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**Regional Standards and Testing Laboratory**

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Field of Testing : Chemical Testing and  
 Microbiological Testing

**Chemical Testing**

Product	Specific Test	Method Reference
<b>I. Foods</b>		
.01 Cereal and cereal products 1. Breakfast cereals 2. Cereal/cereal grains 3. Cultured seeds 4. Soya flours concentrates and isolates 5. Flour, corn meal, corn grits, semolina 6. Frozen entrees containing rice or corn flour 7. Soy protein 8. Tofu 9. Pasta products and noodles (eg. rice paper, rice vermicelli, subean pastas and noodles) 10. Starch	Sodium	AOAC, 2005, 18th ed., 985.35
	Ash	AOAC, 2005, 18th ed., 930.30
	Crude Protein	AOAC, 2005, 18th ed., 991.20
	Calcium	AOAC, 2005, 18th ed., 985.35
	Moisture	AOAC Official Method 925.10
	Water Activity ( $a_w$ )	TM-C032
.02 Nuts and nut products 1. Peanut butter and other nut butters	Sodium	AOAC, 2005, 18th ed., 985.35
	Ash	AOAC, 2005, 18th ed., 930.30
	Crude Protein	AOAC, 2005, 18th ed., 991.20

	Calcium	AOAC, 2005, 18th ed., 985.35
	Water Activity ( $a_w$ )	TM-C032
.03 Dairy Products 1. All cheese made from pasteurized milk (cottage cheese, soft and semi-solid cheese) 2. Process cheese spread 3. Ice cream and sherbet plain and flavoured 4. Ice cream with added ingredients 5. Flavored Ice	Sodium	AOAC, 2005, 18th ed., 985.35
	Ash	AOAC, 2005, 18th ed., 930.30
	Crude Protein	AOAC, 2005, 18th ed., 991.20
6. Milk powders (whole, nonfat of filled milk, buttermilk, whey and whey protein concentrate) 7. Sweetened condensed milk 8. Liquid milk (evaporated or ready to drink) and Cream (Ultra Heat Temperature/sterilized) 9. Pasteurized Milk 10. Pasteurized cream 11. Yogurt and other fermented milk	Calcium	AOAC, 2005, 18th ed., 985.35
	Moisture	AOAC Official Method 925.10
1. All cheese made from pasteurized milk (cottage cheese, soft and semi-solid cheese) 2. Process cheese spread	Water Activity ( $a_w$ )	TM-C032
.04 Meat, poultry and derived products 1. Dried animal products 2. Meat paste and pate' 3. Cold cuts, frozen and chilled hotdogs, corned beef, luncheon meat 4. Packaged cooked cured/salted meat (ham, bacon) 5. Fermented, comminuted meat, no cooked (dry and semi dry fermented sausages) 6. Cooked poultry meat, frozen to be re-heated before eating (eg. prepared frozen meals) 7. Cooked poultry meat, frozen, ready to eat (eg. turkey rolls) 8. Cured/smoked poultry meat 9. Dehydrated poultry products 10. Fresh/frozen raw chicken (during processing) 11. Meat products in hermetically sealed containers	Sodium	AOAC, 2005, 18th ed., 985.35
	Ash	AOAC, 2005, 18th ed., 930.30
	Crude Protein	AOAC, 2005, 18th ed., 991.20
	Calcium	AOAC, 2005, 18th ed., 985.35

