**Microbiology Testing**

The Microbiology laboratory of Sri Lanka Standards Institution is a well designed, fully equipped, self contained modern testing facility manned by qualified, well trained and well experienced staff.

The Staff is very competent for microbiological analysis and they prove their competency by participating for international proficiency testing programmes.

**Services

Product testing**

Various kinds of products are tested for microbiological requirements according to standard test methods as per Sri Lanka Standards as well as international standards specific requirments of customers
Food products *(link to the doc of list of products)*

* Milk & milk products
* Fish & fishery products
* Meat & meat products including poultry
* Canned foods
* Sauces & chutneys
* Beverages (both alcoholic and non alcoholic)
* Fruit drinks & concentrates
* Confectionaries
* Cereal products, textured vegetable proteins, extruded snacks
* Potable water & Bottled drinking water
* Ready to eat products in containers
* Spices
* Bakery Products

**Consumer products**

* Toothpaste
* Cosmetics
* Biocides
* Disinfectants
* Pharmaceuticals
* Gums & glues
* Fabrics

**Other tests**

In addition to that many other non conventional products for microbiological analysis may also be accepted for specific tests. We have the necessary equipment and facilities to perform the following categories of microbiological tests.

* **Quantitative and Qualitative tests for different groups of microorganisms**
	+ Acid forming & Acid tolerent bacteria
	+ Aerobic mesophilic bacteria
	+ Bacterial spores
	+ Coliforms & faecal Coliforms
	+ Enterobacteriaceae
	+ Howard Mould Count
	+ Lactic Acid Bacteria
	+ Lipolytic organisms
	+ Mesophilic spore formers
	+ Streptococci
	+ Thermophillc Bacteria
	+ Thermophillc spore formers (aerobic and anaerobic count)
	+ Thermophillc spore formers –“Flat-sour”type
	+ Yeast & Moulds
* **Quantitative and Qualitative tests for specific genera / Species**
	+ Bacillus cereus
	+ Citrobactor freundii
	+ Escherichia coli
	+ Enterobactor aerogenes
	+ Proteus vulgaris
	+ Pseudomonas aeruginosa
	+ Staphylococcus aureus
	+ Staphylococcus epidermidis
	+ Salmonella typhimurium
	+ Clostridium perfringens
	+ Clostridium sporogenes
	+ Vibrio parahaemolyticus
	+ Enterococcus faecalis
	+ Vibrio cholerae
* **Other biological, bio-chemical and physical tests**
	+ Commercial sterility
	+ Surface swabbing
	+ Contact plates
	+ Container integrity tests
	+ Direct microscopic count
	+ Disinfectant efficacy
	+ Hydrogen sulfide test
	+ Methylene blue reduction test
	+ Microscopic examination of cultures
	+ pH determinations…
	+ Resistance to mould growth
	+ Serological tests
	+ Species testing
	+ Sterility tests
* **Other services** (Laboratory training & consultancy programmes )

We also undertake training programmes for laboratory and shop floor technicians in laboratory quality managements and laboratory techniques (Methods of microbiology analysis of various products and quality assurance and operation of quality systems).
Training courses will be arranged to suit the individual requirments of the clients.

**Accreditation**

SLSI Microbiology laboratory has been accredited internationally by the Swedish Board of Accreditation (SWEDAC) since 2002.
It also accredited by Sri Lanka Accreditation Board (SLAB) since 2007.

