conveyor Belt 2 - Deli	S						X								
3	Hands Deli - Jane	S		X				X								
4	Hands Deli - John	S		X				X								
5	Drain 3 - Deli	Sp								X						
6	Water - Municipal Tap 1	W	X	X				X								Shigella
7	Air plate: Chiller 1	A						X	X							
8																

E11) Example - Micro Request Form (Single Test Dates)

INCLUDE ALL INFORMATION REQUIRED ON FINAL REPORT BELOW				COUNT (CFUs/g or ml)										DETECTION (presence/absence)					Other Analysis (Use ABBR)	(Microchem Use Only) Sample ID No.
(PLEASE USE ABBREVIATION FOR 'Other Analysis' COLUMN)				Bacillus cereus	Clostridium perfringens	Coliforms	E. coli	Enterobacteriaceae	Listeria monocytogenes COUNT	Lactic Acid Bacteria	Staph. aureus	Total Plate Count	Yeast and Moulds	E. coli O157	Listeria monocytogenes	Listeria Species + L. mono	Salmonella spp.	Shiga-toxin E.coli (STEC/VTEC)		
FC	Faecal Coliforms	ASF	Aerobic Spore-formers																	
Pseudo/ Ps.a	Pseudomonas species/ Ps. aeruginosa	AASF	Anaerobic Spore-formers																	
AATPC	Anaerobic Total Plate Count	TASF	Thermophilic Spore-formers																	
Vibrio	Vibrio species (food/water)	TAASF	Thermophilic Anaerobic Spore-formers																	
VC	Vibrio cholera (water only)	Other	Please specify full name																	
No.	Product Description		Production Date Sell By Date Best Before Date Use By Date (YYYY/MM/DD)																	
1	Product Name	Roast Chicken Pie	PD: 2021/01/09	x			x	x						x			x	x	ASF	
	Client ID	RC1	SB:																	
	Batch code	9001	BB:																	
			UB:																	
2	Product Name	Roast Chicken Pie	PD: 2021/01/09											x			x	x	ASF, Pseudo	
	Client ID	RC2	SB:																	
	Batch code	9001	BB:																	
			UB:																	

E12) Example - Shelf-Life Request Form (Multiple test dates)

INCLUDE ALL INFORMATION REQUIRED ON FINAL REPORT BELOW				Select: <input checked="" type="checkbox"/> REFRIGERATED/ <input type="checkbox"/> AMBIENT/ <input type="checkbox"/> ACCELERATED																
Product Name		Roast Chicken Pie		COUNT								DETECTION				OTHER TESTS (Use ABBR)				
Batch code		Trial 1		Bacillus cereus	Clostridium perfringens	Coliforms	E. coli	Enterobacteriaceae	Listeria monocytogenes COUNT	Lactic Acid Bacteria	Staph. aureus	Total Plate Count	Yeast and Moulds	E. coli O157	Listeria monocytogenes		Listeria Species + L. mono	Salmonella spp.	Shiga-toxin E. coli (STEC/VTEC)	
Production Date	2021/01/09	Best Before																		
Sell By Date		Use By Date																		
Comment:																				
TEST DATE (YYYY/MM/DD)	CLIENT SAMPLE ID	For Microchem Use Only																		
		SAMPLE ID NUMBER	ANALYST VERIFICATION																	
2021/01/11							x	x								x		x	x	Pseudo
2021/01/12							x	x												Pseudo
2021/01/13							x	x												Pseudo

CLIENT SPECIFICATION – Please complete for non-pathogen analyses

Test Type/s	Acceptable Limit
TVC	<100 000
Pseudo spp.	<10 000
E. coli, S. aureus	<10