.05 Fish, crustaceans and mollusks and derived products 1. Fresh and frozen fish and cold-smoked 2. Pre-cooked breaded fish 3. Frozen cooked crustaceans 4. Cooked, chilled and frozen crabmeat 5. Fish and shellfish products in hermitically sealed containers 6. Smoked, dried, fermented and salted fish and fish products	Sodium	AOAC, 2005, 18th ed., 985.35
	Ash	AOAC, 2005, 18th ed., 930.30
	Crude Protein	AOAC, 2005, 18th ed., 991.20
	Calcium	AOAC, 2005, 18th ed., 985.35
6. Smoked, dried, fermented and salted fish and fish products	Water Activity ( $a_w$ )	TM-C032
.06 Sugar and sugar products 1. Refined and raw sugars 2. Brown sugar 3. Sugar solutions and syrups 4. Other sugars and syrups (eg. Xylose, maple syrup, sugar toppings)	Sodium	AOAC, 2005, 18th ed., 985.35
	Ash	AOAC, 2005, 18th ed., 930.30
	Crude Protein	AOAC, 2005, 18th ed., 991.20
	Calcium	AOAC, 2005, 18th ed., 985.35
.07 Confectionary 1. Cocoa powder 2. Chocolate products 3. Chocolate confectionaries (chocolate bars, blocks, bonbons) 4. Sugar confectionaries (hard and soft candies, toffees, caramels, fondants, cream, nougats and pastes)	Sodium	AOAC, 2005, 18th ed., 985.35
	Ash	AOAC, 2005, 18th ed., 930.30
	Crude Protein	AOAC, 2005, 18th ed., 991.20
	Calcium	AOAC, 2005, 18th ed., 985.35
	Moisture	AOAC Official Method 925.10
4. Sugar confectionaries (hard and soft candies, toffees, caramels, fondants, cream, nougats and pastes)	Water Activity ( $a_w$ )	TM-C032
.08 Fruits, jams and other fruit products 1. Frozen fruits 2. Coconut (dessicated) 3. Sun dried fruit 4. Jams, jellies, marmalades 5. Fruit-based spreads 6. Candied fruit 7. Fruit preparations (pulp,	Sodium	AOAC, 2005, 18th ed., 985.35
	Ash	AOAC, 2005, 18th ed., 930.30
	Crude Protein	AOAC, 2005, 18th ed., 991.20

purees, fruit toppings and coconut milk) 8. Fermented fruit products 9. Fruit fillings for pastries	Calcium	AOAC, 2005, 18th ed., 985.35
4. Jams, jellies, marmalades 6. Candied Fruit	Water Activity ( $a_w$ )	TM-C032
.09 Vegetable and vegetable products 1. Frozen vegetables 2. Dried vegetables 3. Vegetables in vinegar, oil, brine or soybean sauce 4. Canned or bottled (pasteurized) or retort pouch vegetables 5. Fermented fruit products 6. Cooked or fried vegetables	Sodium	AOAC, 2005, 18th ed., 985.35
	Ash	AOAC, 2005, 18th ed., 930.30
	Crude Protein	AOAC, 2005, 18th ed., 991.20
	Calcium	AOAC, 2005, 18th ed., 985.35
	Moisture	AOAC Official Method 925.10
0.11 Soft drinks and cordial	Alcohol, ethanol determination by head space GC-FID	TM-H002
.12 fruit juices, drinks and concentrates 1. Fruit and vegetable juices 2. Fruit and vegetable nectars 3. Water based flavoured drinks 4. Coffee, coffee substitutes, tea, herbal infusions and other hot cereal and grain beverages excluding cocoa	Sodium	AOAC, 2005, 18th ed., 985.35
	Ash	AOAC, 2005, 18th ed., 930.30
	Crude Protein	AOAC, 2005, 18th ed., 991.20
	Calcium	AOAC, 2005, 18th ed., 985.35
	Moisture	AOAC Official Method 925.10
4. Coffee, coffee substitutes, tea, herbal infusions and other hot cereal and grain beverages excluding cocoa	Water Activity ( $a_w$ )	TM-C032
1. Fruit and vegetable juices 2. Fruit and vegetable nectars 3. Water based flavoured drinks 4. Coffee, coffee substitutes, tea, herbal infusions and other hot cereal and grain beverages excluding cocoa	Alcohol, ethanol determination by head space GC-FID	TM-H002
.16 Bakery Products 1. Frozen bakery products (ready to eat) with low acid or	Sodium	AOAC, 2005, 18th ed., 985.35
	Ash	AOAC, 2005, 18th ed., 930.30