**Fees**
Charges for Analysis and fees for the programmes would be made available on request.

**Items Tested**

|  |  |  |  |
| --- | --- | --- | --- |
| **Product Caregory** | **Product** | **Standard** | **Tests Parameters** |
| **Beverages** | Carbonated beverages |   | APC/ml |
| SLS 183 : 1997 | Coliforms/ml |
|   | Yeasts & Moulds/ml   |
| Ready To Serve fruit drink |   | APC/ml   |
| SLS 729 : 2010 | Coliforms/ml   |
|   | Yeasts & Moulds/ml   |
| Beer | SLS 234: 1985 | Coliforms/ml   |
| Tea |   | APC/g   |
|   | Coliforms MPN/g   |
|   | *E.coli* MPN /g   |
|   | Yeasts/Moulds/g   |
| Synthetic /Artificial cordials | SLS 221 : 1985 | APC/ml   |
|   | Coliforms/ml   |
|   | Yeasts/Moulds/ml   |
| Fruit Juices & Nectars   |   |   |
| SLS 1328 : 2008 | APC/ml   |
|   | Coliforms/ml   |
|   | Yeasts & Moulds/ml   |
| Freeze drinks (Ice lollies)   |   |   |
| SLS 967 : 1992 | APC/g   |
|   | Coliforms/g   |
|   | *Salmonella*/25 g   |
| **Milk & Milk Products** | Milk powder   |   |   |
| SLS 731 : 2008 (1st Rev.) | APC/g   |
|   | Coliforms/g   |
|   | *E. coli*/g   |
|   | *Salmonella*/25g   |
|   | *Staph. aureus*/g   |
| Ice cream   |   |   |
| SLS 223 : 1989 | APC/g   |
|   | Coliforms/g   |
|   | *Salmonella*/25 g   |
| Milk added drinks   |   |   |
| SLS 917 : 1991 | Sterility test   |
|   | APC/ 0.1 ml   |
|   |   |   |
| Cheese   | SLS 773: 1987 | *E. coli*/0.01 g   |
|   |   | Yeasts/Moulds/g   |
|   |   | *Staph. aureus/ 0.1*g   |
| Yoghurt   |   |   |
| SLS 824 : pt 2 : 1989 | *E. coli*/g   |
|   | Yeasts/g   |
|   | Moulds/ml   |
| Sweetened full cream Condensed milk   | SLS 179 : 1985 | APC/g   |
|   | Coliforms/g   |
|   | Yeasts/Moulds/g   |
|   | Shelf life test   |
| Curd | SLS 824 : pt 1 | *E. coli*/g   |
| **Edible oils & derived products** | Margarine   | SLS 277: 1987 | APC/g   |
|  | Coliforms/g   |
|   | Yeasts/g   |
|   | Moulds/g   |
|   | Lipolytics/g   |
| Butter   | SLS 279: 1988 | Yeasts/g   |
|   | Moulds/g   |
|   | Coliforms /g   |
|   | Lipolytics/g   |
| **Water**  | Bottled Natural Mineral water   | SLS 1038: 2003 (1st Rev) | APC/ml @ 22 ºC   |
|   | APC/ml @ 37 ºC   |
|   | Coliforms/250 ml   |
|   | *E. coli* /250 ml   |
|   | Faecal Streptococci/250ml   |
|   | *P.aeruginosa* /250 ml   |
|   | Clostridia/50ml   |
| Bottled Drinking Water   | SLS 894: 2003 (2nd Rev.) | APC/ml   |
|   | Coliforms/100ml   |
|   | *E.Coil*/100ml   |
| Potable Water   | SLS 614 Pt 2 1983 | Coliforms /100 ml   |
|   | *E.coli /*100 ml   |
| Water (for EU requirements)   | ISO 9308-1: 2000 | APC/ml @ 22 oC   |
|   | APC/ml @ 37 oC   |
|   | Coliforms /100 ml   |
|   | Faecal coliforms/100ml   |
|   | Faecal streptococci/100ml   |
| **Ice** | Ice for processing   | SLS 971: 1992 | APC/ml   |
|  | Coliforms/100 ml   |
|   | *E. coli* /100 ml   |
| Ice (for EU requirements)   | ISO 9308-1:2000 | APC/ml @ 22 oC   |
|   | APC/ml @ 37 oC   |
|   | Coliforms /100 ml   |
|   | Faecal coliforms/100ml   |
|   | *Ecoli* / 100ml   |
|   | Faecal streptococci/100ml   |
| **Heat processed food in sealed containers** | Extruded Snacks (Ready to eat)   |   |   |
| SLS 1162: 1997 | APC/g   |
|   | Coliforms/g   |
|   | *E.coli*/g   |
|   | Salmonella/25g   |
| **Canned Foods**  | Canned fish Hermatically sealed Foods   | SLS 591 : 1982 | Commercial sterility   |
| **Vegetables & vegetable products** | Sauce (Tomato)   | SLS 260: 2008 (2nd rev.) | Howard Mould count   |
| Sauce (Chilli)   | SLS 581: 2008 (1st Rev.) | Howard Mould count   |
| Chutney   | SLS: 446 | Howard Mould count   |
| **Poultry & poultry products** | Poultry meat (frozen)   | SLS 1161 : 2003 (1sr Rev) | APC/g   |
|   | *Staph. aureus/g*   |
|   | *Salmonella*/25 g   |
| **Fish & Fishery products** | Quick Frozen whole fish, fish fillets, steaks & minced fish   |   |   |
| SLS 1141 : 1996 | APC/g   |
|   | *Staph. aureus/g*   |
|   | *E. coli*/g   |
|   | *Salmonella*/25 g   |
|   | V parahaemolyticus/g   |
|   | V.cholerae/g   |
| Quick Frozen Prawns & Shrimps -RAW   | SLS 10 : 1991 | APC/g   |
|   | *Staph. aureus/g*   |
|   | *E. coli*/g   |
|   | *Salmonella*/25 g   |
| Quick Frozen Prawns & Shrimps -PRE COOKED   | SLS 10 : 1991 | APC/g   |
|   | *Staph. aureus/g*   |
|   | *E. coli*/g   |
|   | *Salmonella*/25 g   |
| Dry fish   | SLS 643 : 2007 (1st Rev) | APC /g   |
|   | Total coliforms MPN/g   |
|   | *E.coli* MPN/g   |
|   | Staphylococcus aureus/g   |
|   | Yeasts & Moulds /g   |
|   | Halophilic count /g   |
| Quick frozen lobsters (Raw)   | SLS 188 : 1987 | APC/g   |
|   | Staph. aureus*/g*   |
|   | *Salmonella*/25 g   |
| Quick frozen lobsters (Cooked)   | SLS 188 : 1987 | APC/g   |
|   | Staph. aureus*/g*   |
|   | *Salmonella*/25 g   |
| **Meat & Meat products** | Fresh-Comminuted Meat Products (Eg:Meat Sausages /Meat balls)   | SLS 1218 : 2001 | *Staphylococcus aureus/g*   |
|   | *E. coli*/g   |
|   | *Salmonella*/25 g   |
| Cooked / Smoked - Comminuted Meat Product- (Eg :Meat Sausages/Meat balls)   | SLS 1218 : 2001 | *Staphylococcus aureus/g*   |
|   | *E. coli*/g   |
|   | *Salmonella*/25 g   |
| Bacon   | SLS 342 : 2001 (2nd rev.) | *Staph.aureus/g*   |
|   | *E. coli*/g (indictor)   |
|   | *E. coli* o157:H7   |
|   | *Salmonella*/25 g   |
| **Spices** | Whole -Black pepper   | SLS 105: 2008 pt.1(2nd rev) | *E.coli* MPN/g   |
|   | Salmonella/25 g   |
| Whole -White pepper   | SLS 105: 2008 pt.2(2nd rev) | *E.coli* MPN/g   |
|   | Salmonella/25 g   |
| Ground -White & Black pepper   | SLS 1372: 2009 | APC/g   |
|   | *E.coli* MPN/g   |
|   | Yeasts and Moulds Count/g   |
|   | Salmonella/25 g   |
| **Bakery / Cereal / Flour based products** | Biscuits   | SLS 251 : 2010 | APC /g   |
|   | Total coliforms MPN/g   |
|   | *E.coli* MPN/g   |
|   | Staphylococcus aureus/g   |
|   | Yeasts & Moulds /g   |
|   | *Salmonella*/25 g   |
| Wafers   | SLS 1313:2007 | Coliforms/g   |
|  | *E.coli* MPN/g   |
|   | *Salmonella*/25 g   |
|   | *Staph. aureus*/g   |
|   | Yeast and Mould Count/g   |
| Malted foods   | SLS 897 : 1990 | APC/g   |
|  | Coliforms/g   |
|   | *Salmonella*/25 g   |
| Cereal based Food for Infants & Children   | SLS 1036 : 1995 | APC/g   |
|   | Coliforms/g   |
|   | *Salmonella*/25 g   |
| Rice Flour   | SLS 928 : 1991 | Mould Count/g   |
| TVP (Textured Soya Protein- defatted)   | SLS 898 : 1990 | APC/g   |
|   | Coliforms/g   |
|   | *Salmonella*/25 g   |
| **cosmetics & related products** | Shaving cream   | SLS 796 | APC/g   |
|   | *Staph. aureus/g*   |
|   | Pseudomonas aerogenosa/g   |
| Tooth paste   | SLS 275: :2006 | APC/g   |
|   | Salmonella/25 g,   |
|   | E. coli/g   |
| Hair cream   |   |   |
|  Shampoo   | SLS 611, SLS 743 | APC/g   |
|   | SLS 1346 | Staph. aureus/g   |
|   |   | Pseudomonas aerogenosa/g   |
| **Other** | Swab sample   | ISO 18593 and | APC/g   |
| SLS 516 Part 1, Part 3 | Coliforms MPN/g   |
|   | E.coli MPN/g   |
| Bottle rinse test   | APHA test methods | APC/container   |
|   | Coliforms/container   |
|   | *E.coli*/container   |
| Chocolate   | SLS 326 : 1986 (1st Rev.) | *Yeast/g*   |
|   | *Moulds/g*   |
|   | *Salmonella/25g*   |
| Desiccated coconut   | SLS 98 : 1988 (1st Rev) | APC/g   |
|   | Yeasts/Moulds/g   |
|   | Coliforms/g   |
|   | *Salmonella*/25 g  |