high $a_w$ fillings or toppings 2. Frozen bakery products (to be cooked) with low acid or high $a_w$ fillings or toppings (eg. meat, pies, pizza) 3. Frozen and refrigerated doughs (chemically leavened) 4. Frozen and refrigerated doughs 5. Baked goods 6. Coated or filled, dried shelf-stable biscuits	Crude Protein	AOAC, 2005, 18th ed., 991.20
	Calcium	AOAC, 2005, 18th ed., 985.35
	Moisture	AOAC Official Method 925.10
5. Baked goods 6. Coated or filled, dried shelf-stable biscuits	Water Activity ( $a_w$ )	TM-C032
.24 Sauce, spices and condiments 1. Dry mixes for soup and sauces 2. Yeast 3. Spices and herbs 4. Salad dressing (eg. Mayonnaise, thousand island, mustard) 5. Vinegars 6. Salt 7. Sauces and like products 8. Soybean-based seasonings and condiments (eg. soy sauce)	Sodium	AOAC, 2005, 18th ed., 985.35
	Ash	AOAC, 2005, 18th ed., 930.30
	Crude Protein	AOAC, 2005, 18th ed., 991.20
	Calcium	AOAC, 2005, 18th ed., 985.35
3. Spices and herbs 4. Salad dressing (eg. Mayonnaise, thousand island, mustard)	Water Activity ( $a_w$ )	TM-C032
5. Vinegars 7. Sauces and like products 8. Soybean-based seasonings and condiments (eg. soy sauce)	Alcohol, ethanol determination by head space GC-FID	TM-H002
VI. Water		
.01 Bottled water	Sodium	SMEWW 2012, 22nd ed. 311B
	Cadmium	
	Lead	
	Iron	
	Manganese	

	Total Dissolved Solids (TDS)	SMEWW 2012, 22nd ed. 2540D
	Nitrate	AOAC, 2005, 18th ed. 973.50
	Arsenic	SMEWW 2012, 22nd ed. 3114C
	pH	SMEWW 2012, 22nd ed. 4500B

## Microbiological Testing

Products	Specific Tests	Method/ Reference
<b>I. Foods</b>		
01 Milk and Dairy Products		
01.1 Milk Powders (e.g., whole nonfat or filled milk, buttermilk, whey & whey protein concentrate) (intended for children more than 36 months of age and adults)	Aerobic Plate Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
01.2 Sweetened Condensed Milk	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
	Mold and Yeast Count	BAM / Pour Plate Method
01.4 Pasteurized Milk	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
01.5 Pasteurized Cream	<i>Coliform Count</i>	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
01.6 Yogurt and other fermented milk	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	<i>Salmonella</i>	BAM / Conventional Method
01.7 Cheese and cheese products e.g., cottage cheese; soft and semi-soft cheese (moisture > 39%, pH >5)	<i>Salmonella</i>	BAM / Conventional Method
01.8 Processed Cheese Spread	Aerobic Plate Count	BAM / Pour Plate Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar

01.9 All Raw Milk Cheese; Raw Milk Un-ripened cheese with moisture > 50%, pH >5.0	<i>Salmonella</i>	BAM / Conventional Method
02 Fats, Oils, and Fat Emulsions		
02.1 Butter (whipped, pasteurized)	Mold and Yeast Count	BAM / Pour Plate Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
02.2 Butter made from unpasteurized milk or milk products	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	<i>Salmonella</i>	BAM / Conventional Method
	Aerobic Plate Count	BAM / Pour Plate Method
02.3 Margarine	<i>Salmonella</i>	BAM / Conventional Method
	Aerobic Plate Count	BAM / Pour Plate Method
	Mold and Yeast Count	BAM / Pour Plate Method
03 Edible Ices including Sherbet and Sorbet		
03.1 Ice Cream & Sherbet (plain and flavored)	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	<i>Salmonella</i>	BAM / Conventional Method
	Aerobic Plate Count	BAM / Pour Plate Method
03.2 Ice cream with added ingredients (nuts, fruits, cocoa etc)	<i>Salmonella</i>	BAM / Conventional Method
	Aerobic Plate Count	BAM / Pour Plate Method
03.3 Flavored Ice (e.g., ice candy)	Aerobic Plate Count	BAM / Pour Plate Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Mold and Yeast Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
04 Confectionaries		
04.1 Cocoa Powder	Mold Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method

	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
04.2 Chocolate Products	Mold Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
04.3 Chocolate Confectionaries (chocolate bars, blocks, bonbons)	Mold Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
04.4 Sugar Confectionaries (hard & soft candies, caramel, fondants, creams, nougats and pastes)	Mold Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
05 Fruits and Vegetables, Nuts and Seeds		
05.2 Fermented Vegetables, ready to eat (e.g., Kimchi)	Mold and Yeast Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
05.5 Dessicated Coconut	Aerobic Plate Count	BAM / Pour Plate Method
	Mold and Yeast Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
05.6 Peanut Butter & other Nut Butters	<i>Salmonella</i>	BAM / Conventional Method
05.7 Sun Dried Fruits	Mold Count	BAM / Pour Plate Method
06 Egg and Egg Products		
06.1 Pasteurized Egg Products (Liquid, frozen or dried)	<i>Salmonella</i>	BAM / Conventional Method
	Mold and Yeast Count	BAM / Pour Plate Method
	Aerobic Plate Count	BAM / Pour Plate Method

07 Cereals and Cereal Products		
07.1 Breakfast Cereals	Mold Count Yeast & Yeast-like fungi	BAM / Pour Plate Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
07.2 Cereals/Cereal Grains	Mold and Yeast Count	BAM / Pour Plate Method
	Aerobic Plate Count	BAM / Pour Plate Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
07.3 Cultured seeds and grains (e.g., bean sprouts, alfalfa etc.)	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	<i>Salmonella</i>	BAM / Conventional Method
07.4 Soya Flours Concentrates and Isolates	Mold Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
07.5 Flour, Corn meal, Corn grits, Semolina	Mold Count Yeast & Yeastlike fungi	BAM / Pour Plate Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
07.7 Soy Protein	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Mold and Yeast Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
	Aerobic Plate Count	BAM / Pour Plate Method
07.9 Pasta Prodcuts and Noodels Uncooked (wet and dry)	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Mold and Yeast Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
	Aerobic Plate Count	BAM / Pour Plate Method
07.10 Starch	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Mold and Yeast Count	BAM / Pour Plate Method

	<i>Salmonella</i>	BAM / Conventional Method
	Aerobic Plate Count	BAM / Pour Plate Method
08 Bakery Products		
08.1 Frozen Bakery Products (ready eat) with low acid or high $a_w$ fillings or toppings	<i>Salmonella</i>	BAM / Conventional Method
08.2 Frozen Bakery Products (to be cooked) with low acid or high $a_w$ fillings or toppings (e.g., meat pies, pizzas)	<i>Salmonella</i>	BAM / Conventional Method
08.3 Frozen and Refrigerated Doughs (Chemically leavened)	Mold Count Yeast & Yeastlike fungi	BAM / Pour Plate Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
08.4 Frozen and Refrigerated Doughs	Mold Count Yeast & Yeastlike fungi	BAM / Pour Plate Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
08.5 Baked Goods (microbiologically sensitive types e.g., containing eggs & dairy products)	Mold and Yeast Count	BAM / Pour Plate Method
	Aerobic Plate Count	BAM / Pour Plate Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	<i>Salmonella</i>	BAM / Conventional Method
09 Ready to Eat Savouries		
09.1 Snack Foods	Mold Count Yeast & Yeastlike fungi	BAM / Pour Plate Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
10 Meat and Meat Products		

10.1 Dried Animal Products	<i>Salmonella</i>	BAM / Conventional Method
10.2 Meat paste and Paté (heat treated)	<i>Salmonella</i>	BAM / Conventional Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
10.3 Cold Cuts, Frozen & Chilled Hot Corn Beef, Lucheon Meat	<i>Salmonella</i>	BAM / Conventional Method
	Aerobic Plate Count	BAM / Pour Plate Method
10.4 Packaged cooked cured/salted meat (ham, bacon)	<i>Salmonella</i>	BAM / Conventional Method
10.5 Fermented, comminuted meat, not cooked (dry & semi-dry fermented sausages)	<i>Salmonella</i>	BAM / Conventional Method
10.6 Cooked Poultry Meat, Frozen to be reheated before eating (e.g., prepared frozen meals)	<i>Salmonella</i>	BAM / Conventional Method
10.7 Cured/Smoked Poultry Products	<i>Salmonella</i>	BAM / Conventional Method
10.8 Dehydrated Poultry Products	<i>Salmonella</i>	BAM / Conventional Method
10.9 Fresh/Frozen raw Chicken (during processing)	Aerobic Plate Count	BAM / Pour Plate Method
11.0 Fish and Fish Products		
11.1 Fresh Forozen Fish and Cold-Smoked	<i>Salmonella</i>	BAM / Conventional Method
	Aerobic Plate Count	BAM / Pour Plate Method
11.2 Pre-Cooked Breaded Fish	Aerobic Plate Count	BAM / Pour Plate Method
11.3 Frozen Raw Crustaceans	<i>Salmonella</i>	BAM / Conventional Method
11.4 Frozen Cooked Crustaceans	Aerobic Plate Count	BAM / Pour Plate Method
11.5 Cooked, Chilled & Frozen Crabmeat	Aerobic Plate Count	BAM / Pour Plate Method
11.6 Fresh and Frozen Bivalve Mollusks	<i>Salmonella</i>	BAM / Conventional Method

	Aerobic Plate Count	BAM / Pour Plate Method
12.0 Spices, Soups, Sauces, Salad, and Protein Products		
12.1 Dry Mixes for Soup and Sauces	Mold and Yeast Count	BAM / Pour Plate Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
12.2 Yeast	<i>Salmonella</i>	BAM / Conventional Method
12.3 Spices	Molds Count	BAM / Pour Plate Method
	Aerobic Plate Count	BAM / Pour Plate Method
12.4 Spices (ready to eat)	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	<i>Salmonella</i>	BAM / Conventional Method
	Molds Count	BAM / Pour Plate Method
	Aerobic Plate Count	BAM / Pour Plate Method
12.5 Salad Dressing, pH $\leq$ 4.6 (e.g., Mayonaise, Thousand Island, Ranch, French)	Aerobic Plate Count	BAM / Pour Plate Method
	Mold and Yeast Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
13.0 Beverages		
13.1 Non-Alcoholic Beverages (e.g., ready to drink, soft drinks, iced tea, energy drinks)	Mold and Yeast Count	BAM / Pour Plate Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	Aerobic Plate Count	BAM / Pour Plate Method
13.2 Frozen Juice Concentrate	Aerobic Plate Count	BAM / Pour Plate Method
	Mold and Yeast Count	BAM / Pour Plate Method
13.3 Powdered beverages	Aerobic Plate Count	BAM / Pour Plate Method
	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
14.0 Food for Infants and Young Children		

14.1 Powdered Infant Formula with or without added Lactic Acid producing cultures (intended for 0- to 6-month-old)	<i>Salmonella</i>	BAM / Conventional Method
14.2 Follow-up Formula/ Milk Supplement (intended for infants 6 months on and for young children 12-36 months age)	<i>Salmonella</i>	BAM / Conventional Method
14.5 Dried and Instant Products requiring reconstitution	Aerobic Plate Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
14.6 Dried Products requiring reconstitution and boiling before consumption	Coliform Count	BAM / Pour Plate Method using Chromocult Coliform Agar
	<i>Salmonella</i>	BAM / Conventional Method
	Aerobic Plate Count	BAM / Pour Plate Method
14.6 Cereal based foods for infants	Aerobic Plate Count	BAM / Pour Plate Method
	<i>Salmonella</i>	BAM / Conventional Method
<b>IV. Water</b>		
Bottled water	Heterotrophic Bacteria	SMEWW 22nd ed. / Pour Plate Method
	Total Coliform Count	SMEWW 22nd ed. / Multiple Tube Fermentation Technique
	Fecal Coliform Count	

Legend to Reference Methods

AOAC – Association of Official Analytical Chemists

BAM - Bacteriological Analytical Manual

SMEWW - Standard Methods for Examination of Water and Wastewater

\*\*\*\*\* Nothing Follows \*\*\*\*\*

